

COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES APPROPRIATIONS FOR 2019

HEARINGS BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES ONE HUNDRED FIFTEENTH CONGRESS SECOND SESSION

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AND RELATED AGENCIES

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**COMMERCE, JUSTICE, SCIENCE, AND RE-
LATED AGENCIES APPROPRIATIONS FOR
2019**

THURSDAY, APRIL 12, 2018.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WITNESS

ROBERT M. LIGHTFOOT, ACTING ADMINISTRATOR, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Mr. CULBERSON. The Commerce, Justice, Science Appropriation Subcommittee will come to order. It is our privilege today to have before us the acting administrator of the National Aeronautics and Space Administration, Robert Lightfoot.

We know that you have recently announced your retirement at the end of the month. I personally want to thank you on behalf of the American people for your extraordinary service to the country, to the space program. You have done a magnificent job and it has just been a real privilege to work with you. And I know Mr. Serrano and members of this subcommittee feel the same way.

We have worked arm in arm to make sure that you got the resources you need to finally begin to do everything that you have got on your plate and we have got you headed in the right direction, and we are looking forward to your testimony today. But above all, thank you for your service to the country. As a token of our appreciation, we are having a statement printed in the Congressional Record noting your achievements, your long record of service to NASA and to the country, and we genuinely want to thank you from the bottom of our hearts, Robert, for all that you have done for the nation's space program.

And I would be happy to recognize Mr. Serrano for any opening remarks he would like to make.

Mr. SERRANO. Thank you, Chairman Culberson. And I would like to join you in welcoming NASA Acting Administrator Mr. Robert Lightfoot, to the subcommittee. I was saddened to learn of your impending departure from the Agency and just wanted to take a moment to thank you for your dedication and service to our nation. It means a lot to all of us.

NASA is in charge of conducting civilian space activities and science and aeronautics research. I am a strong supporter of NASA, have always been, and believe that its program helps America maintain itself as a world leader in space exploration and the scientific arenas that develop those technologies.

Not only does NASA's mission inspire so many people around the world, but they also help us innovate and address challenges that confront our nation. The budget blueprint for fiscal year 2019 requests 19.9 billion for NASA, which is an 844 million dollar decrease from the 2018 enacted level.

While NASA provides funding for a number of science and exploration activities, the budget proposal reduces funding for a number of important areas. I am particularly concerned that although funding is continued for the education activities of NASA's Science Mission Directorate, this request zeroes out funding for three long-standing programs within NASA's Office of Education that help inspire the next generation of scientists.

I strongly oppose the elimination of these programs. Mr. Chairman, I hope that we can work together in a bipartisan manner to preserve these programs that so greatly benefit the American people, just as we did for fiscal year 2018 just a few weeks ago.

I would further like to call attention to President Trump's inadequate request for Earth Science, which is a cut of \$136.8 million below fiscal year 2018. We need to place a high priority on NASA's Earth Science research. And I look forward to discussing this topic further today. In addition, I am concerned by the intent to eliminate the Wide Field Infrared Survey Telescope. This project received 150 million in 2018 and was ranked as the highest scientific priority space astrophysics mission by the 2010 decadal survey. We need to have a serious conversation on this project.

I also look forward to hearing from Acting Administrator Lightfoot on NASA's long-term plans for Human Space Exploration, which will require significant amounts of money for research and advanced communication systems. By the way, if you are short of people to send up, the Chairman and I could give you a list of a couple of people.

To grow in communications, descent, and landing capabilities, and ways to protect astronaut health during long, deep space missions, among other things, all of these improvements will require massive amounts of money over a long period.

Lastly, Mr. Chairman, as you very well know, I am also a strong supporter of the Arecibo Observatory and believe that we must maintain strong support for its mission. NASA's fiscal year 2019 budget request includes funding for NASA activities at the observatory, and I would like to hear more about this work.

NASA helps drive scientific research and innovation in our nation. For almost 60 years now, our country has stood behind NASA by making investments to explore space and the cosmos, as well as to research our own planet and to develop cutting edge aeronautics technologies.

Thank you once again, Acting Administrator Lightfoot, for joining us today, and I look forward to discussing these important issues with you. The Chairman surprised me by not making an opening statement, and I thought of not making one, but then I wouldn't be on the record.

Mr. CULBERSON. No, we are—as you know, NASA is one of those things that we work together arm in arm on. I am very grateful for your support, Joe, and everyone on this subcommittee is a strong supporter of the work that NASA does and that reflects the

will of the country, that there is unanimous support for the work that NASA does. And we have been working together to make sure that NASA had a record level of increase. We have gotten you almost to 21 billion. We were committed to get you north of 20 and we did so, with the help of Chairman Shelby. He has been a terrific supporter. Mr. Aderholt, the State of Alabama, the State of Mississippi, we have strong support for NASA across the country.

With that increased funding comes increased responsibility. And we are confident that you and your new CFO are going to be good stewards of our constituents' hard earned tax dollars.

One of the things I do want to focus on, and I hope you will mention it in your testimony, and I will talk about in my opening questions is the 51-year roadmap that we enacted into the 2018 appropriations bill, beginning with a search for life in other worlds and moving on to identify the nearest earthlike planet and then launching humanity's first interstellar mission no later than the 100th anniversary of Neil Armstrong setting foot on the moon.

So we hope you will talk about that. And the reason I didn't really mention much about the budget, as you know, the appropriations bill is what matters.

Mr. SERRANO. Right.

Mr. CULBERSON. So the budget—

Mr. SERRANO. I know.

Mr. CULBERSON. We try not to get too worked up about the budget in this committee. That is just a recommendation for the Congress. The President proposes and the Congress will dispose.

Mr. SERRANO. Yes.

Mr. CULBERSON. But we have your back, Administrator Lightfoot, and we are glad to have you here today and look forward to your testimony. To the extent you can summarize it, it would be appreciated. And then we will enter, of course, your testimony in its entirety—

Mr. SERRANO. Mr. Chairman, if I may for a second.

Mr. CULBERSON. Yes, sir.

Mr. SERRANO. To go off a little bit here, but as you leave, I hope you spread the word around that this Member of Congress, and I know the Chairman agrees with me, I have been in public office for 44 years, State Assembly and in Congress, and there is nothing more exciting to bring to a school than an astronaut. When you bring an astronaut to a school, it is total mayhem and ooh aah. I mean, it is just wonderful. 'And how did you stay up there and what did you do?'

And I remember one year we flew the Puerto Rican flag and then seven years later, we flew the Dominican flag. And we had a presentation at a local college and astronauts came. And astronauts are heros and sheros. So please, on your way out the door, say, 'hey, let's keep working with the schools.'

Mr. CULBERSON. Yea, there is no better way to ignite a spark of enthusiasm and excitement in kids' hearts than introducing them to an astronaut, the possibility that they might be one. I am very grateful for my letter of rejection as an astronaut. Thank you very much. I was proud to apply and to be rejected. I have it framed on my wall.

Mr. KILMER. Was that last year?

Mr. CULBERSON. I did. I applied for the last class. And if we can't be an astronaut, we can be there to help you to make sure that they keep flying and that America's program is the best on earth. So we welcome your testimony. And your testimony in its entirety, if there is no objection, will be entered into the record. And we look forward to hearing from you. Thank you so much, Robert, for being with us today.

Mr. LIGHTFOOT. All right. Thank you, Mr. Chairman and members of the subcommittee for the opportunity to testify this morning. But before I begin, I do want to thank you, all of you, for the outstanding support with the 2018 budget recently enacted. That is going to enable us to do the kind of things you talked about, Mr. Chairman, and I think that for us that lets us move forward pretty aggressively across our entire portfolio. As you said, you are going to get us upwards of 20 billion and you did.

Mr. CULBERSON. I would be grateful as a part of your comments today if you would mention how important it is that there be no recisions when it comes to NASA and how important all of those things that we funded are.

Mr. LIGHTFOOT. Yes. You have my support on that one, but I don't know if I control that. I think the 2019 budget that we have provided does continue to place NASA at the forefront of the global effort to advance humanity's future in space.

NASA is focused on our core exploration mission. In many ways, this mission returns value to the U.S. I think through the mission, we are going to produce knowledge and discoveries as you have talked about to strengthen our economy and security, deepen our partnerships internationally, and as just stated, really inspire the next generation. This is what we want to do to help provide the solutions here on earth.

The proposal this year really initiates what we call our exploration campaign. NASA is going to pursue an exploration and development of the moon and deep space by leading innovative new commercial, and international partnerships and leveraging and advancing the work we have already been doing in low earth orbit with our International Space Station.

Our successful investment with the U.S. space industry in the low earth orbit allows us to focus our energies on further horizons. As private companies continue their successful cargo missions to low earth orbit, we will once again launch astronauts from American soil beginning with test flights this year.

In low earth orbit, the International Space Station, or ISS, as I said, is our cornerstone for an integrated approach. We believe it is a perfect platform for us to understand the full potential of what we need to do while we still have it. We are proposing ending U.S. funding in 2024 for the ISS and we have put money in to hopefully stimulate commercial energy in the low earth orbit economy as we move forward.

In the vicinity of the moon and its surface, the Space Launch System (SLS) and Orion are our critical backbone elements of the future in deep space. Their momentum continues this year toward the first integrated launch of the system in fiscal year 2020, with a mission with crew in 2023. In 2019 in particular we will have an important test for us, the Orion Launch Abort System will test.

That will advance our understanding in safety critical areas that we are going to need when we actually fly crew.

We will also begin to build the in space infrastructure for long-term exploration and development of the moon by delivering to lunar orbit a power and propulsion element. It is the foundation of what we call the Lunar Orbital Platform-Gateway. This Gateway will expand what humans can do in the lunar environment and provide opportunities to support those commercial and international missions to the surface, but also in the area around the moon with the technologies we need for further exploration.

Our plan is going to draw on the interesting capabilities of industry and international partners and we are going to develop progressively more complex robotic missions to the surface of the moon with scientific and exploration objectives in advance of human return.

In collaboration with our robust scientific activity across the NASA portfolio, these new lunar robotic missions will stretch the capability of industry and international partners, while returning science and knowledge we can use for human missions.

For the deep space domain, the technology will drive our exploration there. As you both stated, both human and robotic missions help us solve the problems in space and on earth. It lays the groundwork for our future missions. We have some technologies we need to work on and we need to make sure we have those before we press further into space. Those technology investments will be focused on that, as you said, the longer term application and what we want to do in deep space.

Our incredible science portfolio will continue to increase the understanding of our planet and our place in the universe. We will pursue civilization level discoveries, such as whether or not there is life elsewhere in the universe. I know that is of personal interest to you, Mr. Chairman, and we will scout for the knowledge to inform us where we want to take future human—do future human advancement.

Our scientific platform activity includes a Mars rover, lander, and sample return missions, the Europa Clipper mission, which will further the search of life beyond earth, diverse earth science missions, and spacecraft to study the sun and how it influences the very nature of space.

Powerful observatories, including the James Webb Space Telescope will study other solar systems and their planets and peer back to the dawn of time through other galaxies.

NASA's work has always strengthened our security and economy and our ongoing research and testing of new aeronautics technologies is critical in these areas. As you know, we just announced the low boom flight demonstrator contract award last week. It is an exciting time for us. It is going to help us lead the world in the global aviation economy, with increasing benefits worldwide. We believe commercial supersonic flight, unmanned aviation systems and the next generation of aircraft are some of the critical focuses of this important program for our nation.

NASA's mission will continue to inspire the next generation to pursue Science, Technology, Engineering, and Mathematics studies. We want them to join us on this journey of discovery. We want

them with us. They need to be sitting in this chair one day, the kids that are out there today and we need to inspire them as we go forward. We will look for every opportunity to engage them.

I do believe our budget this year places NASA once again at the forefront of the global effort to advance humanity's future in space and draws on our nation's great capacity for innovation exploration to raise the bar of human potential and improve life across the globe.

On a personal note in closing, I want to thank the committee for supporting me during this time of being acting administrator. It has been an interesting time, I will say, but it has been great to have such proponents of what we are doing who work with us on a daily basis. I always felt like you guys had great support for the Nation's space program and I was glad to just be the face of it for 15 months. Thank you very much and I look forward to your questions.

Mr. CULBERSON. Thank you. Thank you, Administrator. We are, each one of us, keenly interested in making sure that the human space flight program stays on time, on track. And concerned I know about the slips in the SLS program. I wonder if you could talk to us about why EM-1 is slipping. What is on the critical path at this point? We have provided significant support for SLS to make sure it stays on track. We have made sure that you have got the additional mobile launcher that you are going to need to—for the exploration upper stage to be sure that SLS stays on track. What are some of the difficulties or problems that are causing the slippage in EM-1 and what is the status of the European Service Module? That is a real source of concern that that critical piece is in the hands of somebody else that we are relying on.

Mr. LIGHTFOOT. Yes, so as you know, SLS and Orion continue to make good progress. We moved the targeted date to December of 2019 and we said we would have four to six months of risk associated with that when we first changed that. Orion is on track. It is doing fine. The European Service Module and the core stage are our two items that really pace each other on the critical path, depending on really what week you are at.

Most of the challenges we are having are because this is the first time we are building these pieces of hardware. And so, with first time build things pop up and occur.

Mr. CULBERSON. What is popping up?

Mr. LIGHTFOOT. Well, just what I would call for European Service Module, for instance, valves that are provided by a company in the U.S. We are having trouble getting the valves to them. Some of the design challenges with some of the tanks on the SLS side, some of the welds we had a real struggle getting some of the welds to work to the strength that we thought we needed.

Now the sections of the core stage, what we call the engine section which is where the—all the RS-25s are going to be mounted in the bottom. Just the physical amount of work inside that engine section, you just don't have enough room to get everybody in there that needs to be working at the same time. We are learning the process flow situations. The testing so far, the hardware that we have taken forward for structural testing has worked out fine. We have had really good results so far. We are pretty confident.

Mr. CULBERSON. They are building two of them?

Mr. LIGHTFOOT. We are building the structural articles. We are building the ones for the first launch. We already started processing even for EM-2. I think it is fairly important that everybody remembers we are not just building one launch vehicle, we are building a program that we can launch once a year to bring these elements that we need to deep space.

Mr. CULBERSON. What is your estimate, best estimate, of the launch of EM-1?

Mr. LIGHTFOOT. Of EM-1? We are still working to December 2019. I think we have lost a couple of months just that we are trying to get back. I don't know if we will, honestly. I think that is where we are. We are still within the four to six months that we talked about before.

Mr. CULBERSON. That is a result primarily of problems with the service module?

Mr. LIGHTFOOT. The core stage.

Mr. CULBERSON. The core stage?

Mr. LIGHTFOOT. Those two I can tell you we meet quarterly—

Mr. CULBERSON. Right.

Mr. LIGHTFOOT [continuing]. Or I meet quarterly with them. They get a lot more meetings with other people, but I meet with them quarterly and those two battle back and forth.

Mr. CULBERSON. I had heard that one of the problems of the core stage is difficulties with the solid rocket engines, the exhaust. Is there any problem with the heat or the exhaust produced by the solid rocket motors causing any damage or problem to the rocket nozzles on the liquid fuel center stage?

Mr. LIGHTFOOT. Yes. To kind of summarize where that one is, we think we are going to get past that issue. We are not that worried. That is not a driver. The issue is that if you go back to the shuttle program, the main engines, which are the version of the RS-25 that we are flying now, space shuttle main engines, they were located geographic, if you think height-wise, they were much higher than the exhaust of the boosters. On SLS, they are pretty close to each other from a height perspective. When the engines start, you get heating, and then when the boosters start you get heating.

The question is will the heating affect the main engines differently than what we saw under the shuttle program. That is what we are working on. I don't think that is going to be a show stopper at all.

Mr. CULBERSON. OK. What are some of the other problems of the core stage?

Mr. LIGHTFOOT. Like I said, the welds, getting the welds done on the tanks to make sure they have got the right strength that we are—

Mr. CULBERSON. I thought that was solved with the stir?

Mr. LIGHTFOOT. It is. We went with friction stir welding on this. If you remember, we had a challenge with that to start with. Getting through those first builds of that were important. We have gotten those through now, but it is one of the reasons that we had a delay.

We have done our proof test on some of the tanks and we are comfortable with that. The other big piece right now is the engine

section, which is the part where the tanks mount into a structural piece and the four engines, four liquid engines, sit in the—the RS-25 sit in the bottom there. The space to work inside of there is limited, so the amount of work we have to do in there, I can't put as many people in there as I would normally do.

Mr. CULBERSON. Sure. Now, I heard you mention you think you have already had a few months slip, so you are already looking at early 2020?

Mr. LIGHTFOOT. Yes.

Mr. CULBERSON. For the first launch?

Mr. LIGHTFOOT. I think that is when it will be right now. That is what I believe. We are also trying to work to see if we can pull that back. I just don't know if we can.

Mr. CULBERSON. OK. When will you have launch cost estimates available for SLS? I have heard estimates ranging from 500 million to a billion for each launch and that is certainly not sustainable and something I know that the subcommittee, all of us, would like to get—see you do a better cadence. The more you launch, the more you bring that cost down.

Mr. LIGHTFOOT. Right. I think right now we are still sticking with the same number that we showed last year because we haven't gotten through the first builds of all these yet.

Mr. CULBERSON. Which is?

Mr. LIGHTFOOT. It was 0.9 to 1.2 billion. We know it is going to come down. We just don't know what that is yet. We have got several initiatives in place for affordability and issues. We are working with each contractor on how do you get more—

Mr. CULBERSON. It is crucial.

Mr. LIGHTFOOT. Absolutely. We know it is crucial. Those are the initiatives we have in place. Once we get through the first builds, we will have a better feel for what it is going to take from a sustaining perspective. That is where we are today. We don't want to change that number yet until we get the first build done.

Mr. CULBERSON. I am confident a private sector commercial company is going to help also drive down that cost.

Mr. LIGHTFOOT. I think so.

Mr. CULBERSON. Competition is always a good thing.

Mr. LIGHTFOOT. Yes, sir.

Mr. CULBERSON. Thank you very much. Mr. Serrano.

Mr. SERRANO. Thank you. I also support the Chairman going up in space, but only on—with the condition that he allows me to be the one who wakes him up with one of my opening statements. And that is—that will guarantee that he will oversleep, but anyway. Badumbump.

Mr. Lightfoot, as you have—

Mr. CULBERSON. We are casual today.

Mr. SERRANO. I tried it as a career and it didn't work, so I said why can't it work here. You know?

Mr. KILMER. You want someone else to do the badumbump?

Mr. SERRANO. Yes. Yes. Mr. Lightfoot, as you have noted in your testimony, the administration is proposing significant funding over many years for a Lunar Orbital Platform-Gateway to enable missions on and around the moon. In an era of challenging federal budgets and competing priorities, what are the best arguments for

how this is worthy of significant public investment? How will this program differ from the work of the Apollo program 50 years ago? Is there a case to be made that this is a new endeavor that pushes the envelope of space exploration or is this mostly a repeat of the activities of the Apollo program?

Mr. LIGHTFOOT. Yes, sir. I actually believe this is a new endeavor. We are going to stay. We are going on a sustainable approach, and we are also not just going to the moon. We are building systems that allow us to use those systems to even go onto Mars eventually. I think what I see as the value of this endeavor is so many things. The engagement of our industrial base in this country in a new endeavor is big. Our international partner relationship, including them, is going to be big. The biggest thing I think you are going to get out of this is a whole new leadership and inspiration piece that we bring to the next generation.

If you go back to Apollo—that is one thing I would say is going to be like Apollo—if you go back to Apollo and you look at engineering schools before we tried to do what we did, the ripple effect of doing Apollo through our culture and what it did from an educational perspective, we expect the same thing. I think that is what great nations do is they take these challenges and it brings other people along with them. I think that is why it is worth it.

Mr. SERRANO. This object, what do we call it, what is going to go around the moon?

Mr. LIGHTFOOT. The Gateway. The Lunar Orbital Platform or Gateway.

Mr. SERRANO. OK. It will stay there for how long?

Mr. LIGHTFOOT. As long as we can keep it there. Several years. It will be reused. It will not have humans on it all the time. It will just be a platform that we can go to and from earth to there. Our objective, our thought is that we will use landers, whether they are scientific or human, and they can go to and from the moon to the platform. We can reload the landers. We can do everything we want to do from the platform.

The other advantage to the platform with the propulsion system we are building is you can move it around. Unlike the Space Station which has a certain inclination, you know, we can't change this inclination today, around the moon you can do stuff on the back side of the moon. You can get in different areas with the propulsion system that we have got. It allows you to actually do science, study the sun, other kinds of science you can do that is not just lunar from the Gateway because you are not blocked by the Earth, things we can't do on the space station today.

We had a conference in Denver about a month ago and we had 74 or 75 strong proposals of things you could do that—yes, lunar science, but also other kinds of sciences you can do from—

Mr. SERRANO. Well, that was my next question. You know, we always know that we learn more every day, but what do you think will come out of this, or you expect to come out of this, that we didn't learn before?

Mr. LIGHTFOOT. Well, I think if we go for the long duration here, we are going to talk about learning what we can do with the—the goal would be with these landers is the first ones will go almost as our scouts to start to tell us where to go look for volatiles in the

regolith surface of the moon. We will take another set, then go back and see what can we prospect. It will be like a step up one version. We will start trying to prospect to see if—to say there is water ice there. Can we pull that ice out and can we then—do something with it because it could become propellant, for us to use in the future or a source of oxygen if we need it in the future.

Ultimately that would lead to human landings, and we would go there in a more sustainable way. All of those things we are doing are things we are going to need to do if we ever go to Mars. These are the kind of systems we are going to have to build. It is different at the moon, because there is no atmosphere, but there are still life support systems and things we will have to work on.

That is just at the moon. The platform itself is going to have the ability to put instruments on it just like we do on the space station to look out from an astrophysics perspective or look at the sun from a heliophysics perspective when you are not blocked by the earth.

Mr. SERRANO. Right. One more question here, Mr. Chairman. The Trump administration is proposing a significant cut to NASA STEM education efforts, including the complete elimination of the Space Grant Program and the Minority University Research and Education Program. To what extent could the elimination of these programs hurt the nation's ability to produce impressive numbers of talented space scientists? To what extent would it compromise NASA's ability to continue to attract a talented future workforce?

Mr. LIGHTFOOT. Yes. If you remember last year we talked about this. We had proposed a cancellation of the education program then, and in the 2018 approps it was put back in. We are ready to execute as we were asked to do in 2018. What we also did last year is a study on how to be more effective with our STEM engagement. You are going to see soon an organizational change that comes up and instead of the Office of Education, we are going to call it the Office of STEM Engagement, Next Generation STEM, so that we are focused on that next generation with the education office we have.

In this FY 2019 proposal, we proposed again the cancellation of it. Our focus is going to be more on what can we do through the missions, what can we do through International Space Station down links and things like that—astronauts in schools. That is going to be how we are going to try to inspire the next generation as we go forward. We think we have got mission—I would call it mission excitement that gets people inspired again to go.

Our missions and our centers actually fund a lot of internships. If you look at the amount of internships NASA does each year, we do about 1,400 and over 1,000 of those are not funded by the Office of Education. They are funded by the missions and the centers themselves. We think we still have a good footprint to be able to inspire and bring in the next generation.

Mr. SERRANO. You know, Mr. Chairman, in closing, one of the not well-kept secrets is that years ago, NASA went to the University of Puerto Rico, Mayaguez campus. Mayaguez happens to be a place where I was born. And since then, there has been a very serious presence of people graduating from that campus and then going on to NASA.

Mr. LIGHTFOOT. We still recruit heavily there.

Mr. SERRANO. It certainly would make both of us very happy if that relationship continues.

Mr. LIGHTFOOT. Yes. We still recruit heavily and I think we have got a CubeSat coming from one of the universities in Puerto Rico—

Mr. SERRANO. That is right.

Mr. LIGHTFOOT [continuing]. Flying here pretty soon.

Mr. SERRANO. Yeah. Thank you, Mr. Chairman.

Mr. CULBERSON. Strong support for that education program, whether it be New York, Pennsylvania, Washington State, Alabama, Mississippi, all over the country. We are glad you are keeping it intact. Mr. Palazzo.

Mr. PALAZZO. Thank you, Mr. Chairman. Administrator Lightfoot, it is great to see you again. Congratulations on your retirement. Thank you for your leadership at NASA and your decades of service. It doesn't go unnoticed and it is very appreciated.

Mr. LIGHTFOOT. Thank you, sir.

Mr. PALAZZO. So I will just jump straight into it. My first question is can you please describe how the fixed price programs have encouraged innovation while controlling cost? I am specifically referencing the COTS Program?

Mr. LIGHTFOOT. Yes, what we have seen is that through the fixed price processes we have relinquished a little bit of what I would call our control, but we have also learned from those programs. Those folks have come in with new ideas and new ways to approach what they are doing for us from a delivery of hardware.

We are learning from them, but we are also providing them feedback in areas that we have enough insight and oversight in the process to allow us to actually say okay, no, that won't work. They have also challenged us on our requirements. I have seen learning going both ways. I think that is what has been the most positive thing about it to me is we are learning from some of the, what I would call different suppliers than we have had in the past. I would say they are not constrained by our history in some ways. But we are also able to articulate why our history is what it is and where we can do that. We have struck a pretty good balance there. It has been interesting to see both sides learn from each other.

Mr. PALAZZO. I assume NASA found it essential to pursue other ways of having, you know, because with the limitation of funds and NASA's flat and stable budget, you know, you had the—and we want to focus on deep space, and going further, and deeper, that this was just a natural ascension to—for commercial companies to come into low earth orbit?

Mr. LIGHTFOOT. Yes, we think the public/private partnership process is working pretty well for us and think we can extend it. We still have to make sure we have the right level of oversight from our perspective going forward.

Mr. PALAZZO. With President Trump signing the NASA Transition Authorization Act of 2017, have the attitudes or the morale in NASA, how would you gauge that as the administrator? Because I kind of feel like the seven years I have been involved in NASA, it seems like when there was no mission, no roadmap, it was like where are we going. It just didn't seem like there was a lot of motivation. Can you tell me now that there is roadmap, we are putting

funding, into the systems, what just your thoughts are, what are you seeing?

Mr. LIGHTFOOT. Yes. I think what I have seen, probably the biggest impact on that, Congressman, is that the National Space Council and the Vice President's engagement—obviously the President's engagement, but the Vice President's engagement has been a tremendous boost to our teams. He has been to four of our centers, or three of our centers, but one of them twice since he has been on board. He gave us the action, NASA the action to do the 45-day study on the lunar plans and that is what is codified in this budget.

I would say historically, not even in the last 7 years, but in my experience in my 29 years is we do a lot of those kind of studies and plans and they end up on a shelf.

Mr. PALAZZO. Right.

Mr. LIGHTFOOT. These guys actually put it in the budget. That is a pretty exciting thing for us and from a human spaceflight side, they are rallying around in a big way. The aeronautics guys are excited because they have the first big X-plane they have had in a while. I think the morale is pretty good and people are pretty focused on what we are going to do.

The plan which we provided to the administration, and which they supported with some tweaks along the way was it really provided this kind of roadmap for what we want to do in the decade of the 2020s. We kind of knew what we wanted to do in the 2030s, get to Mars. We knew what we were doing now with the ISS. This really filled a gap for us in terms of defining the mission set that we need to do in the 2020s.

I think people are excited about what we are doing.

Mr. PALAZZO. That is good. That is fantastic. I have been reading in the news this week where there seems to be a lot of articles talking about there is probably going to be some form of war in space in the future. We are constantly struggling and having a defense background and formerly being on the Armed Services Committee and career reservist and guardsmen, you know, we know the near peer competitors are challenging us, Russia, China, others. Maybe not in the civilian space domain, even though we do partner with Russia a lot and on the International Space Station.

Going back to the history of NASA, NASA was very vulnerable in theft of secrets compared to other military and scientific agencies. You know, there was 2015 Langley Chinese—someone was sponsored and he had access to a laptop. There was the network hacking that we thought the Russians and Chinese were involved in. And so this is, you know, the absolute theft of our information on satellites, rocket engines, our space systems. And, you know, we spend billions of dollars—we spend in appropriation billions of dollars and we are putting all of this money, all of the work into it, the brain, energy, and they just come in and steal this stuff.

And what we have noticed previously under the prior administrator was that there seemed to be a lax attitude at some point. Can you tell me, have we cracked down on that? You know, are the scientists and the NASA employees, are they taking this seriously that we can't let laptops walk out of the buildings in Ames, or Langley, and places like that?

Mr. LIGHTFOOT. Yes. I think we have had a pretty good campaign internal to the agency about those threats and about the protection of that. When the situation occurred in 2015, we brought in NAPA to do an assessment for us on our Foreign National Access Program, for instance. And we learned a lot from that and we are still implementing some of those recommendations.

It was kind of sequential. You couldn't do them all at once. You had to get this done, then you could do that. We are about done meeting all of those and we have met all of the milestones required.

In the cyber world, our teams are working really hard. Our CIO, we actually increased the budget for that this year in our 2019 submit to try to help—make sure we have got all of the tools in place we need to know when we are being—when we have the potential releases.

The challenge, honestly, for us is culturally. In 1958, we were stood up as a wide open, share everything organization. If you read the Space Act, it is supposed to be civilian and share. We have had a lot of progress in that area because we had to. We had to, right? In 1958, nobody thought this was the kind of thing we would be dealing with, but yes, we have had a lot of progress, sir, and I think we are making—I think our CIO is making great progress.

I have also started up what is called an Enterprise Protection Program inside the Agency, which looks at ground systems, the integration of ground systems, flight systems, and the potential threats to those so that we have a way of managing and we work with other government agencies to understand the threats that we might not know because we are again, we are a civilian Agency. We work very closely with other agencies to understand threats to our systems, here on the ground but also in space and in the air.

Mr. PALAZZO. Thank you, Administrator. Thank you, Mr. Chairman. I yield back.

Mr. CULBERSON. I hope you are also complying with the language we have got in our bill that requires NASA to ensure that any telecommunications, information technology systems that you guys purchase, that you have to certify—have the FBI—get the FBI standard certifications.

Mr. LIGHTFOOT. Yes. We also have that with the visits that we have with potential visits with the Chinese. We have the 30-day requirement where we have to go through the FBI, all of those things. We are still confirming with—

Mr. CULBERSON. Keep the Chinese out of our business as we can, thank you. Mr. Kilmer.

Mr. KILMER. Thank you, Chairman. And thank you, Mr. Administrator, for being with us. I want to start by asking about—and we have been looking at efforts to sort of further promote the development of the commercial space industry. And we have heard that space situational awareness is a critical step to safe and effective operations in space. And I know that NASA currently works with the U.S. Air Force on space situational awareness, providing services for robotic and human space flight missions and on research associated with better understanding space debris.

Given that NASA operates, you know, dozens of U.S. government spacecraft in earth orbit, could you speak about how essential that established relationship is to your successful operations in orbit?

Mr. LIGHTFOOT. Yes, we use the Air Force to help us with our warnings that we need associated with things that could be getting close to our spacecraft so that we can do what we need to do from a maneuvering perspective. We are dependent on that. As you know, there is a lot of debris up there and there are a lot of things we have to pay attention to. We routinely get warnings and we routinely move the things we need to move around to avoid them. I think overall the orbital policy part of this is something that we have already talked to Space Council about how this would be a good thing for the Space Council to take up so that everybody knows what swim lane they are in. Everybody, not just us, Commerce, Transportation, and the DoD, we all have an interest in this. I think that is something right now is pretty clean and we are trying to make sure it stays that way in terms of those relationships.

Mr. KILMER. I guess I wanted to get at the particular value of the kind of the established relationship with the Air Force on this front.

Mr. LIGHTFOOT. It is critical to us, I don't know how else to say it any other than we have quite a bit of partners in there. Our teams work with their teams daily.

Mr. KILMER. OK.

Mr. LIGHTFOOT. Based on the emails I get, daily—

Mr. KILMER. OK.

Mr. LIGHTFOOT [continuing]. Is what I would tell you.

Mr. KILMER. I want to ask another issue that kind of piggybacks on that. And, you know, we are—I am from Washington State. We have actually seen amazing emergence of private industry on this front: everything from Blue Origin, and space flight, and SpaceX, and Aerojet, Systema, and you know, all of these companies. Some get significant NASA support, but also inject a whole bunch of private funds into advancing the mission.

At the same time, we have got some universities, U-Dub, Washington State University that also do some outstanding research and education programs that—some of which are funded by NASA, and again, sort of advance the mission.

You know, we have been thinking in our office about sort of that intersection, the interface between the private sector and public educational institutions and NASA. In the Pacific Northwest and in some other states too, like Colorado, where there is no permanent mission directorate, you know, I think there is a concern about lost opportunities, you know, sort of to advance the U.S. mission in space.

So I guess I was looking for a little bit of—maybe this is an overly parochial question, but it is not intended to be. You know, so how can states that don't have a permanent mission directorate work more closely with NASA to create those synergies and enhance those ties between the private sector and NASA?

Mr. LIGHTFOOT. Yes, I think what we can do, and I would like to offer to provide it to you, we have several offices that people can reach into, emerging space kind of activities that they can do, but

not just space. We will get that to you for the record so you can provide it to your constituents whenever—hopefully, they come to us.

Mr. KILMER. Yes.

Mr. LIGHTFOOT. We have several ways that they can get to us to help with our missions. We meet with industry pretty routinely. We have several different ways: whether it is small business, HubZone, even large industry to try to show what we are doing. Next week, I am at Colorado Springs for the Space Symposium. We are having industry come in. I am meeting with Blue, for instance, about what our big roadmaps are and see where they can—where they think they can come in.

That is the way that we do it through these space offices that we have. I will get you that information and make sure you have that. If somebody asks you about it, you can tell them where they can reach out and get in touch with us.

Mr. KILMER. Yes.

Mr. LIGHTFOOT. I think we have a pretty good program for not only working with universities, but also any businesses that want to come, and we want them to come. We need the help. We have got a large task in front of us with this exploration campaign.

Mr. KILMER. Yes. Terrific. I appreciate that. I think even our local economic development leadership is very interested in, you know, how do we further foster this.

Mr. LIGHTFOOT. Yes. By the way, several of the local economic development for areas, they come see us quite often, right? They come in and we meet with them and say this is what we are doing and they take that back. We are also open to those kind of discussions as well.

Mr. KILMER. Super. Thank you. I know my time is up. I yield back, Chairman. Thank you.

Mr. CULBERSON. Thank you very much. Mr. Aderholt.

Mr. ADERHOLT. Thanks, Mr. Chairman. Administrator Lightfoot, welcome. It is a bittersweet day because I am pleased to have you here today in Congress, but it is sad to see you retire and we appreciate your service, as I mentioned before. But as I have also mentioned, I know you have a bright career ahead of you in the next chapter of your life.

I have a feeling that you won't be going to a retirement home anytime soon. Especially knowing that you and I are about the same age. As I have mentioned before, you and I share a same first name. Our wives share the same first name. But also, we share a desire to see NASA remain a healthy and bold Agency, not only for this nation, but as a leader for the world and human achievement in the sciences and also in exploration.

I want to explore a couple of topics with you. So I have a couple of questions as we move forward. Like one of your predecessors, someone I think we probably both greatly respect, Mike Griffin, I think we should continue to explore innovative ways to let companies compete for business in terms of letting public funds and private funds work together faster on appropriate projects.

What concerns many of us, at least at times, is the desire of some persons to make it an all or nothing for either of these parties. And that leads to some inaccurate attacks on our government

programs and some exaggerated claims for private sector efforts which have not been fully demonstrated. Would it be correct to say that the SLS program, the Space Launch System, is very close to the \$9.7 billion development price that was carefully negotiated back in 2011 between NASA and the prime contractors?

Mr. LIGHTFOOT. I believe we are.

Mr. ADERHOLT. Yes.

Mr. LIGHTFOOT. Yes.

Mr. ADERHOLT. Also, is it correct to say that the capability of a rocket to take large, heavy payloads to space and insert those payloads, often has to do with whether it is vertically integrated as opposed to integrated in a horizontal position?

Mr. LIGHTFOOT. That is a part of it. You can do things in a vertical integration that you can't do in a horizontal. But you can still take a lot of payloads from a horizontal perspective as well. The big one definitely is easier from a vertical perspective, though.

Mr. ADERHOLT. The SLS would be vertical, right?

Mr. LIGHTFOOT. Yes.

Mr. ADERHOLT. Vertically integrated?

Mr. LIGHTFOOT. Yes, sir.

Mr. ADERHOLT. Has any of the individual private sector launch companies invested in building their own vertical integration infrastructure or are they expecting the government to build those facilities free to the companies?

Mr. LIGHTFOOT. I am not aware either way, honestly. I have seen proposals, but I don't know if they have invested any of that yet from that standpoint.

Mr. ADERHOLT. But you are not aware that they invested?

Mr. LIGHTFOOT. No.

Mr. ADERHOLT. OK. My understanding is that the SLS, even if its first version carries 70 to 90 metric tons to orbit, would it be safe to say that it would be difficult for other heavy class rockets to carry more than 10 metric tons to orbit, as long as they remain integrated in a horizontal position?

Mr. LIGHTFOOT. Can I get that data back without trying to do it off the top of my head?

Mr. ADERHOLT. OK.

Mr. LIGHTFOOT. We can get you the comparison—

Mr. ADERHOLT. All right.

Mr. LIGHTFOOT [continuing]. From that standpoint. I do want to say the big thing about the SLS is it is human rated. It is being designed as being human rated from day one, and that does bring some other—

Mr. ADERHOLT. Dynamics to the table that you don't—

Mr. LIGHTFOOT [continuing]. Dynamics to the build that aren't on some of the other vehicles that are being built.

Mr. ADERHOLT. Well, I think it is clear that SLS remains a valuable national asset for a couple decades, and we—of course, we see other companies working to increase their payload capacity. As you know, the shuttle had a very large payload and my understanding is that you could fit a school bus in the payload.

To construct the International Space Station, it would have taken many dozens of launches of rockets that we now use to take the cargo to the station, and that would, of course, have been very

costly. Can you comment on the significant length and circumference of the SLS fairing and how it makes SLS relevant, both to government missions and for partnerships with commercial launch vehicles?

Mr. LIGHTFOOT. Yes, I think the advantage to the large size, the large diameter that we have for SLS, is that if you look at a mission like James Webb that we have today, a lot of the construction and design is associated with folding everything up so that it fits inside the fairing, right?

Mr. CULBERSON. Of the Ariane?

Mr. LIGHTFOOT. Of the Ariane, yes, or whatever launch vehicle you have got, which is smaller than what we are talking about here.

Mr. CULBERSON. How big is the Ariane berth?

Mr. LIGHTFOOT. Don't make me do that off the top of my head, Mr. Chairman.

Mr. CULBERSON. How big is the SLS fairing?

Mr. LIGHTFOOT. I don't want to do that one either. I will get you the information, exactly, because we have different versions we are looking at, but I think the big challenge there is you can change your spacecraft design.

So often we talk about mass. We worry about mass, how hard it is to get mass. Volume is just as important. If you have a large volume and you can put—you can actually not have to fold things up, there are mechanisms you don't have to deal with that can fail when you get on orbit. That, to me, is the big value.

Plus if you can do a big piece, you can do all your integration testing on the ground. It is all integrated on the ground instead of putting it together in space. We put the space station together piece by piece. It took several missions, just like you said, to get it to that point, and we had to deal with a lot of integration challenges, you know, making sure the parts were going to work when we got up there.

If you can put them all together in one piece and throw it one time, that is a huge advantage. I think the other advantage SLS has is you can actually—what we call the trunk, the area behind the crew module, you can actually take hardware. You can take the crew and the hardware at the same time so that if you have anything that you have to deal with, you have got people there to work on it. That is some of the bigger pieces.

The big one to me, the big qualifier is we are building it human rated to start with, and it can take crew and cargo.

Mr. ADERHOLT. All right. Thank you. I think my time is up, so thank you.

Ms. MENG. Thank you, Mr. Administrator for your service and for being here today.

My district in Queens, New York is between LaGuardia and JFK Airports. Aircraft noise, pollution is consistently one of the top concerns for my constituents. We have met with NASA. I know that NASA is investing in air traffic management operations which would limit the effect of noise, particularly in communities around airports. We also know that NASA has been working on developments in terms of potentially quieter engines as well.

The Aerospace Operations and Safety Program was cut by almost a quarter. What are you doing, or what can be done, to address airplane noise, and what kind of commitment can we get that this proposed reduction won't affect this important flight noise research?

Mr. LIGHTFOOT. Yes, we think we still have a really good plan in place for that. The things we are doing—we believe our job is the research and technology, and working with our partners at the FAA is how do we reduce noise because that is one of the largest, challenges with the infrastructure we have, and it actually limits our capacity in the airspace, for what we can do.

There are several things we are working on that start with, to your point, immediate things that we can do with the current air systems we have. That is what the teams are working on, but the bigger things we are working on that I think are important, are things like fairings in front of the landing gear. Landing gear are actually one of the loudest noise generators that you have. We are building special fairings that will cut that noise down. We are doing research on that, can you put a fairing, almost a block, in front of that so they still perform their function, but to reduce the noise.

We are looking at new airframe designs other than—today what we would call tube and wing, a standard airplane that everybody sees a tube with two wings. We are looking at different designs that actually put engines on top so that they protect the noise—the body of the aircraft actually protects the noise from the environment around.

Those are the kind of things we are working on, the research we are working on, but it is very researched, and then once we get to a point where we think the research is at the level where we can implement, then we begin to work with our industry and our FAA partners to say OK, how are we going to do this going forward? We have several areas of research we are trying to work on noise. It is always going to be something we work on because we think that is being environmentally responsive, right? That is what we do, so.

Ms. MENG. Thank you. I am also deeply concerned that the budget request for NASA proposes to entirely eliminate NASA's education program. As a mom of two young boys in Queens, New York, and I have also met with young students, college and graduate students, and scientists who have talked about how they benefitted and were inspired by NASA's education programs, we have had programs for many years throughout Queens and throughout New York City at colleges and for college, and even younger, students. Just last year, I took my kids to NASA's—one of their traveling exhibits that I have a picture right here, and they got to experience, for the first time, the amazing work that NASA does.

At a time when the administration is proposing to grow NASA's space exploration capabilities, how can you justify cutting programs that will literally and directly impact this next generation of scientists?

Mr. LIGHTFOOT. Yes, we did the balance of the entire budget for 2019, our goal was to use the missions that we do. You showed a picture there of a EVA, a spacesuit, that we take out. We do those exhibits through the mission program—the missions as well, not

just through the Office of Education, and we think we have an opportunity through our missions to still inspire folks as we go forward.

As I said earlier, the missions in the centers that we have throughout, they fund things like—the internships is a great example of where we have 1,400, but roughly 1,000 of those are funded not by the Office of Education, but the other missions. We still think we have things in place. I am sure that will be a point of debate, as it was last year. I understand the concerns, this is just the balance of the dollars that we made a decision on that.

Ms. MENG. Great. We, in New York City, and specifically in Queens, New York, we have so many historically under-represented communities and children, and any ways that we can partner together to, in the future you and your team, to bring these programs into Queens, we would love to collaborate.

Thank you. I yield back.

Mr. CULBERSON. Ms. Meng, remind everyone of the ages of your sons.

Ms. MENG. Eight and ten.

Mr. CULBERSON. That is exactly the right age—

Mr. LIGHTFOOT. Perfect age.

Mr. CULBERSON [continuing]. To be inspired.

Mr. LIGHTFOOT. Yes.

Mr. CULBERSON. Thank you.

Ms. MENG. Thank you.

Mr. CULBERSON. The chair would recognize the gentleman from Kentucky.

Mr. ROGERS. Well, Mr. Chairman, thank you. Thank you very much for the recognition. Mr. Administrator, good to see you again.

We enjoyed our visit when you came to Kentucky some time back, and saw that exciting new space science curriculum and building at Morehead State University, turning out graduates with degrees in space exploration, which is phenomenal to me in a small mountain university that is doing—making satellites and programming satellites, and they have that dish there, which is one of your, what, 9 or 12 tracking stations worldwide?

Mr. LIGHTFOOT. Yes, for the space communication network. Yes, sir.

Mr. ROGERS. The only one that is not owned by NASA. So we are going to charge you rent for that.

Mr. LIGHTFOOT. OK. Lovely.

Mr. ROGERS. Anyway, congratulations on—

Mr. LIGHTFOOT. Thank you.

Mr. ROGERS. [continuing]. What you are doing. When I was a younger guy—and I can speak for I guess most Americans in this regard—when I was a younger guy, the NASA name was gold and magic. It was an inspiration to people like me at that time. It got me back in school and enrolled in physics. Well, I wanted to be a part of the space program, but the university wanted me to study math. I wanted to shoot rockets right off. It inspired people of my age to do some magic things, and NASA has done just that through all of the moon landing sequences that we went through.

With that landing on the moon, the first man, the magic quickly wore off. We had beat the Russians to the moon. We had success-

fully landed a man on the moon and brought him back, and we quickly moved to other ambitions in the country. That first landing on the moon was the apex, if you will, of I think of that period of time.

What I want to ask you is how can we recapture that magic time which meant so much to the advancement of science and manufacturing, and everything else in this world, miniaturization, electronics, and cyber everything, how can we recapture that magic time?

Mr. LIGHTFOOT. For me, right, since I was an outcome of the Apollo generation. I wasn't in the Apollo generation. I was watching it on a black and white TV, I think, when I was six or seven, right? I honestly believe we still have a magic time.

I was part of building the ISS and part of launching space shuttles that put Hubble up, that put those up, some of the greatest observatories we have done. Now we have this orbiting platform called the International Space Station, just amazing, that has been—that has had humans on it continuously for 18 years. That means the kids that graduate from high school this year will have never lived a day in their life without someone living in space.

The challenge to me is not that we don't have the magic, the challenge is educating people on what that magic is, to your point, right? I think when we go back to the moon, and we go back not to just go to the moon by itself, but go to it in a sustainable fashion that we are proposing in this budget, you are going to inspire not only the NASA team, but you are going to inspire international partners and our industry partners in this country to go along with this.

I think that is the thing—you know, it has been 50 years. Think how many people weren't there. I mean, I am going to more meetings now when you ask who was there when we landed on the moon where the arms are—there are fewer arms going up than there used to be, and I think that is what we want to do is capture that imagination. That is a good next step on our way to Mars.

The thing about Apollo was we went and we stopped. Now, we need to go and stay, and I think that is what we are proposing here, and also not just stay at the moon, but be thinking about going to Mars, and that is what this exploration campaign that we have been asked to put together by the administration does. I think that is going to get the people inspired and ready to stick with us.

Mr. ROGERS. Yes, we didn't have another goal to take up after we reached the moon. We threw away all the experience, and all that talent, and all that manpower, and training, and equipment, and understanding. All of that was more or less thrown in the trash heap. Now, we are sort of having to start over again, which is a huge cost, but also a good deal of stupidity that we did not have a followup follow on (inaudible).

I think one of the main reasons that era, that time, so captured everyone's imagination was it was a race with Russia, the Soviet Union. The nation successfully transformed that competition into a real concrete and speeded up process. Can we recapture that kind of imagination without something like a race against the Soviets? Do we have to have something like that to make it appealing to us?

Mr. LIGHTFOOT. I am probably biased because I am in this business. I don't think I need the race. I need more than one year at a time thinking, right? I need multi-decadal thinking for what we are trying to do, and to me that is the difference, right?

I think what we have gotten from this administration this time is—when the Vice President asked us to put together this 45-day study, it is roughly a two-decade plan, and if we can stick with it, I think you are going to see that it is not just low earth orbit where the International Space Station is. It is that, plus the moon, plus keeping an eye on Mars.

To your point, when we went to the moon, we won, and we kind of we didn't have anything else—we didn't have that next thing there. Now, I have still got Mars there. I have got several things there as the next piece. I think, to me, I think—you know, in my opinion, I don't need the race, but I am also part of the team. I love what I get to do every day. I don't know the interests outside of my team. We are kind of buffered by the fun things we get to do every day to pursue this exploration journey. I think the magic is there.

Mr. ROGERS. More power to you, and I will always want to be helpful in your success.

Mr. LIGHTFOOT. Yes, and I—by the way, I did enjoy my visit to Kentucky. Ben Malphrus is doing some amazing things there. Fascinating. They are going to fly a CubeSat on EM-1, the first SLS Morehead had, and they showed me the CubeSat they are building. It is pretty fascinating.

Mr. ROGERS. Thank you. They enjoyed your visit.

Mr. LIGHTFOOT. Yes.

Mr. ROGERS. They were greatly excited.

Mr. LIGHTFOOT. Good folks.

Mr. ROGERS. Thank you, Mr. Chairman.

Mr. CULBERSON. Thank you. Thank you, Mr. Chairman. Mr. Cartwright.

Mr. CARTWRIGHT. Thank you, Mr. Chairman, and thank you Administrator Lightfoot for being here today and for many years of service.

Mr. LIGHTFOOT. Thanks.

Mr. CARTWRIGHT. And I congratulate you on your impending retirement. I also want to commend you on the progress you have made in NASA and bringing about a new—really a new space age that positions our country as the leader in commercial space revolution. But you just touched on something that I want to go into, and you said I need multi-decadal thinking, and I think that makes great, good sense, and it fits so squarely with the way NASA has always worked.

And I want to go into that because NASA has unparalleled knowledge, and satellite engineering expertise that is virtually impossible to replicate in another agency. I am concerned about the deep proposed cuts to earth and climate science in this NASA budget. It almost represents an abandonment of the wisdom of our scientific community.

Our own science agencies including NSF, NOAA, and USGS came together with university researchers and experts across the country to agree on long-term priorities in the 2010 astrophysics

decadal survey and the 2017 earth science decadal survey and—published by the National Academies of Science. These decadal surveys are the road maps for future science research. They are agreed to across all the agencies, major research institutions, and experts in the field. They are designed to enable coordination and cooperation on large scale and important science missions, and they are all about multi-decadal thinking.

But instead of respecting the expertise behind the recommendations in the earth science and astrophysics decadal surveys, the current administration is shelving our next flagship space telescope and cancelling four critical earth science missions that were highly prioritized in the 2010 and 2017 decadal surveys, including one mission that is already operational and has been flying for over three years.

And now, Chairman Rogers very wisely just mentioned the high cost involved in stopping and starting these missions, particularly when we are talking about decadal length types of missions. I want to go into that.

NASA, more than any other agency, engages in these long-term missions, and the question is how do abrupt deviations from these missions develop based on carefully constructed decadal surveys, increase costs for taxpayers, how correct is what Chairman Rogers said?

Mr. LIGHTFOOT. When we look at our science decadal that we have today that we just got, the 2017 one was just released, we are evaluating that now to see how it fits in our current set of portfolio missions. We still have well over 20 missions flying in Earth science portfolio, and we have 65 aircraft that we use for airborne science as well. We feel like we have got a good portfolio in our science. The focus for this budget simply was around exploration that I talked about a minute ago, human exploration with a mix of science in it.

For the astrophysics decadal, you are talking about WFIRST, which is the mission that we are proposing cancelling, that was not based on science or based on progress. That was based just purely on the amount it was going to cost us to do that, and when we balanced that across the entire budget that we have to keep, it became a budget discussion more than it did whether we are meeting the decadal or whether we're not. That was the difference.

Obviously, in the 2018 budget, all of those earth science missions, and WFIRST were put back in. We are continuing. We have been continuing on them—because we proposed the same ones in the earth science arena last year, except for RBI, which we cancelled for performance reasons, not for the reasons of a budget proposal.

Mr. CARTWRIGHT. Well, WFIRST is being cut, right?

Mr. LIGHTFOOT. We are proposing to cancel it in 2019, but we are working on it fully because it was funded in the 2018 appropriations.

Mr. CARTWRIGHT. Well, there is the question. How much time and money has already been invested in WFIRST, for example?

Mr. LIGHTFOOT. About \$320 million, and its estimated range right now is \$3.2 to \$3.9 billion.

Mr. CARTWRIGHT. And how much knowledge and monetary investment will be lost if WFIRST is cancelled?

Mr. LIGHTFOOT. That would be speculation on my part. I don't want to go there, but it is—clearly, we have spent 320 million, today.

Mr. CARTWRIGHT. So the question is how can NASA guarantee to American taxpayers that we will see the benefits of the time and money that have been invested already in WFIRST?

Mr. LIGHTFOOT. Well, we clearly are working on instrument technology that we think can go forward into future missions, depending on how we go to capture the decadal science. You have to remember the decadal is about the science, not necessarily the mission. We are trying to figure out if we can do the science in a different way than what we are doing with this larger mission.

Mr. CARTWRIGHT. And is it just WFIRST, or isn't it also PACE, and CLARREO Pathfinder, and DSCOVR, and OCO-3?

Mr. LIGHTFOOT. Yes, those are in the earth science side. The other one is astrophysics, but we believe we have missions today on orbit to give us data similar to what we would get out of those missions, and it becomes just a budget discussion around that as we go forward.

Mr. CARTWRIGHT. I am out of time. I yield back.

Mr. CULBERSON. Just to reinforce the subcommittee's agreement with where Mr. Cartwright is coming from, you know, we have—since I became subcommittee chairman in FY 2015, we have included report language directing NASA to follow the recommendations of the decadal survey in each of the major study areas, and the budget again is just a recommendation.

Mr. CARTWRIGHT. Thank you, Mr. Chairman.

Mr. CULBERSON. We don't get too worked up over the budget because they need to follow—they will follow the appropriations bill.

Mr. CARTWRIGHT. In that case, I will not be asking for a subpoena of the reasons for your rejection from NASA.

Mr. CULBERSON. No worries. I have also—we are going to have a hearing—we are tentatively shooting for May 9 on the astrophysics decadal, and on the WFIRST, Webb, looking at the next generation of space telescopes and that precise question. We should be thinking long term and give NASA the freedom to plan more than one year at a time, and we will be working on that in this year's CJS bill as well.

Mr. CARTWRIGHT. Thank you.

Mr. CULBERSON. Mr. Jenkins.

Mr. JENKINS. Thank you very much, Mr. Chairman, and I just want to thank you for your leadership. The time we have had the opportunity to talk, I appreciate your passion. You know, having the right people at the right spot at the right time, and I know that this area is your dream job. So thank you for your leadership. I only understand about every fifth word you describe. I am trying to catch up.

Administrator, thank you for being here. Thinking about Chairman Rogers' very eloquent and appropriate reminiscing, you know, I am from West Virginia. The only rockets I shot off were little Estes rockets growing up, but my district is the home of Homer Hickam. My district is the Rocket Boys. My district is October Sky.

What you have been asked about previously, and I know it is going to be a little bit of piling on and I want to associate myself with the comments and the questions you have been asked about the space grant and NASA EPSCoR programs, and just the whole investment in education and STEM inspirational efforts. It is about your future, our future, it is about the kids of West Virginia, or any state that are inspired to shoot higher, dream big.

I am—like the others here, and I know it is somewhat repetitive, I just wanted to make sure you heard also from me, a very deep concern about cutting; elimination and reductions in what I see is the potential focus of NASA in the education programs.

I know you have probably said it now multiple times, but I need to hear the reassurance again that you are going to continue and in what form and fashion to inspire education, and research, and STEM activities because this is your feeder system and we can't give up on our kids.

Mr. LIGHTFOOT. Yes, and as I have said earlier, we are proposing cancelling the education office, the Office of Education. For us, we are going to use our missions that we have through our mission directorates to inspire the next generation. We have several educational activities we do there, whether it is the internships we do, some of the research programs we have through space technology and those kind of areas. That is the way we are going to try fill that void.

Admittedly, you know, that is going to be a concern. Whether that can actually fill the void or not, I understand that completely going forward, but that is the way we have done it, and all I know is as long as we are getting appropriated the money, we will have an education office that executes what you guys have asked us to do.

Mr. JENKINS. Why don't you—since you have labeled it as a void, and you have said very clearly—you have a way to try to address the void, but whether or not it actually fills the void, describe for me in your words, rather than my words, what you see the void that is being created by the proposed elimination of this office is, and how you think and hope and desire; I think that through your other approach that that void will be filled? What is the void that you are creating by this budgetary action?

Mr. LIGHTFOOT. Yes, the education program we have today reaches people that we might not be able to reach if we are not paying attention to the specific area, MUREP, EPSCoR, Space Grant, the way those work today. We think we have a way to reach the same people using our mission activities.

The advantage to the education program, honestly, is that it gives us three very specific areas to focus on. We would like to make sure those are aligned with what we are trying to do as an Agency going forward, and when you see the way we are reorganizing education today, that this next gen STEM organization, we would look for more alignment even if we keep those programs. We would look for changes inside those programs to make sure they are aligned with what we are trying to do so that when that workforce comes onboard they are with us. They are already part of our program.

Mr. JENKINS. What techniques and strategies under this new realignment do you envision putting in place to make sure that they have a conscious awareness that they have a role in their alignment to fill this void and to hold them accountable, so to speak, ways to make sure that through this new realignment, that we don't get years down the road and say well, you know, we had good intentions, but nobody was really watching the store, and it got away from us.

Mr. LIGHTFOOT. Yes, I think what we are trying to do, and again, we haven't executed this yet, but this would be if we didn't have the education budget. We are looking at ways to do that, and again, that is proposed in 2019. We are not doing this in 2018—

Mr. JENKINS. Right.

Mr. LIGHTFOOT. [continuing]. Because we have got education money in 2018. I want to be really clear about that.

Mr. JENKINS. Yes.

Mr. LIGHTFOOT. What we are doing is we are bringing in the mission directorates, Human Exploration, Aeronautics, Space Technology, and Science. We are bringing them in to articulate with the team that works Next Gen STEM now. I have a small group that still does that, and they will make sure that the work those four mission directorates are doing is aligned. We use the missions to be the voices of that.

Mr. JENKINS. And final question. Do you think we can—and I appreciate your emphasis, and we have all worked very hard. Again, thank you, Mr. Chairman, about the continuity for fiscal year 2018, and yes, we are thinking ahead. Can you again reassure us that, while I will certainly be fighting to continue the funding, but if I am not successful and this heads in a different direction, that we have the appropriate, things in place to plan to make sure that no void has occurred, you know, adequate preparation for that day.

Mr. LIGHTFOOT. Yes, I'll be glad to take that one and bring you back the plan, and show you what we are talking about doing in the absence of an Office of Education.

Mr. JENKINS. Right.

Mr. LIGHTFOOT. Is that fair?

Mr. JENKINS. Yes, thank you very much.

Mr. LIGHTFOOT. Yes. Thank you.

Mr. JENKINS. Thank you, Mr. Chairman.

Mr. SERRANO. You ran out of questions?

Mr. CULBERSON. No.

Mr. SERRANO. NASA's Earth Science division works to develop a scientific understanding of the Earth and its responses to natural and human-induced changes by using innovative satellites to collect data on the Earth's surface and atmosphere. In short, this information ultimately helps protect American lives and infrastructure in the face of extreme weather events such as hurricanes.

The President's budget is proposing a significant reduction to NASA Earth Science, including a cancellation of several key Earth Science missions. Why is the administration proposing to reduce NASA's investment in earth science? Shouldn't we place an equally high priority on the study of our own planet, particularly in light of last year's hurricanes that struck Texas, Florida, Puerto Rico, and the U.S. Virgin Islands?

And by the way, we made an agreement yesterday that since climate change upsets some people in the House, I am just referring to something is going on, and we will leave it at that.

Mr. LIGHTFOOT. Well, I think we have a good portfolio of science missions. We think the budget is adequate, and if you look at the entire cycle, what we call the Bretherton cycle of what is the earth's system, all the different things: clouds, ice, water levels, color, ocean color, rainfall, all the different things we measure. We believe we have a measurement in all those areas that allows us to look at the earth as a system and provide the data to folks that we need.

Even when we made the selections we made on cutting the missions that we talked about in the 2019 budget, they were based on our prioritization of what we needed to be able to still understand the earth as a system. That is why we made the decisions we made within the budget allocations that we had. I think we are comfortable. We still have the whole earth system understood—or not understood, but we have data that help us to understand that going forward. We don't have a gap in those areas.

Mr. SERRANO. You know, the difficulty, believe it or not, in having you as a witness is that you have a lot of respect from this Committee, a whole lot of respect. So we don't want to argue with you, you know, and in any way try to make your life difficult here before this Committee, but again, to the people you talk to back home in your home office, this is not the right time to be doing this.

I mean, the hurricane season in the Caribbean hasn't started yet. It starts soon. We have no idea what will pile up on top of what already has happened and then in Florida and in other places. So this just—you might be surprised to find that this has a bipartisan look where people say 'why are we cutting this at this time?'

Administrator, you are aware of my interest in the Arecibo telescope in Puerto Rico, a 1,000-foot wide telescope used for radio astronomy, atmospheric science, and radar astronomy. Could you explain for our audience some of the most important ways that NASA and the nation continue to benefit from utilizing this telescope and why it is important to maintain the robust funding for this facility? And I am hoping you agree with me, otherwise the question is a terrible question.

Mr. LIGHTFOOT. Yes, well we use Arecibo for characterization of near-earth objects. That is one of the things that we do from a radio—

Mr. SERRANO. I am sorry. I—

Mr. LIGHTFOOT. For near-earth objects. We use it to understand—it is just part of the story. There is the radio—as you said. The radio astronomy that we get from Arecibo, we combine it with other assets we have across the nation to help identify what the shape, the size, the trajectory of these objects are. I think NASA anticipates roughly about 4 million in 2019 that we would spend there, to help with the characterization of these objects. It is definitely a piece of our infrastructure that we use, and we work closely with NSF on using it.

Mr. SERRANO. Do you know if the repairs have taken place after the hurricane, because I know it took a hit also.

Mr. LIGHTFOOT. Yes——

Mr. SERRANO. Everything took a hit.

Mr. LIGHTFOOT [continuing]. I was going to say. I do not know if they are completely done yet. I would have to ask NSF for that one.

Mr. SERRANO. OK. Thank you, Mr. Chairman.

Mr. CULBERSON. Thank you, Mr. Serrano. Administrator, if I could, I wanted to talk about commercial crew.

We budgeted—the budget that the OMB proposes includes 173 million for commercial crew, but we see that the launch dates for Boeing and SpaceX have both slipped significantly, and the contractors have determined they are not going to be able to meet their original 2017 certification dates. Why are both programs delayed, and if you could, describe NASA's process of overseeing these contracts, especially when it comes to crew safety?

Mr. LIGHTFOOT. Yes, both companies are making great progress. Very similar to SLS and Orion, we are running into first-time builds and some of the challenges we are learning in tests as we go forward. We still expect to see the first test flights at the end of this year.

Mr. CULBERSON. The end of 2018?

Mr. LIGHTFOOT. Yes, from both the providers.

Mr. CULBERSON. From both? Boeing and SpaceX?

Mr. LIGHTFOOT. This would be the uncrewed flights.

Mr. CULBERSON. Uncrewed?

Mr. LIGHTFOOT. We are working through that now. As far as our assurance and our oversight there, our safety engineering, and health, and medical areas, what we call our technical authorities, are practicing a shared assurance program where they are sharing the validation of the requirements across both suppliers, and that is going fine.

There is clearly going to be a bow wave at the end where we have to verify that. The actual design certification for these vehicles is actually approved to by the associate administrator. Steve Jurczyk, who is going to be replacing me in that job going forward, will have that role to do the design certification review and approval.

Flight to flight will be handled by the head of Human Exploration and Operations Mission Directorate which is Bill Gerstenmaier now, of course.

Mr. CULBERSON. He does a great job, by the way, and we——

Mr. LIGHTFOOT. Yes.

Mr. CULBERSON [continuing]. Let him know how much we all support him.

Mr. LIGHTFOOT. Yes, you have supported him very well, and he——

Mr. CULBERSON. Right where he is.

Mr. LIGHTFOOT. We are very appreciative of that. We have a process in place that allows us to still have the technical oversight that we need going forward, so it is good.

Mr. CULBERSON. Now, the fact that the commercial crew launch dates have been slipping, will there be any sort of a gap between the last seats on Soyuz's and the ability of Boeing and SpaceX to get American astronauts to the space station?

Mr. LIGHTFOOT. Yes, right now we don't show a gap, but we are looking at options for what can we do to not have a gap because we don't want a gap. You may have seen recently, we asked Boeing to look at putting a third crew member and extending the stay of the first crewed flight, which was going to be shorter. That is one thing we have done.

The other thing is we are working with our partners, our Russian partners, on can we have longer increments between—you know, for crew members that go up so that we don't have a situation where we cannot get up. We are working with all the partners, and working all the options, but right now we still show margin to having the ability to get our crews there on the commercial entities.

Mr. CULBERSON. So the commercial first uncrewed mission launch will be before the end of 2018—

Mr. LIGHTFOOT. That is correct.

Mr. CULBERSON [continuing]. For both Boeing and SpaceX? When are they estimating that they will have the first crewed launch?

Mr. LIGHTFOOT. Let me get that back to you. Let me just take that for record, because I am focused on the uncrewed one—

Mr. CULBERSON. OK.

Mr. LIGHTFOOT [continuing]. Right now in my head. We will get you that.

Mr. SERRANO. Still trying to get on a flight, huh?

Mr. CULBERSON. We are going to make sure we get as many American astronauts into space as possible as soon as possible.

If you could, I would like to talk a little bit about the Webb space telescope. We are going to come back to that on May 9th. I am really concerned, all of us are, with the slip, and they have already missed—they are going to miss their fall 2018 launch window, they had earlier announced, slipped to May 2019, and the revised launch date is now May 2020. The project is going to exceed its \$8 billion cost cap.

It is an extraordinary telescope and I know a lot of technology that has not been tried before, the unfolding of that mirror, and the solar shield is extraordinarily difficult, but I am really concerned that there are a lot of simple and costly mistakes being made at this critical juncture because I am concerned that the contractor doesn't have the right mix of skill sets for the folks that are working on this project.

Talk to us about the delays, and where they are coming from, and does the contractor have the right skill set of employees on the project, and that as a result of the revised launch date and associated cost overruns that a breach reporting requirement has been triggered, and could you comment on that?

Mr. LIGHTFOOT. Yes, we have triggered the breach and we are working on the reports back to the Hill, and I think we have until around the end of June to finish all that up, but we have notified the Hill that there will be a breach there on schedule. We are still looking at cost. We think there will be, but we want to make sure we tell you one time, from that standpoint.

The challenges, honestly, Mr. Chairman, have been around the integration of the sun shield and the spacecraft. Think of two pieces, there is the telescope. That is the thing we have been test-

ing. We tested it at Goddard, we tested it at Johnson. You know, it was——

Mr. CULBERSON. It passed with flying colors——

Mr. LIGHTFOOT. It was in the chamber during Hurricane Harvey, for instance. It never knew the hurricane hit.

Mr. CULBERSON. And that is a great credit to the people at Johnson——

Mr. LIGHTFOOT. Unbelievable.

Mr. CULBERSON [continuing]. Who did an extraordinary job of protecting——

Mr. LIGHTFOOT. Yes, the——

Mr. CULBERSON [continuing]. that telescope during that hurricane.

Mr. LIGHTFOOT [continuing]. Goddard teams that were there and the Johnson teams were there continued testing during that whole time when they could.

Anyway, that is the telescope with all the instruments. It has now arrived at Northrop Grumman. We have all the pieces at one time at Northrop. Northrop is working the spacecraft and the sun shield.

Some of the things that we have run into, honestly are the sun shield deployment during the course of doing integration and test, I&T as well call it, we are going to deploy the sun shield and repackage it, I think, three times, if I remember correctly. What has happened, that has taken a lot longer on the ground than we thought it would. My comparison, it is probably a bad one, is to a parachute. You want to pack it right so that when it opens it works, and every time we open it, we have to go back and package it up. We had some trouble with some of the systems in that, some of the tensioning systems, and it is just costing us more time. We had some tears in the sun shield that we weren't anticipating, and these are the things you find when you get into integration and test.

We have also had some workmanship challenges. We had a heater that got more power applied to it than it should. We had to replace that, and the big challenge for us now is making sure that the integration and test flow, the whole flow from now until the time we ship to French Guiana, is actually a flow we can do today.

The standing review board that we have on all our projects, but we have one for James Webb, they looked at it and they kind of gave us a May 2020 is when they thought would be a reasonable date.

What we had did on top of that is we chartered an independent review board led by Tom Young, who is, I guess I would say he does this for programs all the time, from all reviews a seasoned leader in not only NASA, but in industry. That team is now looking to confirm whether we agree with the date or not. They are also going to look at the workforce. Do we have the right workforce? Do we have enough workforce? That is what we are trying to do. I think——

Mr. CULBERSON. And you are going to report back to us on that?

Mr. LIGHTFOOT. You will see that for sure. I think for us, the big challenge now is we have these instruments, as you said, passed with flying colors. We are ready to go. We don't want—I mean, as

painful as it is, because none of us are happy about this. I want to be really clear, none of us are happy about that and we take all the accountability there is for what is happening, but we also want to make sure that we fly this thing and fly it well. I would rather fly a spacecraft that works, even if it is a little late, than one that we fly to rush to get into orbit. Our Science teams need to make sure we respect their work; and they get their instruments ready. Now we have to work with our spacecraft vendor and get this thing put together the right way.

Mr. CULBERSON. You should have that report, I hope, before May 9th when we have our astrophysics hearing?

Mr. LIGHTFOOT. I don't think so. When is it? June? Yes, I think—

Mr. CULBERSON. Four to 5 weeks?

Mr. LIGHTFOOT. Yes.

Mr. CULBERSON. Because we all need to look at that and talk about it. We will have that—that is going to be a big part of the hearing. Thank you for the little extra time, gentlemen, but this is so important. The original launch date for Webb was, I think—we were just comparing notes, 2011?

Mr. LIGHTFOOT. That is when we re-baselined. I do not know when the original date was. I can get you that.

Mr. CULBERSON. And, you know, the cost, original estimate versus today. It is a magnificent instrument—

Mr. LIGHTFOOT. Yes.

Mr. CULBERSON [continuing]. And something that has never been attempted before, and you are trying to fold it into the Ariane fairing, which we are going to solve with SLS, but we just can't let this happen again. And it reinforces the question Mr. Cartwright—all of us are asking about the importance of following the decadal survey, and the importance of this committee writing into our bill to find a way to let NASA plan more than a year at a time out into the future, and to try to free you from OMB as much as possible, and unleash you, and let you be led by the scientists and engineers and great folks like yourself that can look far out into the future.

Thanks for the extra time, gentlemen. I want to go to Mr. Kilmer.

Mr. KILMER. Thanks, Chairman. I want to echo the concerns around the Office of Education and the Space Grant program. And in doing that, it states there will be a small team at NASA headquarters and the mission directorates to take on the role that the Office of Education currently has to engage learners in NASA's work and to encourage educators, students, and the public to continue making their own discoveries.

I would like some clarity on that. How many people will be on that small team at NASA headquarters, how much funding will they receive to carry out that mission, and what are we looking at in terms of presence of employees at the mission directorates to work on that too?

Mr. LIGHTFOOT. Yes, and as I told Mr. Jenkins, I would love to bring you guys the plan on what we are doing there, a more detailed than me and just two minutes, but what we are really looking for is a really small core group, and they are really integrators. They are not actually going to execute the education program, but

they are going to integrate what we are doing from an education and public outreach perspective as an Agency, but include the mission directorates.

Today, the Office of STEM Engagement works with the mission directorates, but it is a separate organization. Now, we are talking about integrating, kind of aligning those—together. More than happy to bring the story on what we would do in the event that we didn't have an appropriations for the Office of Education.

Mr. KILMER. Thanks. The other thing I wanted to ask about with the time I have got left is the budget proposes to privatize the International Space Station. I am concerned by what seems to be sort of a lack of planning and clarity on that transition, especially given that the budget proposal is to spend a billion dollars over the next five years essentially to figure out what the plan is. But setting that concern aside, even if the transition to privatize in the space station is successful, when we think about the value of the space station, the cornerstone of our integrated approach to exploration, as your testimony states, that cornerstone is research. That is why the ISS was designated as U.S. national lab.

I would just like your sense of is NASA going to commit to a space based national lab that lives beyond the current construct of the ISS and includes a pathway for federally funded researchers to use commercially provided space research platforms if ISS is privatized?

Mr. LIGHTFOOT. Yes, let me clarify one thing really quick. We are not necessarily talking about privatizing the ISS. What we have said is we are proposing eliminating U.S. government funds for that. There are other things other than the ISS. Several of the commercial companies have talked about a standalone platform. What we really want to move toward is a service based, if you can think service, we want to buy a service in low earth orbit. We know we will still need to be in low earth orbit, and I believe other people want to be in low earth orbit. We want to see what folks will bring back to us.

For us, the reason we did this now was 2025 is in the budget horizon for us. When we look at 2020, our next budget submit, we want to know is it going to be 2025 or is it going to be 2026? You will see us use this money to say, provide us back what is the plan, what is the business plan, who is your basis of research? We want the commercial industries to go out and say I can get other researchers to come to my place.

Now, it could be that they want to use the Space Station. They may want to take the Space Station from us and operate it and that is fine too, but we are moving to where we really want to buy services in low earth orbit. Part of that buying services is actually trying to spur a commercial industry in low earth orbit. Today low earth orbit equals the ISS and we pay for it. If we can get a broader base than that I think you can have not just a national lab, but I think you can have different labs that people—that we just go to when we need to.

That is our goal. We will see what we get back in this process. But we still have time now or we have got runway to work those issues since it is 2025 that we're talking about.

Mr. KILMER. Thanks, Chairman. I yield back.

Mr. CULBERSON. And we are also going to really bore in on that too, look carefully at it because we want to make sure that NASA is keeping a foothold in the space station. Like the idea of commercial, but don't know about handing it all over lock, stock, and barrel. If you would please represent the gentle lady from Alabama, Ms. Roby.

Ms. ROBY. Good morning.

Mr. LIGHTFOOT. How are you?

Ms. ROBY. And let me first say, Administrator Lightfoot, I want to say thank you for your service to our country and your career working for and leading NASA to what it has become today. Your leadership and your expertise will certainly be missed. So we appreciate your time this morning. Under your vision and your management our nation is on the cusp of returning humans back to deep space and going further than we have ever been before.

As Congress and this subcommittee continually has prioritized the funding and launch schedule of the Space Launch System, Orion crew vehicle, and their respective ground system, you spoke earlier this morning, and again, I apologize, you know, we have got a bunch of hearings going on at one time, but I understand—

Mr. LIGHTFOOT. Understand.

Ms. ROBY [continuing]. You said earlier this morning about the challenges of holding the 2019 launch date of EM-1. So how can this subcommittee help you keep the progress and the work on track as we get closer and closer to this initial launch of SLS?

Mr. LIGHTFOOT. Well, I think the main thing is what you did in the 2018 budget. The stability that is offered to us when we see, as I said earlier the committee has taken in my opinion a long term view of what we are trying to do, not just a one year at a time. That makes the planning much easier for us because we are working in a different mode because we know that we are going to get the support that we get. That continued support is what we need.

Ms. ROBY. Would you agree that NASA is prepared for scheduled mission launches of SLS continuously through the 2020s with EM-2 and the first crewed mission in 2023?

Mr. LIGHTFOOT. Yes, we are right now working a plan that would show at least one mission a year after EM-2.

Ms. ROBY. OK. Great. I thank you for your answers on this incredibly bright future that we have of sending missions and humans again further—to further depths of deep space and in showing NASA's commitment to deep space exploration.

So can we talk about infrastructure and capabilities of propulsion for just a minute? Can you speak about the need to advance the nuclear thermal propulsion technology in order to have safe, efficient, and reliable propulsion for missions in the future?

Mr. LIGHTFOOT. Yes, so we are working—there is a lot in that one. If you think about nuclear thermal propulsion, for instance, and the things it can do, if we can do that with low enriched uranium instead of the higher enriched uranium, it becomes kind of a game changer from overall perspective. Our teams are working that now. We got that in the appropriations. I think there is 75 million in this year approps for that.

We are working with a couple of companies, BWXT and we are working with the DoE on getting indemnification around that activity. We will develop a system that will allow us to actually do the propulsion. The real question then becomes we also have to work on the cryogenic fluid management around that and the total system. It is definitely a technology that we want to develop and see if it can actually be the game changer that we think it can be. We will work the propulsion piece, but the bigger piece is going to be cryo fluid management and the entire package that all that gets put in. It is definitely a future activity that we think is important.

Ms. ROBY. I think you have already answered these questions, but do you feel it is necessary to commit to creating a multi-year plan now as we move closer to the 2020s for demonstration of this technology?

Mr. LIGHTFOOT. Yes. I think you will see once we get the technology demonstrated we need to look at where we can work it into our current architecture, where would it become kind of a piece that we would depend on as opposed—one thing we have learned lately is you can't really depend on the technology now. You need to make sure you prove it, at least get some of the risk mitigation done around that. That is what we are going to do with the money that we have gotten in this year's risk reduction around this technology. Then maybe you can talk about where does it inject in the architecture in the 2020s, right, where would we put it in that part of the total architecture we are doing.

Ms. ROBY. And I think you would agree that the money that has been appropriated above the President's request levels for SLS and Orion and the exploration ground systems, that it is helpful in the program's efforts to stay on schedule and maintain a proper workforce to get us to the initial operating capacity. And I guess building upon that does this expanding funding provided for by the appropriations allow for certain long lead buys, tests, standing up of suppliers in order to keep the program on track?

Mr. LIGHTFOOT. Yes. I think one of the big advantages to what we have gotten is this allows us to do some risk reduction. That is very important for the first mission. But it has also allowed us to emphasize to everyone we are not just building one mission, we are building multiple missions.

Ms. ROBY. Right.

Mr. LIGHTFOOT. We are already buying hardware for EM-2, starting to look at just the pure material we need for EM-3. So you can see that the teams are thinking longer term already and there is a sense of urgency around the cadence of missions now, as opposed to just being focused on EM-1. EM-1 is important, don't get me wrong, it is very important. What we are really building here is a long term program and I think that is what is going to be important for us to stay focused on and that is what the approps has allowed us to do.

Ms. ROBY. Well, these are certainly exciting times. And it is a true privilege as a member of Congress to be a part of this subcommittee to be a part of these historic things that are happening in our space programs. And so I just again want to thank you for your leadership, for NASA, for all the work that you do. And it is

a real privilege to support everything that you have going on. So thank you, Mr. Chairman, I yield back.

Mr. LIGHTFOOT. Thank you.

Mr. CULBERSON. Thank you very much. Mr. Cartwright.

Mr. CARTWRIGHT. Thank you, Mr. Chairman. Mr. Lightfoot, Chairman Rogers was talking a little bit about the, you know, the competition with Russia way back when and all of that. Russia is still a relevant subject with space because we rely on Russian Soyuz rockets to get astronauts to the International Space Station. And it is pursuant to a contract, and that contract expires next year, right? Now, obviously Boeing and SpaceX have made great advances, but we only have one short year to get ready to transport our own American astronauts to the International Space Station. Will NASA be ready on time?

Mr. LIGHTFOOT. Well, I think we believe we will be. We have got margin today to the commercial crew providers being available. One thing we have is a great relationship with our Russian partners, and we are looking at other alternatives about potentially extending mission duration for the current missions that are there so that we don't gap the ability to get there.

I will tell you that regardless of what is going on in the rest of the world, our space cooperation with the Russians has been very good. It is a good team. We are ready to get our flights from U.S. soil though. We are ready to get back to that. I think our commercial providers are making great progress, and we are going to do our best to protect that gap going forward.

Mr. CARTWRIGHT. Right. And that is really the question. Are you satisfied and confident that we are not going to lose access to the space station because of an interruption like this?

Mr. LIGHTFOOT. I actually believe we will be OK there, just because we have got several mitigation alternatives we can use.

Mr. CARTWRIGHT. What would the potential delays be in the certification process?

Mr. LIGHTFOOT. Well, both providers are going through their integration and test activities now and you learn things when you do that. That is why we do the integration and tests. Depending on what challenges they find as they go through that testing, that is something we are going to have to address and go forward. Our technical authority teams are watching those very closely, safety and engineering, to make sure we understand it.

Mr. CARTWRIGHT. And that's my next question. Does NASA currently have sufficient funding and personnel to conduct all necessary testing on that?

Mr. LIGHTFOOT. We believe so. The challenge is going to be if it comes all in at once. If all the final certifications come in at once, we will have a bow wave that we'll have to deal with. Our teams are kind of thinking about how they do that now. I was just in a meeting yesterday with all my safety directors and they were talking about how to share resources to be able to address the bow wave that we know is going to come.

Mr. CARTWRIGHT. And from the commercial partners do you have time tables and has NASA critically evaluated their time tables?

Mr. LIGHTFOOT. Yes. We look at it very routinely actually.

Mr. CARTWRIGHT. Are you exploring any contingency measures just in case something goes wrong?

Mr. LIGHTFOOT. In terms of schedule, that is what I was talking about earlier. We are looking at ways to extend stays that we have currently on the station with the seats that we do have left through the Soyuz program.

Mr. CARTWRIGHT. Well, good. Thank you for that, Administrator, and good luck to you.

Mr. LIGHTFOOT. Thanks. Thanks very much.

Mr. CARWRIGHT. Yield back.

Mr. CULBERSON. Thank you, Mr. Cartwright. Administrator, I wanted to ask about the sequence of launches for EM-1, 2 and for the Europa Clipper launch and the lander. I am absolutely confident based on the briefings I have had and you know the close attention I have paid to this, that the clipper mission will be ready for launch in 2022. Their best launch window is actually June of 2022 for an arrival at Europa in 2025 and 2026. When will NASA—could you tell us about when EM-1 will launch and when are you planning for EM-2 to launch? And that, of course, will be a crewed mission. And where do you intend to fly the clipper?

Mr. LIGHTFOOT. Right now we are not picking which one goes first. It is going to be who is ready. If clipper is ready and from a risk standpoint we are willing to fly it on EM-2, we would do that. It has to be a risk discussion around the readiness.

The thing that has changed probably, Mr. Chairman, in our calculus, and this is just in the last couple weeks since we got the appropriation, is the second mobile launcher. We know we can fly clipper with an ICPS.

Mr. CULBERSON. ICPS for those watching?

Mr. LIGHTFOOT. I'm sorry. Interim cryogenic propulsion stage, the upper stage. Sorry.

Mr. CULBERSON. You have got to have somebody work on the names of these missions. You know, have a contest or something.

Mr. LIGHTFOOT. I know. I know.

Mr. CULBERSON. EM-1, 2, come on.

Mr. LIGHTFOOT. How about the Chairman Culberston Station? OK. All right. Anyway, we will—

Mr. CULBERSON. Inspire the imagination of all those—

Mr. SERRANO. Let's break out the appropriation right now.

Mr. LIGHTFOOT. Anyway—

Mr. CULBERSON. Something to inspire the imagination of all those young people out there.

Mr. LIGHTFOOT. I think with the second mobile launcher what we are allowed to do is actually keep the configuration that allows us to fly EM-2, whatever it is, whether it is clipper or crew.

Mr. CULBERSON. So that second mobile launcher is really important?

Mr. LIGHTFOOT. It enables that opportunity because I don't—today what happens is after I fly EM-1 the mobile launcher, I would then have to start modifying for the exploration upper stage, it has to—

Mr. CULBERSON. Which makes the—

Mr. LIGHTFOOT [continuing]. Grow in length.

Mr. CULBERSON [continuing]. Rocket considerably taller.

Mr. LIGHTFOOT. Yes. It has to grow in length. While I am doing that modification I can't fly. Right, I am just down, and there is a 33-month time period there. Now knowing we are going to build the second mobile launcher, I can keep this mobile launcher in place, buy another interim cryogenic propulsion stage, ICPS, and still fly. We have done the numbers and we think clipper can fly on the SLS with an interim cryogenic propulsion stage.

Mr. CULBERSON. On EM-2.

Mr. LIGHTFOOT. It could be EM-2. If clipper is ready or if Orion is ready, we are really just going to see. We are not going to battle now—

Mr. CULBERSON. Sure.

Mr. LIGHTFOOT [continuing]. Over who goes. I think we will pay attention to that. Both options is what it boils down to.

Mr. CULBERSON. But this committee is funding with Chairman Shelby's strong support, the second mobile launch platform gives you that freedom and ensures that there will be no gap.

Mr. LIGHTFOOT. It allows us to have the ability to fly SLS when we are ready with whatever payload is ready to go. As long as the ICPS—obviously the value of the exploration upper stage is it gives us a lot more throw, a more mass to orbit and the volume.

Mr. CULBERSON. And we funded that too.

Mr. LIGHTFOOT. Yes, and the volume. What the challenge was going to be was, we just flew EM-1 and now we can't fly again until the mobile launcher is modified with the—

Mr. CULBERSON. We don't have to worry about that.

Mr. LIGHTFOOT [continuing]. Exploration upper stage, and that took that off of it. You are going to have to give us a little time because that was just a couple weeks ago, that we found out we were getting that, and to be able to understand the flow, but what we are not saying—

Mr. CULBERSON. Fired up.

Mr. LIGHTFOOT. We are not saying EM-2 is Orion. Its baseline is Orion, we know that. If clipper came in and was ready to go, we could easily fly that, it is not that big of a difference to us.

Mr. CULBERSON. You understand we are all fired up to make sure the American space program is the greatest on earth and that we return American astronauts on American built rockets as fast as possible, in a safe manner, of course.

Mr. LIGHTFOOT. Yes.

Mr. CULBERSON. The mobile launch platform I have heard some concern that it might be damaged or couldn't withstand the force for the launch of EM-1.

Mr. LIGHTFOOT. I don't—

Mr. CULBERSON. You look puzzled. I guess that is one concern.

Mr. LIGHTFOOT. No, I am not worried about that. Our team—

Mr. CULBERSON. That is not a concern.

Mr. LIGHTFOOT. Only because I know what areas that we are paying attention to from an analysis perspective, but we are ready to go.

Mr. CULBERSON. It survived the Saturn 5, so you know.

Mr. LIGHTFOOT. Well, this is all new on there, I—

Mr. CULBERSON. All new stuff. But nevertheless—

Mr. LIGHTFOOT. Yes

Mr. CULBERSON [continuing]. It is a pretty robust structure.

Mr. LIGHTFOOT. All of the structures and all of the arms are there now. We are getting pretty confident that we are ready to go.

Mr. CULBERSON. Most important thing is, as you said, is this gives you the freedom and the assurance that there won't be a gap between EM-1 and 2, because you don't have a second platform—

Mr. LIGHTFOOT. Right.

Mr. CULBERSON [continuing]. That can handle the additional weight and height of the exploration upper stage.

Mr. LIGHTFOOT. That's correct.

Mr. CULBERSON. So this ensures that the SLS launch system, Orion will continue on track, on target and it won't be slowed down as a result of lack of mobile launch platform.

Mr. LIGHTFOOT. No, I want to be really clear though. We will change the mission profile if we fly humans for the first time and we use the interim cryogenic propulsion stage. If EM-2 flies that way we would have to change the mission profile because we can't do what we could do if we had the exploration upper stage. That still gets humans in orbit and it stills allows us to check out all the systems that we wouldn't check out on EM-1.

Mr. CULBERSON. Again, December 2019 probably going to slip into early—

Mr. LIGHTFOOT. I believe it is December 2019 with that four to six months risk. I think we have realized a couple of months of that risk trying to get it back, I just don't know if we will or not.

Mr. CULBERSON. So EM-2, the manned mission, will launch when?

Mr. LIGHTFOOT. Let's see, the crewed mission for EM-2 our commitment is 2023, but that is with the 33-month bar because we were going to have to modify the mobile launcher.

Mr. CULBERSON. But you are not going to have to do that anymore.

Mr. LIGHTFOOT. I know. That was two weeks ago. Mr. Chairman, you have got to give us a little while to do the analysis and go back and see how far we can pull that date back. I think that is what the teams are looking at now.

Mr. CULBERSON. So that 2023 launch date is obviously going to move up quite a bit. You are going to be able to move that—

Mr. LIGHTFOOT. We think it should, but, we have—

Mr. CULBERSON. Yes.

Mr. LIGHTFOOT [continuing]. We have some runway in front of us still.

Mr. CULBERSON. Yes. OK. Very good. That is why we funded it now so you had room. Mr. Serrano.

Mr. LIGHTFOOT. That is important, by the way.

Mr. CULBERSON. Yes, sir, good point.

Mr. SERRANO. I think to resolve this problem of what to call the mission, just call it J&J, John and José, and you will be all settled. I have no further questions. Just once again to thank you for your service—

Mr. LIGHTFOOT. Sure.

Mr. SERRANO [continuing]. To our country and wish you the best of luck.

Mr. LIGHTFOOT. Thank you very much, I appreciate it.

Mr. CULBERSON. Thank you. I would like, if I could, talk about in closing ask you to focus on the far future thinking about planning. We are going to work together to find a way to give you the ability to plan for more than a year at a time and to unleash you and unshackle you as much as we can to let you think long term because one of the great things about NASA is that you are one of the few agencies that actually has the ability, one of the few parts of the federal government to look into the far future is I think one of the great things that inspires young people. What is over the horizon? What is on that next world?

The committee, the Congress has enacted language in the 2018 CJS appropriations bill mapping out a 51-year roadmap for the future exploration of space. Obviously we strongly support that human part. We are going to look closely at and we are going to visit with you about another conversation, we will put this on the record, I am going to speak to you privately about the cost of the human gateway. We were looking at \$500 to \$600 million additional, you know, an add to the NASA budget for that gateway, the moon, which is I think a great idea, but we have got to sit down and kind of think that through very carefully.

In addition to that to help ignite that, restore that magic that Chairman Rogers was talking about that is so important that is why we included this 51-year roadmap that is designed to begin with the search for life in other worlds, following the decadal survey. A high priority mission of the decadal survey last decade was the mission to Europa. The decadal survey asked, "are there habitats elsewhere in the solar system with the necessary conditions, organic matter, water, energy and nutrients to sustain life and do primitive organisms of any kind live there now?" And the consensus of the decadal survey scientists was the best place to look for that is in the ocean world of Europa.

So as soon as I became chairman in 2015 we also created, Joe, the Ocean Worlds Program to direct NASA to focus on those outer planets beginning with the Europa mission to search for life in primitive life forms. Because that's the sort of civilization level of discovery that is going to ignite renewed passion and magic in the minds of the American people and the world in support of NASA. That is why we enacted it, and asked either start with that search for life on other worlds, beginning with Europa, and then begin to look for and use WFIRST or whatever next telescope it needs to be. That is what we are going to talk about on May 9th. Identify the nearest Earth-like planet around the nearest star using that telescope and star shade technologies.

This is all enacted into law by Congress. We have got a 2018 bill with strong support of Chairman Shelby for using star shade and that next telescope to identify the nearest Earth-like planet, fingerprint its atmosphere looking for the fingerprint of life, carbon dioxide, oxygen, methane, perhaps even industrial pollution. And then we funded I think a nuclear thermal propulsion program at \$175 million. Excuse me, \$75 million we funded this year's 2018 bill, nuclear thermal propulsion. We have given you the money that you need to develop other types of propulsion and directed NASA to at the same time you are searching for that nearest Earth-like planet

with that next generation of telescope to develop interstellar rocket propulsion to go we hope no less than ten percent of the speed of light, and to launch that mission so that it would be the United States of America that launches humanity's first mission to the nearest Earth-like planet. The first interstellar mission would be launched by the United States no later than 2069, the 100th anniversary of Neil Armstrong's heading for the moon. So that is the 51-year plan that this subcommittee recommended to Congress, enacted with Chairman Shelby's strong support that I was proud to help put together based on the best recommendations of the decadal survey.

So I want to ask you to talk about that here. You are going to be putting a report together. That was in our 2017 bill, it was also in our 2018 bill. So the report is due very soon on NASA mapping out that 51-year plan. Could you talk to us about that and begin with the discussion of what is necessary and how soon we can get the announcement of opportunity out for the instruments on the lander.

Mr. LIGHTFOOT. Yes. Let me see if I can peel that one back. The 2017 report on the propulsion, the interplanetary propulsion, we owe you that I think next month, and I believe you will see it next month. I know it is going through a review inside the technical teams now. We should get that, I think it is—we will have it on time. I can't remember when exactly that due date was.

Mr. CULBERSON. Interstellar.

Mr. LIGHTFOOT. Yes, interstellar. I am sorry. Yes, not interplanetary. We are already doing that. The 51-year that we got in 2018, we will be working on that and we will get you a report on that. The advantage, as I said earlier, is having a longer term goal. We always had—you know, Chairman Rogers said, you know, we went to the moon and we stopped, right. Now we have got a set of stepping stones to move out frankly through the universe. We will get that report done as well.

As far as the lander, the request for instruments for the lander, we are actually looking at maybe a different way than an AO, but we are going to look at all different kinds of solicitations to actually do it quicker and get things started quicker. We will know where we need to do risk reduction, because as you know, that is going to be a tight fit inside that particular activity. We are looking at probably June releasing that, maybe even sooner. That is what the teams are working on, and we can have Dr. Zurbuchen come up if you need and get an update on what we are thinking—

Mr. CULBERSON. Thank you.

Mr. LIGHTFOOT [continuing]. From that perspective.

Mr. CULBERSON. He is doing a superb job.

Mr. LIGHTFOOT. Yes, he is. He is thinking different ways to do these things and that is important for us. I think that is where we are on that because we would like to get the lander technologies, as much risk reduction as we can behind us before so we know if they are going to package well in the spacecraft because as you know that is going to be a challenging spacecraft design, but a fascinating mission. They all are.

Mr. CULBERSON. The one that is most likely to find primitive life.

Mr. LIGHTFOOT. That is what based on the decadal for sure. Yes.

Mr. CULBERSON. Yes.

Mr. LIGHTFOOT. I will say, as you said, we look to the future, you know, we also look at the past. We look back in time. We are probably the only Agency that looks back to the beginning of time and tries to go out into the future as well.

Mr. SERRANO. Of course, we are assuming primitive life, but that is your wording. I don't know.

Mr. CULBERSON. We are not sure what we are going to find in that ocean.

Mr. LIGHTFOOT. Exactly.

Mr. CULBERSON. Or what we are going to see at those nearby Earth-like worlds.

Mr. LIGHTFOOT. Yes.

Mr. CULBERSON. I had a chance, if I could very briefly, you guys will enjoy this story, when I was at a briefing at the Jet Propulsion Laboratory (JPL) last Friday on the Europa mission, on the Mars 2020 mission, all of which are on track, on time. The March 2020 mission will be collecting four samples on the surface of Mars and then depositing them in an area where we can go pick it up and return it to Earth for the first samples from another world. That is all coming together beautifully.

There is a young engineer named Nassar Chad (phonetic) at JPL, just graduated, just got his master's degree from Cal Tech, and as in the movie *The Martian* where there is some young engineer who figured out the orbital dynamics problem of returning the Mars mission back to rescue in the fictional story that to rescue the man stranded on Mars, that actually happens throughout NASA. But this young man is someone I want to make sure you showcase and we need to recognize him because I think he is a great example of what makes America the greatest country on Earth and how extraordinary a place NASA is to work.

There is a young woman from Burma who came here with her family as a young girl with almost no money and she worked her way through school. Graduated from Cal Tech and is now designing and heading the design team for the helicopter that will fly on Mars on the Mars 2020 mission—this young lady from Burma who came to the United States penniless as a 12-year-old girl is heading that up.

Nassar Chad, an engineer at JPL happened to be in his office and overheard a conversation outside his door that the Europa landing team was trying to figure out how to design a transmitter, radio transmitter, solid state, that would survive intense radiation of Jupiter, survive the super cold temperatures of 70 to 100 degrees kelvin. He just overheard this conversation in the hallway, and Nassar that is his specialty, and Nassar came up overnight with a design for a solid state radio receiver and transmitter that will enable direct to Earth transmissions from the surface of Europa. This young man overheard a conversation and came up with it overnight.

NASA is full of brilliant, capable scientists, engineers, astronauts, dedicated fiscal experts, like your new CFO in the back. We really appreciate the work that you do and we want to showcase the work that you do, and reignite the passion that all Americans have always had for space exploration, for learning what is on the

other side of the mountain, what is on the other side of the hill and what lies beyond in outer space exploration. You will continue to have the support of this committee and the Congress. We just deeply appreciate your service of 30 years to the people of the United States and to the American space program for making this the best on earth. We are going to do our part to help ensure that, just as President Eisenhower was remembered as the father of the interstate highway system, we will certainly do our part so President Trump and Vice President Pence be remembered as the fathers of the interplanetary highway system, and then through this committee the interstellar highway system.

We really appreciate your work—

Mr. LIGHTFOOT. Thank you.

Mr. CULBERSON [continuing]. Administrator Lightfoot. Thank you very much, and we will have other questions we will submit for the record as well.

Mr. LIGHTFOOT. That is good. Thank you very much, and thanks for the time, sir. I appreciate you highlighting those two folks. As you said, I see folks like that every day throughout the entire Agency, not just within NASA, but our industry team too. This nation is in pretty good shape with the youth coming up and they are going to take over one day. They are a heck of a lot smarter than I am. It is fun to watch their enthusiasm and passion, and someday you can come over here and testify. You can do the NASA testimony is what I have determined, you could do it for us.

Thank you for the time, and I appreciate all the kind words from everybody on the committee. Look forward to watching you guys continue to support from the outside.

Mr. CULBERSON. Thank you. We are going to be moving very quickly on the 2019 bill, so we appreciate you coming in.

Mr. SERRANO. Europa is also Spanish for Europe. So let's make sure we give proper instruction so they don't make the wrong turn and end up in—

Mr. LIGHTFOOT. Will do.

Mr. SERRANO [continuing]. Spain.

Mr. CULBERSON. Thank you very much, Administrator. The hearing is adjourned.

Mr. LIGHTFOOT. Thank you.

The Honorable John Culberson
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
National Aeronautics and Space Administration FY 2019 Budget Request

Europa

1. When does NASA intend to issue the announcement of opportunity for the Europa Lander instruments?

Answer: To advance a technically and scientifically feasible Europa Lander mission, both the technical readiness and spacecraft accommodation of instruments must be developed to the point where they could be confidently selected for flight. On April 26, 2018, a Draft NASA Research Announcement for Instrument Concepts for Europa Exploration 2 (ICEE 2) for a Europa surface mission was released. The final announcement was issued on May 17, 2018. The program is noteworthy in that all awardees will be required to collaborate with the pre-project NASA-JPL spacecraft team and potentially other awardees. This collaboration will provide the opportunity for co-development of potential instruments, the sample acquisition and delivery system, and the lander itself, as all of these require maturation in a compatible system. The complexity of the mission and the anticipation of very limited spacecraft resources (e.g., mass, power, data) require this collaboration to develop a solid mission formulation capable of achieving the scientific goals.

2. Please provide dates, by quarter and fiscal year, when Europa Clipper instruments need to be completed and integrated onto the spacecraft in order to be ready to fly in 2022.

Answer: The President's Budget proposes to launch the Clipper mission in 2025. The Europa Clipper instruments would need to be delivered for integration onto the spacecraft at the end of the first quarter of FY 2021 to support an earlier launch date of June 2022.

3. Please provide dates, by quarter and fiscal year, when Europa Lander instruments need to be completed and integrated onto the spacecraft in order to be ready to fly in 2024.

Answer: To preserve the balance of the Science portfolio, the President's Budget provides no funding for a multi-billion-dollar Europa lander. The Europa Lander pre-project is notionally planning to a launch date of November 2026. This is the earliest responsible launch date for this mission, given the state of required technology. This earliest launch date was discussed with Congressman Culberson on April 6, 2018, at JPL. If a lander were to launch in November 2026, the instruments would need to be completed and delivered for integration onto the spacecraft during the first quarter of FY 2025.

Astrophysics

1. NASA has experienced development and cost overrun issues with large astrophysics missions in the past. These missions are complex but when successful provide a wealth of new knowledge and research material to study for decades. More recently, NASA has experienced slips of nearly two years in the James Webb Space Telescope, which was supposed to have launched in the Fall of 2018 but will now likely launch in 2020 and exceed its \$8 billion development cost cap, and the WFIRST mission, which was supposed to have launched in 2020 but has been halted to allow an independent team to examine the program in order to make it more affordable but still deliver new science. What steps is NASA taking to thoroughly examine its own program management, oversight of contractors,

and ensure that NASA centers, academic teams, and industry better coordinate to achieve the science goals of the decadal surveys?

Answer:

NASA is applying lessons learned from recent large strategic science missions to improve its management of future missions. One of the most important lessons was to ensure that Agency and Mission Directorate leadership maintain adequate insight into project performance. For large strategic Astrophysics missions, NASA is moving to a model in which program-level management occurs at NASA Headquarters rather than at a Center. In this model, the project manager at the Center programmatically reports directly to a program manager at Headquarters. The Headquarters-based program manager provides high-bandwidth communication to the Agency and Directorate Associate Administrators. NASA is in the process of formally establishing the Astrophysics Strategic Mission Program Office within the Astrophysics Division at Headquarters; the Program Office will be solely responsible for managing large strategic Astrophysics missions. This action is consistent with the recommendations of recent independent reviews of large science missions. By establishing the Astrophysics Strategic Mission Program at NASA Headquarters, NASA will ensure that Agency and Directorate leadership maintain the insight required to anticipate issues and take corrective action as early as possible, thereby minimizing the cost impact of any problems. The Astrophysics Strategic Mission Program will be formally established and functioning by Summer 2018.

The Honorable Robert B. Aderholt
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
National Aeronautics and Space Administration FY 2019 Budget Request

1. The SLS is being built human-rated, unlike any other proposed heavy-launch vehicle. Why is the President's Budget request proposing to launch Gateway elements on separate commercial launch vehicles rather than taking advantage of a free ride on SLS on EM-2 or EM-3?

Answer: The President's FY 2019 budget request supports NASA's plan to launch the first element of the Gateway – its Power and Propulsion Element (PPE) – in 2022. PPE is planned for development as a partnership with industry and will be selected through a competitive procurement process. Launching PPE with its advanced high-power solar electric propulsion system on a partner-provided commercial launch vehicle will accelerate establishment of Gateway and provide additional opportunities for NASA and partner spaceflight demonstration, with lower costs. Other elements of Gateway (including habitats) will take advantage of the co-manifesting capabilities, as appropriate when cost, technical, and schedule are evaluated, of SLS Block 1B and Orion's future in-space docking and propulsion capabilities. To enable early and longer-duration crewed missions to the Gateway, NASA will utilize commercial launches as part of the integrated logistics services acquisitions, and for the long term, NASA will use the co-manifest capabilities of SLS to enable mission-specific logistics to be flown concurrently with crewed missions to the Gateway. NASA is currently formulating costs and the phasing of flights for the Gateway elements as part of its FY 2020 budget formulation process.

2. How much money are we planning on spending on those additional launches?

Answer: Please see the response to Question 1 above.

3. I believe that Space Act Agreements can be good tools for small, rapidly developing projects, but I also we need more transparency when it comes to large, development partnerships.

I think it was General Greaves of the Air Force who recently said that he read the entire FAR manual, the Federal Acquisition Regulations, and discovered that FAR contracts can be tailored in any way that is needed. I believe that NASA could write newer, more innovative FAR contracts so that private sector intellectual property could be protected while at the same time allowing the government to do an occasional audit in order to make sure that public funds are applied to the NASA contract as opposed to being shifted temporarily to some other project, or even another company, owned by the primary contractor. Can NASA report back to the Committee on a plan to do this?

Answer: The Federal Acquisition Regulation (FAR) encourages tailoring, innovation, and the use of sound business judgment, to the extent not otherwise prohibited by law. This significant flexibility allows NASA to tailor procurement approaches to varying needs and timelines and to procure certain goods and services in a more streamlined, commercialized fashion. However, NASA also must adhere to certain bedrock principles required by statute. As a particular example, the FAR currently includes mechanisms that protect private sector intellectual property, while at the same time allowing for significant tailoring through the deviation process. NASA has tailored the FAR clauses in multiple contracts to protect private sector intellectual property while ensuring that the Government retains a license to use the intellectual property generated under the contract.

NASA employs several kinds of mechanisms to work with the commercial sector to advance U.S. space capabilities and to purchase use of such capabilities to meet NASA's requirements. These mechanisms may include – but are not limited to – FAR-based contracts to fulfill Agency requirements, and partnerships using Space Act Agreements (SAAs) to advance NASA mission and program objectives and to mature partners' capabilities. These instruments represent just two of the mechanisms NASA uses to support and encourage commercial innovation. The Commercial Resupply Services (CRS) contracts, under which Space Exploration Technologies (SpaceX) and Orbital ATK have been providing cargo resupply to the International Space Station (ISS), are examples of the former. NASA's Commercial Orbital Transportation Services (COTS) and Lunar Cargo Transportation and Landing by Soft Touchdown (Lunar CATALYST) initiatives both represent examples of NASA using Space Act Agreements to provide support to industry partners developing commercial space capabilities that could eventually support both government and commercial users. The particular approaches to be employed in future partnerships – will depend on a variety of factors and on applicable lessons learned from previous partnerships.

4. Blog sites, and some lobbyists, quote prices of around \$80 million for, possibly, even a heavy class rocket flight. In actual experience, there is no evidence for price quotes that low. What is the approximate, average price currently for ISS Commercial cargo flights? Isn't it \$150 million and above?

Answer: CRS contracts provide commercial fixed-price services in a competitive environment. The contracts include not only the total amount awarded to date but also detailed pricing for the many different elements that comprise a task order for each mission. When additional task orders are added to the contract, the contractors are required to compete for the tasks (after the contract minimum of six missions per contractor has been met) using the detailed pricing in the base contract (reference contract Clause II.A.5 in the original CRS contract and Clause II.A.13.4 in the new CRS 2 contract). The CRS contracts also have a unique "on-ramp" provision that allows additional providers to compete to be added to the contract and then compete for task orders (reference contract Clause II.A.1 in the original CRS contract and Clause II.A.6). Disclosure of the detailed pricing of each contract would impact the contractors' competitive positions and pricing strategies for future task orders. In order to maintain fair competition under the CRS contracts, it is essential that NASA protect the commercial pricing aspects under the contracts by marking them Sensitive but Unclassified (SBU).

4.b. Based on that fact, isn't it reasonable to forecast that the purchase, and integration costs, of a commercial heavy lift rocket would be in the hundreds of millions of dollars?

Answer: The cost of a particular commercial heavy-lift launch will vary depending on a number of factors. NASA defers to commercial providers for further information on mission pricing.

5. This subcommittee had language in the FY 2018 report encouraging NASA to devote \$30 million in Advanced Exploration Systems funding for Lunar Lander demonstration missions, and your FY 2019 budget requests \$200 million for Lunar science missions and \$130 million for the development of mid-class Lunar Landers. Can you discuss how NASA will comply with the report direction in FY 2018 and how this feeds into your FY 2019 request?

Answer: NASA plans to spend over \$20 million in FY 2018 on lunar lander activities in FY 2018. This includes continuation of the Lunar Cargo Transportation and Landing by Soft Touchdown (Lunar CATALYST) partnerships to support development of small commercial landers, development of lander technologies such as autonomous precision landing systems, and rocket engine testing. The Lunar CATALYST activities and lander technology development will continue in FY 2019. A Request for Information (RFI) was issued in March 2018 to identify potential concepts and partnership approaches for

mid-class (500-kg payload) to large human-class lander capabilities. In FY 2018, the RFI inputs will be used to formulate a U.S. Industry engagement strategy for lander capabilities, and lander development will begin for a first mission to the Moon in 2022 in FY 2019.

Also, in FY 2018, NASA issued a draft Request for Proposals for Commercial Lunar Payload Services (CLPS) and plans to conduct initial vendor selection(s) by December 31, 2018. The purpose of CLPS is to enable NASA to acquire end-to-end payload services between the Earth and lunar surface in support of the Lunar Discovery and Exploration program (LDEP) proposed in the President's FY 2019 budget request. NASA's Exploration Campaign under the LDEP will support activities such as establishing initial commercial contracts for transportation services with a likely payload range up to 200 kg, developing small rovers to be delivered via commercial landers, as well as building and launching instruments that serve lunar science, long-term exploration and utilization needs.

6. How do these robotic lunar lander science missions integrate with NASA's human exploration missions on SLS-Orion and the Lunar Gateway?

Answer: The President's FY 2019 Budget Request integrates science and human exploration goals, including the eventual return of humans to the Moon. Establishing a new Agency-wide Lunar Discovery and Exploration program and leveraging NASA's extensive lunar science experience and data, this budget jump-starts commercial partnerships, innovative approaches for building and launching next-generation precision science instruments, and the development of small rovers that will reach the Moon's surface via commercial landers.

NASA will invest under Advanced Cis lunar and Surface Capabilities (ACSC) to help establish a U.S. presence on the Moon by strategically evolving medium and large lander development in parallel with small commercial landers for scientific and exploration lunar missions. NASA envisions a series of progressively more capable robotic lunar missions to the surface of the Moon. This will also serve as a foundational training ground to prepare for later missions to Mars. ACSC will utilize public-private partnerships and international participation to promote innovative approaches to lunar robotics, a cis lunar presence, and lunar landing capabilities to enhance U.S. leadership.

The Lunar Orbiting Platform-Gateway will expand what humans can do in the lunar environment and provide opportunities to support those commercial and international missions to the surface that will help us pioneer new technologies such as spaceflight systems, habitation, crew mobility, vehicle and autonomous systems, and robotic precursors for future human missions beyond Earth orbit. The Gateway will serve as a platform in cis lunar to mature necessary short and long-duration deep space exploration capabilities through the 2020s. The Gateway is an important piece of lunar infrastructure and will allow for reusable landers on the surface of the moon and as a location to transfer lunar and possibly Martian samples for return to the Earth.

7. The only way we can possibly have a thermal propulsion possibility in the next 15 years is to execute a methodical multi-year program right now. I understand that such a plan leading to a demonstration project has been created by NASA personnel but I have not seen a commitment by NASA to following through. Congress has appropriated the money. Please provide a list of awards made from this funding and how each award leads directly to progress on a demonstration project, as opposed to contributing very little and instead being a power-supply project.

Answer: Consistent with the FY 2018 appropriations, NASA is allocating \$75 million for Nuclear Thermal Propulsion activities to advance enabling foundational technologies. Objectives for the FY 2018 and 2019 timeframe include:

- Fuel element research and test in a relevant environment

- Engine performance and feasibility analyses
- Alternate fuel/reactor conceptual design and analysis
- Activities leading toward the subscale demonstration of a fully contained exhaust test concept for a nuclear thermal propulsion engine; and
- Cryogenic fluid management and storage technology development, which is a critical technology needed to enable a nuclear thermal propulsion system.

Risk mitigation efforts will continue into FY 2019 and will culminate in a system feasibility review, which will determine whether the technology challenges have been sufficiently addressed and the benefits of developing a nuclear thermal propulsion stage are sufficient to merit proceeding with the next phase of concept development. At that time, NASA intends to evaluate the results of these risk reduction efforts to determine the next steps for follow-on activities.

8. Orion has been designed from the beginning to fly on SLS. What is the approximate amount of engineering funds paid so far for that integration planning and engineering?

Answer: Since the Orion Key Decision Point-C (KDP-C) baseline in June of 2015, approximately \$50 million has been spent on the integration planning, engineering, safety assessments, and analysis to support flying the Orion on the SLS.

8.b. Some have suggested that Orion fly on other launch vehicles. The taxpayer should not pay twice for integration. Are there any plans to use government funds, including funds appropriated to the Orion project, to adapt the Orion to other launch vehicles?

Answer: An SLS launch vehicle is required for Orion to reach lunar orbit. There are currently no plans to adapt Orion to other launch vehicles.

9. The CRS-1 contract is almost over. Please list the flights for which there were anomalies either in the process of taking payloads up or bringing cargo down. Please prepare a report for the Committee which includes the following elements:

a. In how many of those instances was there water infiltration?

Answer: Two. Through SpaceX-13, two missions have experienced water intrusions that affected NASA cargo – SpX-1 and SpX-3.

b. In how many of those was there damage to the payload or return cargo?

c. In how many cases did the launch provider offer cash compensation to the government and/or the payload owner and in what amounts?

Answer: One. For SpX-3, water intrusion into the pressurized capsule impacted some NASA cargo. NASA withheld a portion of the contractor's final mission success payment.

Note that for SpX-1, water intrusion into the Service Section resulted in powered payloads being unpowered for approximately two hours. There were no impacts to NASA payloads; however, mission success criteria were not met. For compensation, SpaceX provided additional Falcon rocket data to NASA.

In both cases, the contractor-implemented improvements and there have been no additional water intrusion impacts to NASA cargo through SpX-13.

10. The experience of the Commercial Cargo program is that costs per pound exceed the costs per pound of the Shuttle era. Please note that current discussions of the commercial cargo program tend to lump in return cargo. For the Shuttle program, the bringing back of cargo (whether “trash” or scientific work) was just assumed. For that reason, please refer to cargo taken up, unless you are prepared to drop Shuttle estimates dramatically by including Shuttle mission return cargo elements.

Again, there have been many claims about reusability bringing down costs dramatically. Leaders of our nation’s military are told that launch costs are dropping dramatically. But the CRS-2 contract includes no decrease, but rather an increase. Why are taxpayers not getting the benefit of hardware developments paid for largely by taxpayers?

Answer: CRS-2 added requirements for larger vehicles, greater upmass/return/disposal capacity, cargo insurance, tighter launch schedules, enhanced payload accommodations, increased access at the launch pads for payload late stow and scrub turnaround, faster recovery of critical science post-landing, flowdown of data rights clauses to subcontractors, and implementation of payment caps to reduce risk to the Government. These changes were made according to lessons learned from CRS-1, and substantially enhance and expand the services provided under CRS-2. All flights under CRS-2 are to be on new rockets. A prescribed discount is in the contract should NASA agree to utilize a re-flown booster on one or more flights (NASA received equitable adjustments for CRS-1 missions on re-flown boosters). All CRS-2 contracts were fully and openly competed and the on-ramp provision allows other qualified service providers to compete for the opportunity to perform reusable missions.

As stated in the NASA Office of Inspector General (OIG) Report No. IG-18-016, *Audit of Commercial Resupply Services to the International Space Station* (A-17-013-00), on p.46: “During the course of our audit, we obtained NASA’s analysis of the impact that new commercial launch capabilities, such as the Falcon 9, had on the commercial launch market. Through this analysis, NASA officials found the development of new launch vehicles during COTS and CRS-1 directly reduced the LSP commercial launch prices through competition.”

Finally, the NASA OIG also noted on pg. 33: “In general, we believe CRS-1 and its successor contracts under CRS-2 are positive steps in ensuring such reliable cargo transportation. NASA’s continued commitment to the commercial space industry also helps spur innovations in the commercial launch market by creating additional competition, spurring development of new domestic capabilities, and helping enable cheaper access to space for commercial activities.”

11. We often hear that the private sector is pouring their own resources into the commercial launch industry. Other than the initial agreement between Space X to invest approximately \$100 million, please list the private sector launch industry dollar amounts, which can be verified by NASA.

Answer: Enabling commercial cargo and payload launch services development through the public-private COTS partnership proved to be a benefit to NASA, with both companies – Orbital ATK and SpaceX – financing the majority of their development costs. During the COTS partnership, NASA contributed \$396 million toward development of SpaceX’s commercial cargo transportation systems (Dragon spacecraft and Falcon rocket), while SpaceX estimates contributing approximately \$450 million. Likewise, NASA contributed \$288 million towards the development of Orbital ATK’s (then Orbital Sciences) system (Cygnum spacecraft and Antares rocket), while Orbital ATK estimates their company contribution to be approximately \$500 million. The COTS effort proved to be cost effective for NASA when compared to traditional development approaches. NASA compared SpaceX’s Falcon 9 launch vehicle development costs using the estimated costs of a traditional cost-reimbursement contract versus the COTS milestone-based effort. NASA’s models predicted that Falcon 9 development would cost the

Government multiple times more using a cost-reimbursement acquisition. SpaceX has indicated that their Falcon 9 development costs were approximately \$300 million.

NASA recommends contacting the commercial launch providers for further information on their investments.

12. Any launch is risky to the brave men and women who serve as astronauts, and they deserve our best efforts. While I appreciate the experimentation of launch providers with regards to their fueling and their engine configurations, it is apparent that putting astronauts into a capsule on a rocket is dangerous if that is done before the fueling process has occurred. Safety experts have agreed and reported that to NASA. NASA is paying 90 percent or more of the development costs of these crew vehicles; thus, you every right to require safety first over a company's refusal to change its fuel-loading process. Will NASA require our commercial crew providers to fuel their rockets before the astronauts enter the capsule?

Answer: The current SpaceX design for loading of densified propellants while the flight crew is on board the vehicle is currently under review by the Commercial Crew Program. In the event NASA does not approve this as meeting our safety requirements, SpaceX will be obligated to make a design change to their system that does comply with contract safety requirements.

13. What is the total number of FTE's under the category of Public Affairs Officers or under the Office of Communications where that category is not the same? (Headquarters, and then Centers as a combined number.).

Answer: Public Affairs (defined as positions in occupational series 1035, Public Affairs)
 NASA Headquarters: 11
 NASA Centers: 93
 Total: 104

13.b. What is the total number of FTE's under the category of Legislative Affairs? (Headquarters, and then Centers as a combined number).

Answer: Legislative Affairs (defined as positions with the titles of Legislative Affairs Specialist or Supervisory Legislative Affairs Specialist)
 NASA Headquarters: 19
 NASA Centers: 8
 Total: 27

13.c. For those same categories, what were the numbers for fiscal year 2008?

Answer: As of May 10, 2008:

Public Affairs (defined above)
 NASA Headquarters: 18
 NASA Centers: 100
 Total: 118

Legislative Affairs (defined above)
 NASA Headquarters: 16
 NASA Centers: 6
 Total: 22

14. The Space Launch System has been the target of repeated, and wildly inaccurate attacks by paid spokespersons for companies who did not win contracts when the project was originally competed, and those persons unfortunately are frequently relied upon by reporters instead of the reporters consulting with NASA. This program is a major investment for the taxpayer. It is not acceptable for the agency to remain silent when these inaccuracies occur.

14.b. Please report back on your plan to issue vigorous, corrective comments when reporters or paid spokesperson misrepresent the facts in the media.

Answer: Though NASA, as a Government agency, is restricted from advertising, the Agency endeavors to keep the media and public informed about programs and capabilities across its portfolio, both proactively (e.g., through press releases, media advisories, media briefings and interviews, websites and social media, participation in conferences and public events, and through various other outreach efforts), and in response to media and public inquiries. In cases where the Agency deems that a clarification or correction would be beneficial, NASA provides the correct information to media representatives and requests an update to the story.

14.c. Please report on your plan to proactively issue statements which differentiate the SLS capabilities from the claims of other current or future launch vehicles, including the fact that only SLS is human-rated from the beginning, and that the initial capability is 70-90 metric tons, and the size of the faring, and the unlikelihood of any vehicle integrated horizontally to be able to lift more than 10 metric tons.

Answer: Please see response to Question #14b, above, regarding NASA's communication to the media public. NASA has detailed information about SLS and its capabilities available online.

15. Have the Europeans made the time and cash investments to gain back time on the Orion schedule which was set back when the initial engineering plans did not work?

Answer: Yes, the European Space Agency (ESA) has provided additional funding to Airbus, the European Service Module (ESM) prime contractor. This additional funding has been used to support a wide variety of Airbus managed schedule robustness measures. Airbus has also instituted more aggressive schedule management techniques into which ESA and NASA have regular insight. While some challenges to ESM delivery remain, the ESM delivery schedule has been stabilized.

16. What date will NASA take humans to Mars?

Answer: NASA planning for a mission to the Mars system will depend on capability developed and lessons learned during lunar exploration in the 2020s.

17. Please explain how the Gateway project will not make the exploration of Mars stagnate. How will we avoid it becoming another budget drain similar in effect to the ISS?

Answer: Similar to the multiple benefits NASA has derived in low-Earth orbit from the ISS, the Gateway will give NASA a strategic presence in cislunar space that will drive the Agency's activity with commercial and international partners and help further explore the Moon and its resources and leverage that experience toward human missions to Mars. The Gateway is part of a human Mars mission

architecture as it provides a platform in deep space for testing operations and capabilities for future missions beyond the Earth-Moon system. The Gateway will help NASA to better understand radiation effects on human physiology and vehicle subsystems and allow for validation of deep space exploration risk mitigation approaches. It would also serve as a demonstration platform for the integrated testing of long-duration habitation subsystems and autonomous operations addressing communications delays. The Gateway also provides the opportunity to better understand long vehicle dormancy and refurbishment periods.

In addition, the in-space power and propulsion and some of the deep space habitation required for Mars missions will be tested at the Gateway. Development and deployment of these capabilities on the Gateway will be a focus of the early-to-mid 2020s, leading to crewed missions beyond the Earth-Moon system, including to the Mars system in the following decades.

18. Please confirm that privatizing the ISS does not mean that a private sector company will be paid to “manage” the station without putting in at least 30% of the operating cost.

Answer: NASA is considering options for the future of the International Space Station (ISS) beyond 2024. The current state of the Agency’s thinking on this important topic is detailed in the ISS Transition Plan, directed by Section 303(c)(2) of the NASA Transition Authorization Act of 2017 (P.L. 115-10). This plan can be found at the following link:

https://www.nasa.gov/sites/default/files/atoms/files/iss_transition_report_180330.pdf

The Honorable José E. Serrano
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
National Aeronautics and Space Administration FY 2019 Budget Request

1. The NASA Office of Inspector General has identified NASA contracting and grants as one of the agency's top management and performance challenges, given that approximately three-quarters of NASA's budget is spent on contracts, and nearly a billion dollars was spent on NASA grants and cooperative agreements in fiscal year 2016 alone. In its report, the Inspector General noted instances in which it had uncovered fraud and misconduct related to certain NASA contracts and grants. Please discuss the ways in which NASA will continue working to ensure that its contracts, grants, and cooperative agreements are implemented in an appropriate manner, to prevent waste, fraud, and abuse.

Answer: NASA continues to strengthen and improve the contracting and grants processes throughout the Agency. We continued to strengthen our award fee process through training and the issuance of additional NASA Federal Acquisition Regulation (FAR) Supplement (NFS) policy guidance. Specifically, the NASA Office of Procurement issued an updated award fee process guide that provides clear and sound award fee guidance that is fully compliant with the FAR and related statute. We issued NFS policy that provided definitions, policy guidance, and a standard contract clause on the use of award term incentives. We published an updated source selection guide that will lead to a more efficient operating model for our source selections. The updated guide provided improved guidance to Source Evaluation Board (SEB) Chairs relative to managing the overall source selection process as well as guidance on when to use alternative source selections such as Price Performance Trade-Off (PPTO). Finally, we continue to strengthen the management of grants through our issuance of revisions to the NASA Grant and Cooperative Agreement Manual (GCAM), which ensured compliance with the requirements of 2 CFR 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. Specifically, we incorporated into the NASA GCAM a revised set of research terms and conditions as they apply to research and research-related awards to institutions of higher education and non-profit organizations. We revised our single audit policies and procedures and created a single audit policy guide that delineates single audit responsibilities to ensure NASA grant funds are safeguarded and used effectively. We also issued a revised Guidebook for Proposers responding to NASA Funding Announcements. This Guidebook describes the policies and process for submitting responses to a Broad Agency Announcement known as a NASA Research Announcement (NRA) or a Cooperative Agreement Notice (CAN). The NRA is used by the program offices to request proposals for basic and applied science and technology research and for science, technology, engineering, and mathematics (STEM) education.

2. The Wide Field Infrared Survey Telescope (WFIRST) was the top large space mission recommendation of the 2010 Astronomy and Astrophysics decadal survey. Congress has emphasized the importance of having NASA follow the recommendations of the National Academies decadal surveys and funded WFIRST mission implementation, most recently in the fiscal year 2018 Omnibus Appropriations Act. Please address the following:

2.a. How would the currently designed mission implementation address the scientific priorities outlined for WFIRST in the 2010 decadal survey?

Answer: The 2010 Decadal Survey for Astronomy and Astrophysics (*New Worlds, New Horizons in Astronomy and Astrophysics*, 2010, National Academies Press) listed three scientific priorities for WFIRST: address fundamental questions about the nature of dark energy, open up new frontiers in the study of exoplanets, and survey our galaxy and other nearby galaxies to answer key questions about their formation and structure. The currently baselined WFIRST design addresses all of these priorities. The Hubble-sized (2.4 m) telescope and 300 megapixel widefield camera provides Hubble-quality imaging over 100 times more sky than Hubble. With this capability, scientists using WFIRST will:

- Determine the expansion history of the Universe and the growth history of its largest structures in order to test possible explanations of its apparent accelerating expansion, including dark energy and modifications to Einstein's theory of gravity;
- Complete the statistical census of planetary systems in the Galaxy, from the outer habitable zone to free-floating planets; and
- Survey galaxies using Hubble-quality infrared sky images and spectra over thousands of square degrees of sky.

WFIRST would also include a coronagraph technology demonstration instrument capable of imaging giant planets orbiting nearby stars. With this capability, scientists and technologists using WFIRST could:

- Mature new technologies enabling direct imaging and spectroscopy of planets orbiting other stars so that these capabilities can be included in future large space observatories, and
- Demonstrate the technologies by observing giant planets and debris disks around nearby stars.

The President's Budget proposes to terminate WFIRST due to its significant cost and higher priorities within the agency.

2.b. What steps would NASA take to match the scope of the mission to the \$3.2 billion cost target, and to ensure adequate oversight and cost control during mission development?

Answer: The \$3.2 billion represents a 50% confidence level cost estimate, as is custom for the management agreement; if the agency continues with the mission, the final agency baseline commitment will be at a higher confidence level and exceed \$3.2 billion.

The President's Budget proposes to terminate WFIRST. However, given FY 2018 appropriated funding for the mission, NASA is continuing work on the mission this fiscal year. Following the WFIRST independent review, and in response to the direction issued by NASA AA for Science Thomas Zurbuchen in October 2017, the WFIRST project has completed modifications to the design and development plan that will enable the mission is developed within the \$3.2B cost target as well as increase its mission assurance plans to be consistent with NASA practices for a mission of this size and importance. Those modifications included:

- Treating the coronagraph instrument as a technology demonstration instrument,
- Reduction of some wide field instrument capabilities,
- Simplifying subsystem designs including the command and data handling box, high-gain antenna, and telescope door,
- Contributions to the mission by international partners,
- Improved budget profile and accelerated schedule, pulling in launch date 6 months, and
- Additional mission risk reduction (sparing, testing, parts, etc.).

If any of these modifications cannot be realized, then the currently baselined plan will need further modifications. Following a System Requirements Review/Mission Design Review of the modified design in February 2018, the WFIRST Standing Review Board validated that the modified design can be developed within the \$3.2B target life-cycle cost, excluding Agency reserves. According to the WFIRST Standing Review Board,

- The mission can be completed within a life cycle cost, including formulation, development, operations, and science, of \$3.2B at a 50 percent confidence level.
- The mission can be completed within a life cycle cost, including Agency reserves, of \$3.8B at the 70 percent confidence level.
- The development of the mission, including formulation, development, and launch, including Agency reserves, can be completed for \$3.5B at the 70% confidence level. [This compares to the \$3.2B cost cap specified in the draft NASA Authorization Act of 2018.]

Additionally, in his direction of October 2017, NASA AA for Science Zurbuchen directed that the WFIRST program management oversight of WFIRST be improved. To that end, NASA is establishing a new program office, the Astrophysics Strategic Mission Program Office, to provide oversight and cost control during mission development. It is expected that this Program Office will be established and functioning by Summer 2018.

2.c. How would the anticipated scientific observations impact future STEM student education from K-12 through graduate studies?

Answer: WFIRST will address the highest priorities in astrophysics, as established by the 2010 Decadal Survey, including the origin and fate of the universe (through studies of dark energy and cosmic evolution) and the search for life in the universe (through surveys of exoplanet populations and development of techniques for direct imaging of habitable exoplanets by future observatories). Using its capability to provide Hubble-quality imaging over 100 times the sky, WFIRST will contribute to 80 percent (4 out of 5) discovery science areas and 75 percent (15 out of 20) key science questions listed in the 2010 Decadal Survey. Through its open data policy and planned public data archive, the WFIRST mission and its data will be used by astronomers and graduate students for decades to solve the mysteries of the universe. The public data archive will be a resource for NASA's Science Activation Program, as well as education initiatives and citizen science projects available to students and the general public.

2.d. How would the technologies and capabilities employed in WFIRST's instrumentation be enabling for future missions in Astrophysics and other space sciences?

Answer: Through the WFIRST project, NASA has developed next-generation detectors for its 300 megapixel camera and high-contrast imaging techniques for its coronagraph technology demonstration instrument. NASA is incorporating a technologically advanced 2.4-m telescope that was developed and provided to NASA by another Government agency. NASA is also advancing data storage and transmission capabilities to enable a significant increase in the science data received from a deep space mission. These technologies and capabilities are all enabling for future missions.

The Honorable Derek Kilmer
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
National Aeronautics and Space Administration FY 2019 Budget Request

1. In eliminating the Office of Education and the Space Grant Programs, the NASA Budget Proposal states that “a small team at NASA Headquarters” and the mission directorates will take on the roles that NASA Office of Education currently has to “engage learners in [NASA’s] work and to encourage educators, students, and the public to continue making their own discoveries. I would like to know more about this plan, as it is difficult to see how NASA HQ and the mission directorates will be able to successfully inspire the next generation as successfully as programs like the Space Grant, which has over 850 affiliates and directors in all 50 states, D.C. and Puerto Rico. The value of the programs like Space Grant is that each program is directly within the community. How many people will be on that “small team” at NASA HQ and how much funding will they receive to carry out their mission? How many full-time equivalent workers throughout the mission directorates will be dedicated to education and how much funding will they receive?

Answer: While the FY 2019 budget no longer supports the formal Office of Education programs, a common vision, mission and focus areas will drive NASA’s future endeavors in STEM engagement and public engagement. The Agency Management and Operations budget will support ~13 civil servants for the Office of STEM Engagement, which will be accountable for strategic guidance and coordination of NASA’s STEM engagement efforts Agency-wide, enabling a mission-driven approach to this work in close collaboration with the Mission Directorates. NASA does not track the use of Program personnel for Education purposes. Each Directorate and Center provides representatives to the Agency’s STEM Engagement Council (SEC), which consists of approximately 18 NASA employees.

Through its Mission Directorates, NASA will focus on creating unique opportunities for students and the public to contribute to NASA’s work in exploration and discovery; building a diverse future STEM workforce by engaging students in authentic learning experiences with NASA’s people, content and facilities; and strengthening public understanding by enabling powerful connections to NASA’s mission and work.

2. In trying to promote the development of the commercial space industry, I have heard that space situational awareness is a critical step to safe and effective operations in space. I know that NASA currently works with the U.S. Air Force on space situational awareness, providing services for robotic and human spaceflight missions, and on research associated with better understanding the space debris and operational environment. Given that NASA operates dozens of U.S. Government spacecraft in Earth orbit, could you speak to how essential that established relationship is to your successful operations in orbit?

Answer: NASA significantly depends on data and services related to space situational awareness provided by the Air Force, including the high accuracy catalog of trackable space objects, the screening of NASA assets against the catalog, and the generation of close approach predictions. These services allow NASA to decide on spacecraft maneuvers when the risk of collision between the objects and NASA spacecraft becomes too high. NASA maintains a special relationship with the 18th Space Control Squadron providing these services via NASA-dedicated analysts that provide screenings and assessments specific to NASA human and robotic spaceflight operations. This allows NASA to receive information beyond the data provided to other

operators needed to maintain high quality conjunction assessments for its critical on-orbit assets. NASA also collaborates with the Air Force on projects to characterize orbital debris too small to be tracked but large enough to threaten space missions.

3. Washington has become a hub for private space industry, including Blue Origin, SpaceFlight, Space X, Aerojet, and Systima Technologies. These companies receive significant NASA support, but also inject private funds and know-how to accelerate space exploration. At the same time, the state's public universities, have significant space research and education programs that are funded by NASA that provide national leadership in several areas. Significant opportunities lie at the interface between the private sector, public educational institutions and NASA. Yet there is no permanent NASA presence in the Northwest, with potential loss of opportunities to enhance the U.S. position in space. How can Washington state, in particular, and other states without permanent NASA presence, work more closely with NASA to create synergistic ties that help both the private sector and NASA?

Answer: The vision of the Office of Small Business Programs (OSBP) at NASA is to promote and integrate all small businesses into the competitive base of contractors that pioneer the future of space exploration, scientific discovery, and aeronautics research. NASA promotes the development and management of NASA programs that assist all categories of small business. The OSBP works to develop small businesses in high tech areas that include technology transfer and commercialization of technology, and strives to provide small businesses maximum practicable opportunities to participate in NASA prime contracts and subcontracts.

In FY 2017, the OSBP developed three initiatives to improve NASA's small business program. Two of those were to:

- Promote small business programs through advocacy and collaborative efforts with internal and external partners/stakeholders.
- Promote small business awareness and participation, utilizing innovative techniques at nontraditional venues in geographically targeted areas, to enhance all categories of small business.

NASA routinely conducts outreach events in areas where there is not a NASA presence or NASA Center. For example, NASA's Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program officials routinely take part in the Small Business Administration's SBIR Road Tours (<https://www.sbir.gov/sbir-road-tour>), which play an important role in increasing engagement with entrepreneurial ecosystems across the country to support the creation of small businesses focusing on next generation research. For example, the latest Road Tour (July 17-20, 2018) includes several stops in the Pacific NW region.

Organizations may also request NASA OSBP to participate in outreach events being held in their states to discuss how to do business with NASA. For example, NASA collaborates with local Procurement Technical Assistance Centers (PTAC) organizations to promote NASA community-level events. At these events, local industry can get more information about NASA small business programs, the SBIR\STTR program, the NASA Centers, and NASA prime contractors.

NASA hosts webinars covering different topics to help industry better understand how to work with the Agency and our prime contractors. NASA also has several websites that individuals or industry can access to get more information (including contact details). For example, the

SBIR\STTR program (<https://sbir.nasa.gov/>), and Small Business Programs (<https://www.osbp.nasa.gov/>).

In addition, NASA engages with researchers, businesses and entrepreneurs throughout the country through a variety of solicitations and partnership opportunities typically posted here: <https://nspires.nasaprs.com/external/>.

In addition, the following NASA Mission Directorates also provide opportunities that may interest Washington State:

- The HEOMD education initiatives are listed at:

<https://www.nasa.gov/directorates/heo/education/projects.html>

- The SMD education initiatives are listed at:

<http://smdepo.org/projects>

- The STMD education initiatives (through Glenn Research Center) are listed at:

<https://spaceflight systems.grc.nasa.gov/education-outreach/>

- The ARMD education initiatives are listed at:

<https://www.hq.nasa.gov/office/acero/education.htm>

4. Most of our country's greatest accomplishments in space have come through international cooperation. One of the most valuable partnerships is with Israel through cooperation on many space programs supporting the Global Positioning System and research related to the sun, earth science, and the environment. In 2015, NASA Administrator Bolden and ISA Director General Kidron signed a Civil Space Framework Agreement to formalize and expand cooperation in civil space activities. Can you talk about the value of NASA's partnership with Israel and how you see that partnership continuing and growing in the future?

Answer: NASA places a high value on international cooperation and has partnerships with largely governmental organizations around the world. These partnerships offer multiple benefits to NASA and its partners, from enhancing the pace of scientific progress through rapid, open access to science mission data to sharing risks and costs while promoting discovery and advancement. The NASA-Israel Space Agency (ISA) Civil Space Framework agreement provides a vehicle to enable cooperation as mutually beneficial opportunities are identified. In April 2018, NASA and ISA signed the first Implementing Arrangement under the Framework for the launch of a radiation protection vest aboard NASA's EM-1 mission around the moon, the last test flight of NASA's Orion spacecraft before the space agency begins crewed deep space missions. This trilateral effort, between NASA, ISA, and the German Aerospace Center (DLR), will be comprised of two Matroshka test "torsos" - one control and one wearing the Israel-provided vest. The Matroshkas, containing radiation detectors, will be supplied by DLR.

5. NASA's Human Exploration Operation Mission Directorate, Space Technology Mission Directorate and Science Mission Directorate all agree that high-powered Solar Electric Propulsion (SEP) is necessary for major efforts in the lunar region, such as the Gateway, and for deep space cargo missions to Mars. NASA STMD is currently running the Advanced Electric Propulsion System (AEPS) to get to a high-powered SEP demonstration. Is the funding NASA currently has sufficient? Are the reserves for these efforts sufficient?

Answer: The funding profile proposed as part of the FY 2019 budget request is consistent with project estimates as of KDP-B, including reserves, based on the proposed architecture and implementation approach. A Key Decision Point-C (KDP-C) is currently targeted for no earlier than September 2018, which will include assessments of the project's cost, schedule and

programmatic risks, including the reserve posture. These results will then be incorporated into the project's cost and schedule baseline estimates. NASA will provide the SEP project's cost and schedule baseline estimates at the conclusion of KDP-C.

6. How are efforts between NASA and the Department of Energy to ramp up production of Pu-238 necessary for the Radioisotope thermal generators (RTGs) used of Mars landers and other planned discover missions for the next decade? Are we in a situation where we as a Nation will not have the RTGs necessary for the planned missions over the next decade?

Answer: Interactions between NASA and DOE on the status of plutonium 238 are positive and significant progress has been made by the agencies to reestablish domestic production capabilities. Since 2015, DOE has produced approximately 350 grams of HS-PuO₂ over three campaigns for NASA and is initiating a fourth campaign this fall. NASA and DOE are aligning its activities to support a constant rate production (CRP) strategy that provides more flexibility to align resources to optimize the RPS material production and make strategic investments to improve equipment reliability and production predictability. CRP integrates efforts to produce new HS-PuO₂ with fueled clad manufacturing, where a blending of old and new fuel takes place. CRP results in an inventory of flight-ready fuel clads ahead of a specific mission need. CRP thus reduces mission costs, reduces risks to future missions, and enables production scale-up flexibility should a higher demand be realized. Applying the CRP strategy affords both agencies the ability to improve the reliability and predictability to deliver RPS solutions in support of NASA exploration missions.

The Mars 2020 mission represents the only firm NASA requirement for Radioisotope Power Systems (RPS) in the next decade. The Department of Energy (DOE) has completed the fabrication of all Heat Source Plutonium Oxide (HS-PuO₂) fueled clads required for the Mars 2020 mission as scheduled. Within this inventory, six fueled clads contain some of the newly produced plutonium-238 from Oak Ridge National Laboratory (ORNL), further demonstrating the DOE's progress to reestablish domestic plutonium-238 production capabilities.

NASA's mission requirements for HS-PuO₂ are driven by the mission priorities established in the 2011 Planetary Science Decadal Survey as well as other potential NASA mission priorities and available budget resources. Mars 2020 is the next RPS mission. NASA, after verifying heat source availability and processing capacity with DOE, chose to offer up to three RPS for the New Frontiers 4 (NF4) Announcement of Opportunity (AO). As the missions selected for NF4 Step 1 studies use no more than one RPS, NASA has now offered up to two RPS for an anticipated Discovery 2019 AO. In addition, NASA has identified a potential to offer radioisotope power for either the New Frontiers 5 AO or to a potential flagship, launching around 2030. This could require an additional 3 or 4 RPS. All of these missions can be supported if they are realized and NASA budgets are available. As NASA potential mission needs evolve, DOE will provide and develop projections that fine-tune the production rates needed in order to address the potential NASA mission cadence.

7. The United States has never been more dependent on its orbital assets and they have never been under greater threat. Last year, the Director of National Intelligence, Dan Coats, testified before Congress that China and Russia are creating directed energy weapons, conducting missile tests, and have deployed their own robotic spacecraft, all with the goal of disabling American satellites. As you know, the NASA Restore-L Program is developing the ability to refuel satellites, which will enhance NASA's capabilities while lowering its costs. Moreover, the ability to refuel satellites in low Earth orbit (LEO) will be critical for national security, and no private sector company is developing a refueling capability in LEO. Despite these facts, for the second year in a

row, the Administration has proposed to drastically reduce funding for the program and eliminate the launch of Restore-L. How does the administration justify such actions when the Vice President himself has discussed the need for satellite refueling and the obvious benefits to NASA and the nation?

Answer: NASA agrees on the criticality of developing satellite servicing capabilities, and that a transition is happening in the satellite business. Fast-moving technology and evolving customer demands are driving operators to rethink major investments in new satellites and consider other options such as obtaining a few more years of service out of their current platforms. As a result, satellite refueling and other in-orbit services market are estimated to possibly reach \$3 billion over the next decade. While NASA sees substantial value in Satellite Servicing capabilities, there are already significant investments from industry and another government agency to develop commercial satellite servicing capabilities. Therefore, the Agency has proposed an alternative approach to enable a flight demonstration of satellite servicing technologies by leveraging commercial interests and developing capabilities in a cost-effective manner. In this proposal, NASA would continue development of the critical satellite servicing technologies to TRL 6, while pursuing public-private partnerships with industry to infuse these technologies consistent with their satellite servicing business plans. Under the FY 2018 and FY 2019 budget requests, NASA proposed to refocus the project on technology development to TRL 6 and have industry partners propose which technologies in development they would demonstrate on their spacecraft based on their industry business plans.

Given the FY 2018 Omnibus Appropriations provided \$130M for a Restore-L mission, the Restore-L project is working on detailed system and subsystem design in FY 2018. The Restore-L team has completed payload and spacecraft preliminary design reviews. The Restore-L LCC range at KDP-B was \$626M to \$753M, which is 3-8 times the cost of any other STMD technology demonstration project (with LCCs that typically range from \$100-\$300M), and it is not executable within the ER&T budget without significant impact to exploration technology priorities. The project is working on a replan based on a \$130M per year flat budget funding profile, consistent with FY 2017 and FY 2018 Appropriations. This budget profile and associated schedule shift results in an LCC increase to approximately \$1B.

NASA believes the most cost effective approach is to utilize our technical expertise to develop the technologies, while leveraging the strong commercial interest to enable a flight demonstration. This will provide a clear path to transferring the technologies to industry for multiple applications. As such, under the FY 2019 budget request, NASA is proposing to refocus the Restore-L project toward technology development to TRL 6 with industry partners proposing which robotics systems and tools they would flight demonstrate on their spacecraft based on their industry business plans. Goddard Space Flight Center's Restore-L team, including their robotics partner West Virginia University, would continue to play a critical role in developing these capabilities. This approach is sustainable within the budget profile, and enables a broader ER&T technology demonstration portfolio aligned with exploration priorities. Servicing capabilities will also be demonstrated through DARPA's Robotic Servicing of Geosynchronous Satellites, using a public private partnership approach.

8. The inaugural launch of SLS and Orion is about 18 months away. Assuming success, what are your plans for the first ten launches, to include how often crew will be launched; which parts of the Lunar Orbital Platform-Gateway you anticipate using SLS for and when; and, when will the Europa mission be launched? What is the funding profile needed to support this launch cadence, including funding for the gateway elements?

Answer: NASA plans to launch an initial, uncrewed deep space mission, Exploration Mission-1 (EM-1), in FY 2020. The mission will combine the new heavy-lift Space Launch System (SLS) with an uncrewed version of the Orion spacecraft on a mission to lunar orbit. A crewed mission, EM-2, will follow in 2023. The FY 2019 budget fully funds the schedule for EM-2 and the Orion spacecraft and enables NASA to begin work on post EM-2 missions, the details of which will be reflected in future budget requests. SLS, Orion, and Exploration Ground Systems (EGS) are being designed to be capable of supporting a long-term flight rate of one per year (see budget runout, below). The actual cadence of missions beyond EM-2 will be defined based on mission needs, available resources, and operational costs.

Exploration Systems Development (includes SLS, Orion, and EGS; budget authority in \$M)

FY 2019 Request	FY 2020 Notional	FY 2021 Notional	FY 2022 Notional	FY 2023 Notional
3,669.8	3,790.5	3,820.2	3,707.5	3,845.6

To establish a human presence beyond low-Earth orbit (LEO) in the strategic region around the Moon, NASA will develop a Lunar Orbital Platform-Gateway (see budget runout, below). Between FY 2018 and FY 2024, NASA's estimated investment to build the Gateway with power and propulsion habitation, logistics supply and airlock is \$2.975 billion, not including operational costs or launch (for habitation, logistics supply, and airlock). Our international partners are in the process of identifying their potential contributions to the Gateway. The Gateway will be a place to live, learn and work around the Moon and will provide opportunities to support missions to the surface. The FY 2019 request supports NASA's plan to launch the first element of the Gateway – its power and propulsion element (PPE) – in 2022. PPE is planned for development as a partnership with industry and will be selected through a competitive procurement process, which will also include the partner-provided commercial launch vehicle. This will both accelerate the establishment of the Gateway and provide the partner with flexibility in meeting PPE demonstration objectives of enabling and further advancing commercial partnerships in deep space. Future elements will be launched as part of the Gateway buildup including habitation/utilization module(s), an airlock to facilitate spacewalks, and logistics modules for cargo resupply missions on the SLS and by commercial providers through Gateway completion in the mid-2020s.

Lunar Orbital Platform – Gateway (budget authority in \$M)

FY 2019 Request	FY 2020 Notional	FY 2021 Notional	FY 2022 Notional	FY 2023 Notional
504.2	662.0	540.0	558.9	459.1

The President's FY 2019 Budget Request proposes to launch the Europa Clipper mission on a commercial launch vehicle in 2025.

- This Administration has released space policies stating that the United States civil, national security, and commercial space sectors should lead the way in a refocused exploration agenda directed toward a near-term return to the lunar surface. It's my understanding that the US commercial space industry has made notable progress in recent years toward development of a range of lunar lander capabilities – from small landers like Astrobotic's Peregrine to larger landers like Blue Origin's Blue Moon. Can you clarify how NASA intends to partner with industry and leverage these efforts across the full spectrum of landers?

Answer: NASA's Exploration Campaign will once again establish U.S. preeminence to, around, and on the Moon.

Under the SMD Lunar Discovery and Exploration Program, NASA will support activities such as establishing initial commercial contracts for transportation services with a likely payload range up to 200 kg, developing small rovers to be delivered via commercial landers, and building and launching instruments that serve lunar science, long-term exploration and utilization, and technology development needs.

Under the HEOMD Advanced Cislunar and Surface Capabilities Program, through public-private partnerships with the emerging commercial industry, NASA will solicit, engage, and nurture growing capabilities beyond those initial landing capabilities and progress to a large commercial lander in the 5,000 kg class, heading towards lunar utilization and a human landing long term.

10. The FY18 omnibus appropriated up to \$20M to the Flight Opportunities Program. Flight providers have begun flying these critical research payloads to suborbital space and will be ramping up in earnest. Does NASA intend to allocate the full \$20M to this program in the operations plan?

Answer: NASA has allocated \$15 million in FY 2018 to Flight Opportunities, which is consistent with funding levels for previous years for this program. Within this funding level, however, a greater proportion of funds will be applied toward research proposals for promising space technologies that benefit future NASA space exploration missions. Selected technologies from industry and academia will be flight-tested on commercial suborbital launch vehicles, reduced gravity aircraft and high-altitude balloon flights.

11. With the current geo-political climate that is surfacing between the U.S. and Russia, is there concern within NASA about how U.S. sanctions (and thus, any potential counter-sanctions or reply from Russia) will impact future NASA missions where NASA may be utilizing Russian rockets and/or access to space or the International Space Station?

Answer: NASA and its international space agency partners in Canada, Europe, Japan and Russia have worked together to maintain safe and continuous crewed operation of the International Space Station for nearly 18 years. It is NASA's assessment that currently, most U.S. sanctions are expected to negatively impact NASA civil space cooperation with Roscosmos. The civil space partnership between the United States and Russia is mutually beneficial and Congress has recognized this, providing specific exclusions for cooperative activities (as was included in Section 237 of Public Law 115-44, the Countering America's Adversaries through Sanctions Act, under which NASA can continue to operate in cooperation with Russia). It has come to NASA's attention that Section 1290 of the FY 2017 National Defense Authorization Act appears to adversely affect USG programs that involve goods and services of Russian entities; we look forward to working with Congress in the near future to address these concerns.

12. Recently, the House Committee on Science, Space, & Technology conducted a mark-up on the NASA Authorization Act (H.R. 5503) which included direction to NASA, whenever possible, to buy American and/or domestically resourced products and services. While this may limit the reliance on Russian materials, will this "soft mandate" negatively impact other international partnerships, such as in Europe or in Japan?

Answer: In general, NASA pursues cooperation with international partners on a no-exchange-of-funds basis; each partner funds its respective contributions to a given collaborative project or program. However, NASA has occasional need to procure unique goods or services from international entities.

The language used in the House mark-up could cause unintended consequences through future misinterpretation.—specifically the phrase “*whenever possible*”, to buy American and/or domestically resourced products and services.” This language has the potential to impact the ability of NASA and the United States to collaborate with partner nations based on continuing and expanding U.S. leadership goals. A wording change could allow more discretion in acquiring a capability with foreign components.

13. The current ISS National Laboratory is emerging as a pathfinder enabling commercial engagement in LEO and engaging NASA and other government agencies. How can we ensure such a National Laboratory construct continues beyond a federally operated ISS to continue these LEO activities? Can we designate a space-based National Laboratory that lives beyond the current construct of the ISS, including a pathway for federally funded researchers to use commercially provided space research platforms?

Answer: NASA is considering options for the future of the International Space Station (ISS) – including its role as a National Laboratory – beyond 2024. The current state of the Agency’s thinking on this important topic is detailed in the ISS Transition Plan, directed by Section 303(c)(2) of the NASA Transition Authorization Act of 2017 (P.L. 115-10). This plan can be found at the following link:

https://www.nasa.gov/sites/default/files/atoms/files/iss_transition_report_180330.pdf

Included in the Transition Principles outlined in the plan is “continue Government-sponsored access to LEO research facilities that enable other Government agencies, academia, and private industry to increase U.S. industrial competitiveness and provide goods and services to U.S. citizens.” This principle would ensure that a National Laboratory construct would continue in LEO as part of the ISS transition.

14. NASA maintains a satellite communications network around Mars, the only other planet beyond Earth with this capability. NASA’s orbiting science spacecraft serve as data relay satellites for ground missions by taking time off from observations to communicate with landed assets and send their data back to Earth. Maintaining this telecommunications infrastructure is an ongoing challenge for the Mars Exploration Program (MEP).

Answer: The dual role of scientific remote sensing and communications relay for surface assets for the Mars orbiters was planned from their inception. NASA has been able to, and continues to, balance its science objectives and communications relay tasking in an effective and efficient operations cadence.

- 14.b.: Its success is necessary for NASA to meet the highest priority Decadal Survey goal of returning samples from Mars.

Answer: Yes, communications relay functionality is important to the success of Mars Sample Return. Four highly capable assets (Odyssey, MRO, MAVEN, and ESA’s TGO) remain in Mars orbit to support continued communications capabilities. NASA is also exploring potential partnerships with commercial and international entities who are developing Mars capabilities.

14.c: Will NASA commit to a Mars telecommunications and high resolution imaging orbiter to replace rapidly aging assets currently at Mars?

Answer: NASA believes that the four existing communications assets currently provide adequate communications support. NASA is also exploring potential partnerships with commercial and international entities who are developing Mars capabilities.

14.d.: Will NASA enter formulation for a sample retrieval rover and Mars Ascent Vehicle mission to continue the overall Mars Sample Return campaign?

Answer: The President's budget request for FY2019 includes \$50M to begin planning for a potential Mars Sample Return mission.

14.e.: Will NASA commit to formulating a follow-on strategy to the Robotic Mars Exploration Strategy, 2007-2016 document?

Answer: NASA follows the Decadal process for planning future planetary sciences missions.

The Honorable Grace Meng
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
National Aeronautics and Space Administration FY 2019 Budget Request

1. What is the status of the report required by the NASA Transition Authorization Act of 2017 (P.L. 115-10), requiring the Administrator, the Secretary of Defense, and the Director of National Intelligence to assess the use of the 130 metric cargo variant of the Space Launch System for national security missions?

Answer: This report is in work, and NASA anticipates delivering it to the Committees this summer.

2. NASA's Human Exploration Operation Mission Directorate, Space Technology Mission Directorate, and Science Mission Directorate all agree that high-powered Solar Electric Propulsion (SEP) is necessary for major efforts in the lunar region, such as the Gateway, and for deep space cargo missions to Mars. NASA STMD is currently running the Advanced Electric Propulsion System (AEPS) to get to a high-powered SEP demonstration. Are current funding levels sufficient for this endeavor? Are the reserves for these efforts sufficient?

Answer: The funding profile proposed as part of the FY 2019 budget request is consistent with project estimates as of KDP-B, including reserves, based on the proposed architecture and implementation approach. A Key Decision Point-C (KDP-C) is currently planned for August 2018, which will include assessments of the project's cost, schedule and programmatic risks, including the reserve posture. These results will then be incorporated into the project's cost and schedule baseline estimates. NASA will provide the SEP project's cost and schedule baseline estimates at the conclusion of KDP-C.

3. What is the status of NASA and the Department of Energy's effort to ramp up production of Pu-238 necessary for the Radio-isotope thermal generators (RTGs) used by Mars landers and other planned discover missions for the next decade? Are we in a situation where we will not have the RTGs necessary for the planned missions over the next decade?

Answer: Interactions between NASA and DOE on the status of plutonium 238 are positive and significant progress has been made by the agencies to reestablish domestic production capabilities. Since 2015, DOE has produced approximately 350 grams of HS-PuO₂ over three campaigns for NASA and is initiating a fourth campaign this fall. NASA and DOE are aligning its activities to support a constant rate production (CRP) strategy that provides more flexibility to align resources to optimize the RPS material production and make strategic investments to improve equipment reliability and production predictability. CRP integrates efforts to produce new HS-PuO₂ with fueled clad manufacturing, where a blending of old and new fuel takes place. CRP results in an inventory of flight-ready fuel clads ahead of a specific mission need. CRP thus reduces mission costs, reduces risks to future missions, and enables production scale-up flexibility should a higher demand be realized. Applying the CRP strategy affords both agencies the ability to improve the reliability and predictability to deliver RPS solutions in support of NASA exploration missions.

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fabrication of all Heat Source Plutonium Oxide (HS-PuO₂) fueled clads required for the Mars 2020 mission as scheduled. Within this inventory, six fueled clads contain some of the newly produced plutonium-238 from Oak Ridge National Laboratory (ORNL), further demonstrating the DOE's progress to reestablish domestic plutonium-238 production capabilities.

NASA's mission requirements for HS-PuO₂ are driven by the mission priorities established in the 2011 Planetary Science Decadal Survey as well as other potential NASA mission priorities and available budget resources. Mars 2020 is the next RPS mission. NASA, after verifying heat source availability and processing capacity with DOE, chose to offer up to three RPS for the New Frontiers 4 (NF4) Announcement of Opportunity (AO). As the missions selected for NF4 Step 1 studies use no more than one RPS, NASA has now offered up to two RPS for an anticipated Discovery 2019 AO. In addition, NASA has identified a potential to offer radioisotope power for either the New Frontiers 5 AO or to a potential flagship, launching around 2030. This could require an additional 3 or 4 RPS. All of these missions can be supported if they are realized and NASA budgets are available. As NASA potential mission needs evolve, DOE will provide and develop projections that fine-tune the production rates needed in order to address the potential NASA mission cadence.

The Honorable Robert B. Aderholt
Material for the Record
April 12, 2018, Hearing on NASA's FY 2019 Budget Request
before the House Appropriations Subcommittee on Commerce, Justice,
Science, and Related Agencies

Material for the record regarding how many metric tons can SLS lift horizontally and vertically integrated

Question: My understanding is that the SLS, even if its first version carries 70 to 90 metric tons to orbit, would it be safe to say that it would be difficult for other heavy class rockets to carry more than 10 metric tons to orbit, as long as they remain integrated in a horizontal position?

Answer: The SpaceX website lists the Falcon Heavy fully expendable lift capability as over 60 metric tons to low-Earth orbit (LEO). The Falcon Heavy concept of operations uses only horizontally integrated payloads at this time. NASA's Launch Services Program is not aware of any restrictions on the payload mass when the payload is integrated horizontally.

The Honorable John Culberson
Material for the Record
April 12, 2018, Hearing on NASA's FY 2019 Budget Request
before the House Appropriations Subcommittee on Commerce, Justice,
Science, and Related Agencies

Material for the record regarding size of Ariane SLS fairing

Question: How big is Ariane berth? How big is the SLS fairing?

Answer: The Ariane 5 fairing is 17 meters high, with an external diameter of 5.4 meters, with an estimated volume of 210.7 m³. In comparison, planned payload volumes for the various SLS configurations currently planned or under evaluation are shown below:

SLS payload volumes:

- SLS Block I crew – (currently estimated 2023)
- SLS Block I cargo – up to 256m³ within 5-meter-class fairing (currently estimated 2023)
- SLS Block IB crew – 286m³ within Universal Stage Adaptor (currently estimated 2025)
- SLS Block IB cargo – 537m³ within 8.4m to 19.1m “short” fairing (under evaluation)
- SLS Block II crew – 286m³ within Universal Stage Adaptor (under evaluation)
- SLS Block II cargo – up to 905m³ within 8.4m to 27.4m “long” fairing (under evaluation)

Material for the record regarding date of first crewed launch

Question: For Both Boeing and Space X? When are they estimating that they will have the first crewed launch?

Answer: The launch dates for the first crewed launches of the Boeing CST-100 Starliner and SpaceX Crew Dragon are listed below.

Targeted Test Flight Dates:

- Boeing Crew Flight Test (crewed): November 2018
- SpaceX Demonstration Mission 2 (crewed): December 2018

Material for the record regarding receiving JWST report before May 9 hearing

Question: You should have that report, I hope, before May 9th when we have our astrophysics hearing?

Answer: NASA SMD was briefed by the IRB on May 31, 2018. ; the IRB report and NASA's response were briefed to the House and Senate Appropriations CJS subcommittee staffs on June 25, 2018, and NASA provided a follow-on breach report to the leadership of the relevant House and Senate committees on June 26, 2018.

Material for the record regarding original launch date for JWST

Question: The original launch date for Webb was, I think - -we were just comparing notes, 2011?

Answer: The planned launch date at the May 2008 KDP-C was June 2014.

The Honorable Evan Jenkins
Material for the Record
April 12, 2018, Hearing on NASA's FY 2019 Budget Request
before the House Appropriations Subcommittee on Commerce, Justice,
Science, and Related Agencies

Material for the record regarding plans and funding for the new Office of STEM Engagement/NextGen STEM, and how will NASA make sure the work provided by the former Office of Education is continued?

Question: Can you again reassure us that, you, while I will certainly be fighting to continue the funding, but if I am not successful and this heads in a different direction, that we have the appropriate, I guess, things in place to plan to make sure that no void has occurred, you know, adequate preparation for that day.

Answer: While the FY 2019 budget no longer supports the formal Office of Education programs, a common vision, mission and focus areas will drive NASA's future endeavors in STEM engagement and public engagement. Through its Mission Directorates, NASA will focus on creating unique opportunities for students and the public to contribute to NASA's work in exploration and discovery; building a diverse future STEM workforce by engaging students in authentic learning experiences with NASA's people, content and facilities; and strengthening public understanding by enabling powerful connections to NASA's mission and work. A focused functional office at NASA headquarters will be accountable for strategic direction and coordination of the agency's STEM engagement efforts. This functional office, along with the Office of Communications, will be jointly accountable for working collaboratively toward successful achievement of the common vision, mission and goals on behalf of the agency and will be funded out of Agency Management and Operations. NASA's mission successes will continue to inspire the next generation to pursue science, technology, engineering, and mathematics studies, join the agency's journey of discovery, and become the diverse workforce needed for tomorrow's critical aerospace careers. NASA will use every opportunity to engage learners in the agency's work and the many ways it encourages educators, students, and the public to continue making their own discoveries.

The Honorable Derek Kilmer
Material for the Record
April 12, 2018, Hearing on NASA's FY 2019 Budget Request
before the House Appropriations Subcommittee on Commerce, Justice,
Science, and Related Agencies

Material for the record regarding private sector and economic development offices looking to partner with NASA

Question: How can states that don't have a permanent mission directorate work more closely with NASA to create those synergies and enhance those ties between the private sector and NASA?

Answer: The vision of the Office of Small Business Programs (OSBP) at NASA is to promote and integrate all small businesses into the competitive base of contractors that pioneer the future of space exploration, scientific discovery, and aeronautics research. NASA promotes the development and management of NASA programs that assist all categories of small business. The OSBP works to develop small businesses in high tech areas that include technology transfer and commercialization of technology, and strives to provide small businesses maximum practicable opportunities to participate in NASA prime contracts and subcontracts.

In FY 2017, the OSBP developed three initiatives to improve NASA's small business program. Two of those were to:

- Promote small business programs through advocacy and collaborative efforts with internal and external partners/stakeholders.
- Promote small business awareness and participation, utilizing innovative techniques at nontraditional venues in geographically targeted areas, to enhance all categories of small business.

NASA routinely conducts outreach events in areas where there is not a NASA presence or NASA Center. For example, NASA's Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program officials routinely take part in the Small Business Administration's SBIR Road Tours (<https://www.sbir.gov/sbir-road-tour>), which play an important role in increasing engagement with entrepreneurial ecosystems across the country to support the creation of small businesses focusing on next generation research. For example, the latest Road Tour (July 17-20, 2018) includes several stops in the Pacific NW region.

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NASA hosts webinars covering different topics to help industry better understand how to work with the Agency and our prime contractors. NASA also has several websites that individuals or industry

can access to get more information (including contact details). For example, the SBIR\STTR program (<https://sbir.nasa.gov/>), and Small Business Programs (<https://www.osbp.nasa.gov/>).

In addition, NASA engages with researchers, businesses and entrepreneurs throughout the country through a variety of solicitations and partnership opportunities typically posted here: <https://nspires.nasaprs.com/external/>.

Material for the record regarding plans for Office STEM Engagement/NextGen STEM? How much funding and staff?

Question: How many people will be on that small team at NASA Headquarters, how much funding will they receive to carry out that mission, and what are we looking at in terms of presence of employees at the mission directorates to work on that too?

Answer:

While the FY 2019 budget no longer supports the formal Office of Education programs, a common vision, mission and focus areas will drive NASA's future endeavors in STEM engagement and public engagement. The Agency Management and Operations budget will support ~13 civil servants for the Office of STEM Engagement, which will be accountable for strategic guidance and coordination of NASA's STEM engagement efforts Agency-wide, enabling a mission-driven approach to this work in close collaboration with the Mission Directorates. NASA does not track the use of program personnel for education activities, though each Directorate and Center has representatives on NASA's STEM Engagement Council (SEC), which consists of approximately 18 NASA employees.

Through its Mission Directorates, NASA will focus on creating unique opportunities for students and the public to contribute to NASA's work in exploration and discovery; building a diverse future STEM workforce by engaging students in authentic learning experiences with NASA's people, content and facilities; and strengthening public understanding by enabling powerful connections to NASA's mission and work.

The Honorable José E. Serrano
Material for the Record
April 12, 2018. Hearing on NASA's FY 2019 Budget Request
before the House Appropriations Subcommittee on Commerce, Justice,
Science, and Related Agencies

Material for the record regarding hurricane repairs to Arecibo

Question: Do you know if the repairs have taken place after the hurricane, because I know it took a hit also?

Answer: Arecibo returned to normal operations in December 2017.
<http://outreach.naic.edu/ao/blog/arecibo-planetary-radar-returns-action-images-asteroid-phaethon>

TUESDAY, APRIL 17, 2018

MEMBERS' DAY

Mr. CULBERSON. Good morning and welcome to the Appropriations Committee Subcommittee on Commerce, Science, and Justice. We are delighted to have our Members' Day hearing today. Members have an opportunity to come in and present their best ideas and suggestions to us for our 2019 appropriations bill.

I am very grateful to you for coming in, particularly my good friend Jose Serrano here today.

Mr. SERRANO. Thank you, Mr. Chairman. I am also happy to see that we will have Members come before us.

Members have a direct line to their districts, as we all do, and I think they can give us a lot of help as we prepare the bill for the needs that exist in our communities. And so it is good to see Gwen, but it is also good to see the other Members that will be here today. Thank you.

Mr. CULBERSON. Thank you. Thank you, Mr. Serrano.

This has been an ongoing tradition in the subcommittee and it is extraordinarily helpful, and we are very grateful for you taking the time.

And please recognize the Congresswoman from the 4th District of Wisconsin, Congresswoman Gwen Moore, for her testimony.

STATEMENT OF HON. GWEN S. MOORE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN

Ms. MOORE. Thank you so much, Mr. Chairman Culberson and Ranking Member Serrano, and I am so pleased that you have this tradition of listening to Members.

I realize that you have lots of choices, really not choices, but a lot of difficult choices to make about appropriations, and so I am happy to be here to support the notion of investing in the Violence Against Women Act and the Victims of Crime Act. And I appreciate the subcommittee's ongoing support for these lifesaving programs and I urge you to continue robust Federal investment in the successful, cost-effective Violence Against Women Act in the fiscal year 2019 budget.

Now, you know, crimes of domestic and sexual violence are not building of some infrastructure or necessarily a direct job-creator type activity, so you sort of wonder about the efficacy of doing it, but these sexual violence problems are life-threatening and they also are expensive.

Domestic violence affects more than 12 million women and some men every year, and, additionally, 15.5 million children are exposed to domestic violence every year. And these figures only reflect those who make the difficult choice to report these crimes.

Victims of sexual assault are more likely to struggle professionally and academically, suffering from depression, post-traumatic stress disorder, substance abuse, and suicide contemplation. And the problem with exposing children to domestic violence is that they often repeat the cycle inter-generationally and pass that affliction on to the next generation.

We are experiencing a real watershed moment in our country as survivors of gender-based violence are coming forward after living in the shadows for so many years. The Me Too movement is an example with high-profile cases, and the national focus on domestic and sexual violence have increased the need for comprehensive community responses to meet the needs of survivors. And our message has got to be really clear, Mr. Chairman and Mr. Ranking Member, when survivors come forward for help and support that the help and support is going to be there. I mean, if you pick up a phone, you are a victim of domestic violence, and there is nobody answering the phone, then they don't have access.

And our Nation has made progress in addressing violence against women, because this Congress has made a commitment on an annual basis to support VAWA and VOCA. And perpetrators are—but they need to be, when appropriate, arrested and prosecuted, and of course those require resources as well. So it is the services, but it is also the law enforcement end of it as well.

VAWA has improved our Nation's response to these horrendous crimes with unprecedented coordination between police officers, victim service providers, and criminal and civil justice systems. And it is complemented by VOCA, who funds direct services to victims of all types of crimes.

So, the infusion of VOCA funding is leading to the creation and growth of innovative programs, and so together VAWA and VOCA have fueled undeniable national progress toward addressing this violence.

Now, VAWA has saved our country and employers an estimated, listen to this, \$12.6 billion in net averted costs in its first 6 years alone. So, between VAWA's implementation in 1994 and 2011, serious victimization by an intimate partner declined by 72 percent for women and 64 percent for men. Funding cuts would erode our Nation's progress on this critical issue. I suppose if you are one in three women who die every day from domestic violence, I suppose that that 72-percent decrease doesn't mean a lot to you, but think about what those numbers would be were it not for these interventions.

The National Network to End Domestic Violence took a 24-hour national snapshot of domestic violence services, revealing that in just one day 72,245 victims of domestic violence received services because of what we do here, while 11,441 requests for services went unmet due to lack of funding and resources. Sixty five percent of these requests were for housing.

And the terrifying conclusion of domestic violence is often murder. Again, every day in the U.S. an average of three women are killed by a current or former intimate partner.

In addition to this terrible cost to victims and families, again, this costs the communities and taxpayers; the cost of intimate-partner violence exceeds \$5.8 billion every single year. U.S. employers

estimate \$3 to \$13 billion annually that they lose because of domestic violence. And without funding, law enforcement officers, prosecutors, and judges would not have the training and the tools they need to ensure victims' safety.

So I am going to end this, wrap this up to say that when a coordinated response is developed and immediate services are available, victims can escape from life-threatening violence and begin to rebuild their lives.

And I do thank you, Mr. Chairman, Mr. Ranking Member, for listening to me, realizing, again, many Members will come in and everyone has legitimate concerns and budget requests, and I just don't want you to forget the women who are relying on this.

[The prepared statement of Ms. Moore follows:]

PREPARED STATEMENT OF HON. GWEN S. MOORE

Chairman Culberson, Ranking Member Serrano, and distinguished members of the Commerce, Justice, Science Appropriations Subcommittee, thank you for this opportunity to provide testimony on the importance of investing in Violence Against Women Act (VAWA) programs and the Victims of Crime Act (VOCA). I appreciate the subcommittee's ongoing support for these lifesaving programs. On behalf of Wisconsin's Fourth Congressional District, I am pleased to have the opportunity to testify before you to urge your continued support of robust Federal investment in the successful, cost-effective VAWA (\$571 million) and release of the average of the last 3 years deposits from the Crime Victims Fund (CVF) administered by the U.S. Department of Justice in the fiscal year 2019 Budget.

The crimes of domestic and sexual violence are pervasive, insidious and life-threatening. Domestic violence affects more than 12 million women and men every year.¹ Additionally, nearly 15.5 million children are exposed to domestic violence every year.² In Wisconsin, more than 1.8 million individuals have been raped or sexually assaulted.³ The 2017 Wisconsin Youth Risk Behavior Survey found that by the time females hit 12th grade, nearly 13 percent have been raped, over 19 percent have experienced any form of sexual violence, and 10 percent have experienced physical dating violence. More broadly, over 10 percent of students report having been forced into sexual activity. Victims of sexual assault are more likely to struggle professionally and academically while also suffering from depression, post-traumatic stress disorder, substance abuse, and suicide contemplation.

We are experiencing a watershed moment in our country as survivors of gender-based violence are coming forward after living in the shadows for years, even decades. The #MeToo movement, high profile cases, and the national focus on domestic and sexual violence has increased the need for comprehensive community responses and increased investment in resources to meet the needs of survivors. Our message to survivors must be clear: when you come forward for help and support, it will always be available. Our nation has made such phenomenal progress in understanding and addressing violence against women because Congress committed to make an ongoing, annual investment. Victims of these degrading and life-threatening crimes rely on critical services funded through VAWA such as shelter, rape crisis services, legal assistance, counseling, and more. Communities across the country depend upon federal prevention funding to protect our young people. Federal funding of VAWA underpins our nation's improvements to the community-based response to domestic and sexual violence.

Before the passage of VAWA, domestic violence was primarily seen as a "family matter," sexual assault was in the shadows, and perpetrators were rarely arrested or prosecuted. VAWA has improved our nation's response to these horrendous crimes with unprecedented coordination between police officers, victim service providers, prosecutors, judges, and the criminal and civil justice systems. Professionals

¹ National Center for Injury Prevention and Control, Nation Intimate Partner and Sexual Violence survey, available at <https://www.cdc.gov/violenceprevention/pdf/nisvs—report2010-a.pdf>

² McDonald, R., et al. (2006). "Estimating the Number of American Children Living in Partner-Violence Families." *Journal of Family Psychology*, 30(1), 137-142.

³ These are prevalence estimates using randomized, anonymous telephone surveys. Respondents did not necessarily report the crime to law enforcement. National Intimate Partner and Sexual Violence Survey: 2010 Summary Report. Centers for Disease Control and Prevention. 2011. <http://www.cdc.gov/violenceprevention/pdf/nisvs—report2010-a.pdf>

in all capacities are collaborating to reduce violence and meet the needs of survivors. VAWA fosters innovation and promotes best practices across the nation. Additionally, VAWA funds enable states to maximize their resources to have a huge impact on these efforts.

VAWA's work is complemented by VOCA, which funds direct services to victims of all types of crimes, including domestic violence, sexual assault, dating violence and stalking. The infusion of VOCA funding is leading to the creation and growth of innovative programs. Together, VAWA and VOCA have fueled our undeniable national progress towards addressing violence against women. VAWA saved an estimated \$12.6 billion in net-averted costs in its first 6 years alone.⁴ Between VAWA's implementation in 1994 and 2011, serious victimization by an intimate partner declined by 72 percent for women and 64 percent for men.⁵ A study has also demonstrated that an increase in the number of legal services available directly correlates to a decrease in intimate partner homicide.⁶ Another study found that VAWA funds, particularly the ones supporting law enforcement, were associated with a reduction in rape and aggravated assault.⁷

Funding cuts would erode our nation's progress on this critical issue. NNEDV's Domestic Violence Counts (the Census), a 24-hour national snapshot of domestic violence services, revealed that in just one day, 72,245 victims of domestic violence received services; while 11,441 requests for services went unmet due to lack of funding and resources. 65 percent of these requests were for housing. According to a survey by the National Alliance to End Sexual Violence, half of the Nation's rape crisis centers have a waiting list for counseling services and almost 40 percent of programs had a waiting list of a month or more for prevention programming. A study found that when sexual assault victims have the support of an advocate in the aftermath of an assault, they receive more helpful information, referrals and services, and experience less secondary trauma or revictimization by medical and legal systems. They also fare better in the short and long term and are more likely to file a police report than those without such support.⁸

For those individuals who are not able to find safety, the consequences can be dire, including homelessness, continued exposure to life-threatening violence, or death. The terrifying conclusion of domestic violence is often murder, and every day in the U.S. an average of 3 women are killed by a current or former intimate partner.⁹ In my home State, preliminary estimates of the most recent domestic violence homicide data shows that there were at least 54 lives were lost due to domestic violence. These are all deaths that will echo in those families, communities, cities, and the state. Thankfully, with the support of VAWA funding, my home district of Milwaukee is working to upend the tragic trajectory of needless death by implementing a domestic violence lethality assessment project, but not all victims get this life saving assessment.

In addition to the terrible cost to individual victims and families, these crimes cost taxpayers and communities. According to the Centers for Disease Control, based on 1999 figures, the cost of intimate partner violence exceeds \$5.8 billion each year, \$4.1 billion of which is for direct health care services.¹⁰ Translating this into 2016 dollars, the annual cost to the nation is over \$9 billion per year. In addition, domestic violence costs U.S. employers an estimated \$3 to \$13 billion annually.¹¹ Without funding, law enforcement officers, prosecutors and judges would not have

⁴ Kathryn Andersen Clark et al., *A Cost-Benefit Analysis of the Violence Against Women Act of 1994*, 8 *Violence Against Women* 417 (2002).

⁵ FY 2017: Congressional Justification. (2016). United States Department of Justice, Office on Violence Against Women. <https://www.justice.gov/jmd/file/821736/download>; see also Catalano, S. (2013). *Intimate partner violence: Attributes of victimization, 1992–2011* (NCJ 243300). Washington, DC: U.S. Department of Justice, available at <https://www.bjs.gov/content/pub/pdf/ipvav9311.pdf>.

⁶ Reckdenwald, A., & Parker, K.K. (2010). Understanding gender-specific intimate partner homicide: A theoretical and domestic service-oriented approach. *Journal of Criminal Justice*, 38, 951–958.

⁷ Rachel Lilley, *A Nationwide Assessment of Effects on Rape and Assault*, <http://journals.sagepub.com/doi/abs/10.1177/1077801208329146?journalCode=vawa>

⁸ (Campbell, R. (2006). Rape survivors' experiences with the legal and medical system: Do rape victim advocates make a difference? *Violence Against Women*, 12, 30–45.

⁹ Bureau of Justice Statistics (2013). *Intimate Partner Violence: Attributes of Victimization, 1993–2011* (Special Report NCJ243300)

¹⁰ National Center for Injury Prevention and Control. *Costs of Intimate Partner Violence Against Women in the United States*. Atlanta (GA): Centers for Disease Control and Prevention; 2003

¹¹ Bureau of National Affairs Special Rep. No. 32, *Violence and Stress: The Work/Family Connection 2* (1990); Joan Zorza, *Women Battering: High Costs and the State of the Law*, *Clearinghouse Rev.*, Vol. 28, No. 4, 383, 385.

the training and tools they need to ensure victim safety and to hold perpetrators accountable. Over 20 years of progress, learning and investment is threatened if we don't continue to invest in these essential programs.

We know that when a coordinated response is developed and immediate, essential services are available, victims can escape from life-threatening violence and begin to rebuild their lives. To address unmet needs and build upon their successes, VAWA programs and the VOCA fund release should reflect the needs of victims. The progress and promise of these bills can only be fulfilled if the programs receive continued significant investment. I urge you to support full funding for all VAWA programs as you work on the fiscal year 2019 CJS bill. Additional VOCA funds are critically needed to respond to the crisis caused by the dangerous lack of available services for victims of domestic and sexual violence. Additionally, I urge you to continue to provide federal funding stream from VOCA for tribes.

These programs work together to prevent and end domestic and sexual violence. We need to maintain our investment to build upon our successes and bring our progress to scale. Our federal resources create vital, cost-effective programs that help break the cycle, reduce related social ills, and will save our nation money now and in the future.

Mr. CULBERSON. Thank you very much.

There is strong support for both of these programs in the subcommittee and we have always done our very best to make sure to support them strongly, because we know how important the work is that they do and how vital it is for the well being and health of victims of crime, and for women that have suffered as a result of a crime or domestic violence.

So, thank you very much for your testimony. We will do all we can to support these programs.

Ms. MOORE. Thank you so much, Mr. Chairman.

Mr. CULBERSON. Mr. Serrano?

Mr. SERRANO. I agree with the chairman, there is bipartisan support for it.

I just wanted to take a second, if I may, to ask you a quick question, because we have other folks who want to testify, but you say we have made progress and we have made progress, but where have we not made progress, or is it just in general that we have made progress and then left some things behind?

Ms. MOORE. I just really want to thank you for raising that. Our last reauthorization, for example, in the Violence Against Women Act ran into a little bit of a kerfuffle, because we were not as responsive to LGBTQ folks, we were not as responsible to people who were held hostage by their immigrant status, and also Native American women. And so we were able to, by extension create some opportunities for those women to be served, but we need to do better.

I don't believe that we adequately increased the visas for immigrant women who were being held hostage, and beaten and bruised, by their immigration status. There are many fixes that need to be done to ensure that Native women are protected when they are on reservations to give tribal agencies and officials the authority to enforce laws against domestic violence for not only their intimate partner, but for other folks in the family. We have provided protections for the intimate partner, but if there were a daughter or a son who was also being abused, the law does not cover them.

And, again, housing is one of the most critical services that we need. When someone is trying to escape their abuser, they need a

place to go. And often we had housing problems for LGBTQ persons, because many of the shelters want to try to maintain a shelter environment for just safer families or just for women. And so we need to do better at having multi-use housing opportunities for folk.

Mr. SERRANO. Well, thank you so much.

Mr. Chairman, I wanted to ask that question, because she was gracious enough to tell us that we have made progress and we have made. This committee has played a major role, your leadership has played a major role, but every so often we forget some people in the mix, and she made it very clear which are the people we have to concentrate on, and that is important.

Thank you.

Mr. CULBERSON. Thank you, Mr. Serrano. Every victim of a crime deserves to be protected.

Mrs. Roby, any questions?

Ms. MOORE. Hi, Mrs. Roby.

Mrs. ROBY. Hi.

Mr. CULBERSON. Thank you very much for joining us today.

STATEMENT OF HON. BONNIE WATSON COLEMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. CULBERSON. Thank you for joining us this morning. We are pleased to recognize Representative Bonnie Watson Coleman of the 12th District of New Jersey for your testimony.

Ms. WATSON COLEMAN. Thank you, Chairman.

Mr. CULBERSON. Thank you very much for joining us.

Ms. WATSON COLEMAN. Thank you, Chairman Culberson and Ranking Member Serrano. And good morning to you, Mrs. Roby.

I really appreciate the opportunity to speak on this important and bipartisan topic, reducing the prison population and offering effective reintegration programs to all people in BOP custody.

The United States has seen a steady decrease in the Federal population in our system. In 2013, there were 220,000 people in BOP custody; today, there are 183,937. However, this positive trend has also highlighted a problem: roughly 40 percent of Federal inmates released are rearrested within 3 years.

Fortunately, there are already established methods for changing this, including the use of residential reentry centers. Studies show that former inmates who are employed in high quality jobs and have close ties with family members are less likely to become part of this statistic and recidivate. Reentry centers help build those skills and experiences.

Unfortunately, in 2017, the Department of Justice announced that it would cut funding for 16 residential reentry centers. These cuts mean that instead of participating in programs that are designed to help ease a person's transition into post-prison life, they are instead kept in a prison environment, in a prison routine, away from the social support of family and friends, and left with zero training or assistance when they walk out on day one.

Depriving people of the opportunity to obtain job and life skills not only further punish and hamstring the individual, it also

threatens public safety by increasing the likelihood that the individual re-offend.

Over the past few years, we have noted the inadequacies of the DOJ Federal Bureau of Prison's Release Preparation Program, RPP, including a 2016 review that showed a low RPP completion rate across the board and highlighted the poor coordination between BOP and other Federal agencies, and concluded more must be done to ensure that the RPP meets the needs of its inmates.

The Federal Government cannot afford to take a step back in the important progress we have been making to improve outcomes in reentry.

In addition to making the investments in effective programs, both the administration and Congress alike would benefit from a better understanding of our prison population to maximize effectiveness, target services, and limit waste. This is why I am requesting that this subcommittee include report language in its fiscal year 2019 appropriations bill that would require the Department of Justice to evaluate the prison population, disaggregated by race, gender, age, and nationality, as well as the location of the person's custody. With this information, we can better assess our continued effectiveness at reducing the Federal prison population.

In addition, I request the inclusion of language that would require the DOJ to produce guidelines and policies on effective reintegration programs in all of its reentry centers.

This type of investment in people will help to further the committee's efforts to support programs that not only reduce the ballooning costs of keeping so many people behind bars, but also improve our public safety.

I will submit additional comments for the record, but want to be respectful of the committee's time today.

Again, thank you to Chairman Culberson and Ranking Member Serrano for allowing this testimony.

Mr. CULBERSON. Thank you, Ms. Watson Coleman. I appreciate your testimony here today. And of course we are always interested in and focused on doing all we can to reduce recidivism, and encourage people to become productive members of society again once they have paid their debt to society.

So, we thank you very much for coming in today.

Ms. WATSON COLEMAN. Thank you, Mr. Chairman.

Mr. CULBERSON. Mr. Serrano?

Mr. SERRANO. Yes, I also want to thank you for your testimony and for the numbers you gave us.

We are all committed, those of us that we deal with these issues like you and myself and others, to make sure that we lower our prison population and we also lower the number of people who go back into prison, and that is something we have to say. This country has too many people in prison, and for a country that is so advanced, it is a sort of mark that we cannot figure out, and we have to work on it, and we are committed to it.

So, thank you for your testimony.

Ms. WATSON COLEMAN. Thank you, Mr. Serrano. Thank you very much.

Mr. CULBERSON. Thank you, Mr. Serrano.

Any questions, Members?

Thank you very much for your testimony.

Ms. WATSON COLEMAN. Thank you for allowing my testimony.

Mr. CULBERSON. Absolutely.

Ms. WATSON COLEMAN. Have a nice day.

Mr. CULBERSON. We look forward to hearing from you. Thank you very much.

[The prepared statement of Mrs. Watson Coleman follows:]

PREPARED STATEMENT OF HON. BONNIE WATSON COLEMAN

Thank you Chairman Culberson and Ranking Member Serrano for allowing me to speak on this important and bipartisan topic—reducing the prison population and offering effective reintegration programs to all people in BOP custody.

The United States has seen a steady decrease in the federal inmate population. In 2013 there were 220,000 people in BOP custody. Today there are 183,937. However, this positive trend has also highlighted a problem: roughly 40 percent of Federal inmates released are rearrested within 3 years. But there are already established methods for changing this. Studies show that former inmates who are employed in high quality jobs and have close ties with family members are less likely to become part of this statistic and recidivate. Federal inmates nearing the end of their release are eligible for reintegration courses in residential re-entry centers. It is here that inmates can receive employment counseling, job placement and financial management assistance to prepare them for productive lives after their sentences.

Unfortunately in 2017, the Department of Justice announced that it would cut funding for 16 residential re-entry centers. These cuts mean that instead of participating in programs designed to help ease a person's transition into post-prison life, they are instead kept in a prison routine, away from the social support of family and friends and left with zero training or assistance when they walk out on day one. Depriving people of the opportunity to obtain job and life skills not only further punish and hamstring the individual, it also threatens public safety by increasing the likelihood that the individual will reoffend.

In 2016 the Department of Justice reviewed the Federal Bureau of Prison's Release Preparation Program (RPP). The department concluded that more must be done to ensure that the RPP meets the needs of inmates. The review also showed a low RPP completion rate across the board, and it highlighted the poor coordination between BOP and other federal agencies. Mr. Chairman, more must be done ensure that there is a standardized RPP curriculum, and that RPP courses target specific risk factors for each inmate.

The Federal Government cannot afford to take a step back in the important progress we have been making to improve outcomes in reentry. In addition to making the investments in effective programs both the Administration and Congress alike would benefit from a better understanding of our prison population to maximize effectiveness, target services, and limit waste. An important way for the Bureau of Prisons to measure its effectiveness in reducing recidivism is to have an accurate accounting of the prison population. With this information, we can better provide people who are re-entering society with effective programs that give them the confidence and tools to succeed once they have served their time.

That is why I am requesting that this subcommittee include report language in its fiscal year 2019 Appropriations Bill that would require the Department of Justice to evaluate the prison population, disaggregated by race, gender, age, and nationality, as well as the location of the person's custody. With this information, we can better assess our continued effectiveness at reducing the Federal prison population. In addition, I request the inclusion of language that would require the DOJ to produce guidelines and policies on effective reintegration programs in all residential re-entry centers.

This type of investment in people will help to further the committee's efforts to support programs that not only reduce the ballooning costs of keeping so many people behind bars, but also improve public safety.

Thank you again Chairman Culberson and Ranking Member Serrano for allowing this testimony.

**STATEMENT OF HON. J. FRENCH HILL, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF ARKANSAS**

Mr. CULBERSON. We are pleased to recognize the gentleman from Arkansas, Congressman French Hill, for his testimony today.

Thank you for joining us.

Mr. HILL. Thank you, Mr. Chairman, thank you, Ranking Member Serrano, for letting me appear today to talk about a similar-theme subject that you just heard from my colleague. I want to talk about our historically black colleges and universities and their impact on curbing recidivism in our prison population.

Today in America, according to the Federal Bureau of Prisons, we spend an average of \$32,000 a year per inmate on a prison population that dwarfs, as you all very well know, the rest of the world. Each year, more than 600,000 people leave our prisons, but three quarters of them recidivate within 5 years. This is detrimental to American families, American communities, and to our economy.

How do we hold offenders accountable for their actions without denying them a return as a contributing member of society?

In Arkansas, Arkansas Baptist College, a historically black college in my district, along with the only 2-year private historically black college and university in my district, Shorter College, both have worked hard on this subject. ABC has partnered with the Arkansas Department of Community Correction to provide an entrepreneurship program for prison inmates during their last 6 months of their sentence. The program serves as a transitional phase for inmates to gain academic and spiritual development, and encourages them to continue in their education at the school after their release.

Last year, I introduced legislation that would establish a pilot program at the U.S. Department of Justice to provide grants to HBCUs to implement educational programs for eligible offenders and help them successfully transition back to their communities.

The average cost of attending an HBCU is around \$16,000 a year. We spend upwards of \$80 billion every year on warehousing inmates when we could be saving valuable taxpayer funds.

I believe we must look at this as not only a matter of financial cost, but one of human cost, and that is why I urge your committee to include the following language in its bill report to support the efforts of our HBCUs to address this critical need. The language reads, "The committee supports the U.S. Department of Justice's coordination and collaboration with historically black colleges and universities to provide educational programs for recently released and soon to be released criminal offenders to assist them in obtaining skills that will help them successfully transition back into their communities and reduce recidivism rates."

I met for the last 3 years consistently with people in Little Rock and the surrounding area about this topic, about how do we increase transition in our prison system, both in Community Corrections and in the Department of Corrections, and it is a huge challenge for every governor and every community.

Each year, in the State prison system, we release about 10,000 people in the State. And I would say 30 percent of them maybe have a plan due to a previous life, so 60 percent don't. They all

have drug and alcohol abuse issues, they all need to raise the scale of what we are doing to get them ready to transition and have a transitional plan, and I think the HBCUs in our country are a major contributor to that.

The second and final thing I would like to address to the committee today is on the subject of mental health. As you know, the Congress has been quite active on this topic since we passed 21st Century Cures and there is no doubt, on a bipartisan basis, this is an important issue that we are all concerned about. I would like to discuss the Mentally Ill Offender Act.

Today in America, a behavioral health epidemic has manifested in bigger, more increased drug usage, rising suicide rates, and a nationwide life expectancy that has fallen for the second year in a row.

Too many times, Americans suffering from mental illness turn to self-medication, using alcohol, prescription painkillers, and illegal substances. On average, opioid use kills 115 Americans a day. We must take strong steps to address this epidemic through comprehensive strategies and work to ensure that our State and local governments are equipped to care for our nonviolent offenders that have mental health and substance abuse disorders, which in my survey of Arkansas inmates is all of the above.

I hope you will give full and fair consideration to funding the Mentally Ill Offender Act, which provides grants to those overburdened State and local governments to support mental health courts, training to staff, and mental health and substance abuse treatment services, with the purpose of better addressing the needs of nonviolent offenders. By supporting these entities and addressing the substance abuse and mental health issue of nonviolent offenders, we can lower the impact of the opioid epidemic and decrease recidivism.

I appreciate the committee in your consideration of these requests and the opportunity to appear before you today. Thank you very much.

[The prepared statement of Mr. Hill follows:]

PREPARED STATEMENT OF HON. J. FRENCH HILL

Chairman Culberson and Ranking Member Serrano thank you for the opportunity to testify this morning.

HBCUS AND RECIDIVISM

Today, in America, according to the Federal Bureau of Prisons, we spend an average of \$32,000 a year per inmate on a prison population that dwarfs that of the rest of the world.

Each year, more than 600,000 people leave our prisons, but three-quarters of them recidivate within 5 years. This is detrimental to American families, American communities, and to the American economy.

How do we hold offenders accountable for their actions without denying them a return as contributing members of society?

In Arkansas, Arkansas Baptist College has partnered with the Arkansas Department of Community Correction to provide an entrepreneurship program for prison inmates during the last 6 months of their sentence. The program serves as a transition phase for inmates to gain academic and spiritual development and encourages them to continue in their education at the school after their release.

Last year, I introduced legislation that would establish a pilot program at the U.S. Department of Justice to provide grants to Historically Black Colleges and Uni-

versities (HBCU) to implement educational programs for eligible offenders and help them successfully transition back into their communities.

The average cost of attending an HBCU is around \$16,000 per year. We spend upwards of \$80 billion every year on warehousing inmates, when we could be saving valuable taxpayer funds. I believe that we must look at this as not only a matter of financial cost, but also as one of human cost.

That is why I urge your committee to include the following language in its bill report to support the efforts of our HBCUs to address this critical need:

The Committee supports the US Department of Justice's coordination and collaboration with Historically Black Colleges and Universities to provide educational programs for recently released and soon to be released criminal offenders to assist them in obtaining skills that will help them successfully transition back into their communities and reduce recidivism rates.

Thank you for your consideration of this request.

MENTAL HEALTH

I would also like to discuss mental health and support for the Mentally Ill Offender Act. Today, in America, a behavioral health epidemic has manifested in increased drug usage, rising suicide rates, and a nationwide life expectancy that has fallen for the second year in a row.

Too many times, Americans suffering from mental illness turn to self-medication using alcohol, prescription painkillers, and illegal substances. On average, opioid use kills 115 Americans a day. We must take strong steps to address this epidemic through comprehensive strategies and work to ensure that our State and local governments are equipped to care for non-violent offenders with mental health and substance abuse disorders.

I hope that you will give full and fair consideration to funding the Mentally Ill Offender Act, which provides grants to these overburdened state and local governments to support mental health courts, training to staff, and mental health and substance abuse treatment services with the purpose of better addressing the needs of non-violent offenders. By supporting these entities in addressing the substance abuse and mental health issue of non-violent offenders, we can lower the impact of the opioid epidemic and decrease recidivism.

I appreciate your consideration of this request and thank you for the opportunity to testify.

Mr. CULBERSON. Thank you very much for joining us today. They are both very worthwhile ideas. And I appreciate very much your authoring this legislation and bringing it to our attention, helping to do all we can to encourage inmates to rejoin society after they have paid their debt and this is a particularly good way to do that.

So, thank you very, very much.

Mr. Serrano?

Mr. SERRANO. Thank you for your testimony. And we take very seriously on a bipartisan basis on this subcommittee the idea of reducing prison population and also making sure that people reintegrate into society properly, and so your words resonate with us and we take them very seriously. We will be working on that in a joint fashion as time goes on during the months ahead.

We thank you.

Mr. HILL. I thank the ranking member.

Mr. CULBERSON. Members, any questions?

Congressman Hill, thank you very much.

[Additional material submitted for inclusion in the record follows:]

SUBMITTED STATEMENT OF HON. JACKY ROSEN, A REPRESENTATIVE
IN CONGRESS FROM THE STATE OF NEVADA

Chairman Culberson, Ranking Member Serrano, and Members of the Commerce, Justice, Science, and Related Agencies Subcommittee, thank you for the opportunity to submit written testimony for the record in support of STEM programs at the National Science Foundation (NSF).

As a former systems analyst, I know that STEM and computer science are central to our country's economic growth, employment, and commitment to innovation. In Nevada and across the country, we are continuing to see a huge demand for workers in STEM fields, with software developers, mathematicians, and health aides among the fastest growing occupations. Many Nevada businesses are facing a worker shortage, unable to find the talent they need to continue to grow the local economy.

That is why my top two requests in the fiscal year 2019 Commerce, Justice, Science, and Related Agencies Appropriations bill are:

1. Fully funding NSF's Computer and Information Science and Engineering (CISE) research directorate
2. Ensuring that NSF focuses on engaging our Nation's children in STEM education as early as possible.

CISE supports research in computing, communications, information science, and engineering. Through their NSF-supported work, our Nation's scientists have been able to develop innovative solutions in energy, advanced manufacturing, national security, healthcare, and personal communications.

CISE also provides advanced cyber infrastructure for all areas of science and engineering, and it contributes to the education and training of computer engineers—ensuring our future generations are well-equipped with the skills they need in an increasingly competitive global market.

In order for our workforce to continue to push the boundaries, we must invest in research and training programs at NSF. CISE is particularly important because it provides funding for cutting-edge computing and information science research—which is critical to innovation in nearly all lines of work from business to government.

Another successful NSF program is the Discovery Research PreK–12 program, which seeks to enhance the learning and teaching of STEM and address the immediate challenges that are facing PreK 12 STEM education. However, the majority of its current research focuses on students in middle school and older.

Studies have found that children who engage in scientific activities from an early age develop positive attitudes toward science and are more likely to pursue STEM careers later on. In fact, interviews with current graduate students and scientists found that the majority of them reported that their interest in science began before middle school.

That is why I urge this subcommittee to include language in your appropriations bill to direct NSF to consider age distribution when awarding Discovery Research PreK 12 grants, in order to more equitably allocate funding for research on early childhood. Since having access to hands-on STEM experiences as early as possible is important for continued interest, including this language below will ensure that NSF focuses on engaging our Nation's children in STEM education even younger.

Members already expressed their strong support for such a policy when similar language unanimously passed the House as part of my bipartisan Building Blocks of STEM Act (H.R. 3397), which is now awaiting action in the Senate.

Thank you for your consideration of these proposals to make greater investments in STEM and help us meet the demands of our 21st century economy.

SUBMITTED STATEMENT OF HON. JUDY CHU, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF CALIFORNIA

Chairman Culberson, Ranking Member Serrano, and members of the committee; Thank you for considering my testimony in strong support of the National Aeronautics and Space Administration (NASA). Specifically, I request \$2,234,700,000 in funding for the Planetary Science Mission Directorate and support for all ongoing and upcoming missions taking place at the Jet Propulsion Laboratory (JPL). JPL, operated by the California Institute of Technology (Caltech), has represented the vanguard of American space exploration and research since 1958—the first time an American craft reached space—and continues to make groundbreaking discoveries that pave the way for mankind's exploration of our solar system and beyond.

This year marks the 60th anniversary of Explorer 1, America's first entry into space, built by JPL/Caltech before the establishment of NASA. The satellite carried history's first science experiment to occur in space, confirming the existence of the Van Allen radiation belt around Earth. Since then, JPL has been responsible for many of mankind's most impactful achievements in space exploration. The Voyager Mission—humanity's deepest venture into the universe—continues to provide data from interstellar space over 401 years after its launch. Galileo, which plunged into Jupiter's crushing atmosphere on Sept. 21, 2003, changed our understanding of the solar system when it discovered the possibility of a vast ocean beneath the icy crust of the moon Europa—a body JPL will explore in the next decade. In September 2017, we witnessed the “grand finale” of the Cassini mission to Saturn and its moons. The spacecraft discovered seven moons, measured Saturn's rotation, and became the first craft to orbit the planet.

Robust Federal funding is critical to JPL's mission of continuing their groundbreaking Mars exploration missions. When JPL's Pathfinder rover landed on the surface of Mars in 1997 as part of NASA's Mars Exploration Program, the United States became the first country to successfully navigate the surface of the red planet. Since then, JPL has conducted over twenty years of uninterrupted Mars exploration. Mars exploration missions study the planet's climate and geology, and have even found evidence that water once flowed abundantly. These discoveries lay the groundwork for a manned mission to Mars in the future. In May 2018, the In-Sight spacecraft will take the pulse of Mars, drilling below the planet's surface to measure heat flow and listening for quakes with the first seismometer to travel beyond Earth. Mars 2020, NASA's next Mars rover mission, will collect surface samples to cache in advance of the future Mars Sample Return mission.

JPL's discoveries are not limited to our planetary neighbors. The Gravity Recovery and Climate Experiment (GRACE) mission tracks water flows from Earth's orbit by measuring gravitational pull of water. Its data was instrumental in helping California monitor subsidence and water usage during one of the State's worst droughts in history. The twin spacecraft gathered precise data about glaciers, aquifers, and other water sources by measuring how the water's fluctuating mass affected passing satellites. GRACE's data increased the accuracy of environmental forecasting and monitoring worldwide, and its successor, GRACE-FO, promises to continue and deepen that legacy.

Federal investment in space exploration results in wide-reaching impacts far beyond NASA. Technologies developed at JPL have applications here on Earth, spurring development through spinoffs and technology transfers. Here are some examples:

1. The complementary metal oxide semiconductor (CMOS) image sensor, developed by JPL scientist Eric Fossum, would become NASA's most used spinoff technology. The technology now dominates the digital imaging industry and is responsible for cell phone cameras and high-definition video.
2. JPL's Airborne Snow Observatory (ASO) provides accurate estimates of the amount of water in California's Sierra Nevada snowpack, and measures the rate of water runoff using remote sensing technology. The technology provides real-time, high resolution maps to complement manual measurements.
3. JPL's FINDER, or Finding Individuals for Disaster and Emergency Response, enables first responders to rescue victims trapped beneath rubble after disasters like earthquakes. The suitcase-size device uses low-power microwave radar to detect breathing and heartbeats, even beneath several feet of debris and rubble. FINDER can even distinguish between humans, animals, and mechanical movement.
4. JPL's development of precise GPS measurements enabled John Deere to build the first autonomous tractors for consumers. Self-guiding tractors now work an estimated one-third of all farmland in North America.
5. JPL developed the technology behind the infrared thermometer while building the Infrared Astronomical Satellite (IRAS). The thermometer technology resulting from that mission is now ubiquitous in doctors' offices and households worldwide.

Your continued support for NASA science missions will ensure American leadership in space, science, and exploration. The next generation of discoveries depends on strong funding, so I urge you to recognize the important work being done at JPL and NASA space centers across the country by appropriating the funds they need to carry out their work.

Statements of Interested Individuals and Organizations

Testimony for the Record
Ms. Margaret Spring
Vice President of Conservation & Science
and
Chief Conservation Officer
Monterey Bay Aquarium, Monterey, California

Subcommittee on Commerce, Justice, Science and Related Agencies
Committee on Appropriations
U.S. House of Representatives
Washington, D.C.

April 27, 2018

The Monterey Bay Aquarium is pleased to submit this statement to the Subcommittee in support of funding for the **National Oceanic and Atmospheric Administration (NOAA)** as it develops the FY 2019 Commerce-Justice-Science Appropriations Act.

The mission of the Monterey Bay Aquarium is to inspire conservation of the ocean. We carry out this mission by providing an unparalleled educational experience that connects over 2 million visitors per year to some of the most striking species and ecosystems on our planet. The Aquarium uses innovative exhibits and educational programs to demonstrate the connection between the ocean and our human existence - from the air we breathe to the weather patterns and resources that drive our multi-billion dollar blue economy.

In recent years, we identified strategic conservation priorities to address some of the most pressing challenges to ocean health, including plastic pollution, protecting wildlife and ecosystems, sustainable fisheries and aquaculture, climate change and partnerships. Science underpins our approach to ocean conservation challenges, and we seek a collaborative approach that encourages partnerships with the private sector, governments, academia and other stakeholders.

The Aquarium recognizes NOAA for its critical role as a lead science agency and information provider that supports a millions of American businesses, citizens and our public safety every day of the year. NOAA's research, services and programs position America for success by providing essential information and tools that shape the way we live today and help us to predict conditions for the future. **The Aquarium applauds the Committee for their leadership in support of NOAA in the FY18 omnibus legislation, including balanced investments across ocean and atmospheric programs. In addition, we appreciate the Committee's support for priority programs, including eliminating illegal, unreported and unregulated (IUU) fishing, marine debris and NOAA Education. As we turn to FY19, we urge the Committee to continue to support this balanced and strategic approach, and to at least maintain FY18 funding levels across NOAA's portfolio.**

The Aquarium has identified several high-impact and strategic investments within NOAA that underpin efforts to better understand and manage ocean resources. We urge the Subcommittee to fully support these programs as it develops the FY 2019 appropriations bill:

Illegal, Unreported, and Unregulated (IUU) Fishing/ Seafood Traceability – Global losses attributable to IUU fishing are estimated to be between \$10 and \$23 billion annually, and has links to other forms of criminal activity, as well as slavery and human rights abuses. IUU fishing also undermines economic opportunities for legitimate fishermen in the U.S. and has global implications for national security and food security.

In recent years, Congress passed several bills that authorized and funded federal programs to fight IUU fishing. These bills passed with broad bipartisan support, highlighting the importance of these activities to American businesses, consumers and the public. The FY18 omnibus bill included \$3.8 million for IUU programs, providing critical support to implement the new U.S. Seafood Import Monitoring Program (SIMP) and increased inspection and enforcement activities. In addition, the bill included an important provision requiring NOAA to add shrimp and abalone to the U.S. Seafood Import Monitoring Program by the end of 2018. Shrimp is the top seafood import by volume and value, and inclusion of this species in SIMP will provide new transparency within foreign supply chains that have been implicated in IUU fishing and human rights abuses. However, the FY18 funding will expire in September 2018 and additional funding will be required to conduct outreach to industry, ensure consistent regulations and implement the new provisions in 2019.

The Aquarium urges the Subcommittee to provide at least an additional \$5 million specifically for activities to address IUU fishing in FY 2019. The funding will ensure strong implementation of the Seafood Import Monitoring Program in 2019, including the addition of shrimp and abalone into SIMP, as well as improved international enforcement and port security responsibilities under the SAFE Ports Act. These funds will improve the ability of the federal government to identify, inspect and enforce against imported IUU products coming into U.S. commerce and will enhance efforts to incentivize foreign compliance with international laws.

Bycatch Reduction and Highly Migratory Species – NOAA Fisheries (NMFS) supports research on technologies that reduce bycatch and bycatch mortality. Reducing bycatch can save fishing jobs by preventing fishery closures due to interactions with endangered species or attainment of strict bycatch quotas. This funding supports the Bycatch Reduction Engineering Program (BREP) external competitive grants program, which supports innovative gear designs and fishing techniques to minimize bycatch. **We recommend the Subcommittee include at least \$2.5 million for bycatch reduction competitive grants to non-Federal researchers for the development and implementation of practical bycatch solutions. The grants support research and collaborative projects with U.S. fishermen to develop improved fishing practices and innovative gear technologies.**

In addition, we note the importance of robust funding for research and management of highly migratory species, including Pacific bluefin tuna and shark species managed under international agreements. **We urge the Subcommittee to include funding to address highly migratory**

fisheries research and management, including funding for the Pacific Fishery Management Council and NOAA's Southwest Fishery Science Center. This funding should ensure parity for highly migratory fisheries research and management among the Atlantic and Pacific regions.

Marine Aquaculture – The U.S. imports over 90% of its seafood, about half of which is farmed. While aquaculture globally has grown dramatically over the past 30 years, U.S. production remains low. As demand for seafood continues to rise, aquaculture presents an opportunity to meet this demand, create jobs and support sustainable development that can achieve a high environmental standard. **We request that the Subcommittee to fully fund NOAA's marine aquaculture programs at least at FY18 levels within NOAA Fisheries and in the Office of Oceanic and Atmospheric Research (OAR) through the Sea Grant Program.**

Marine Debris – Our ocean is at increasing risk from growing levels of plastic pollution. Studies estimate that an average of eight million metric tons of plastic enter the global ocean each year. Unless we curb the flow, this number is expected to double by 2025 – posing a risk to water quality, wildlife and human health. Ocean plastic pollution is an issue that is especially relevant to our millions of visitors and to Californians in general, many of whom have cleaned up local beaches and reduced the use of plastic bags in grocery stores.

NOAA's Marine Debris program offers competitive grants for aquariums and others to work with federal, state, and local partners on marine debris education and reduction projects. The Monterey Bay Aquarium has received \$52,306 from this program for our Ocean Plastic Pollution Summit for Teachers. Over 100 pre-K to 12th grade teachers from throughout California have participated in the Summit and follow-up activities, learning how to use the issue of ocean plastic pollution to engage their students in marine conservation and science. **We request continued support for the NOAA Marine Debris Program of at least \$8 million in FY 2019.**

National Marine Sanctuaries and National Monuments – NOAA's Office of National Marine Sanctuaries serves as the trustee for a network of underwater parks encompassing more than 600,000 square miles of marine and Great Lakes waters. The network includes a system of 13 national marine sanctuaries, as well as Papahānaumokuākea and Rose Atoll marine national monuments. Few places on the planet can compete with the diversity of the National Marine Sanctuary System, which protects America's most iconic natural and cultural marine resources. The system works with diverse partners and stakeholders to promote responsible, sustainable ocean uses that ensure the health of our most valued ocean places.

America's underwater national treasures conserve some of the Nation's most critical natural, historic and cultural resources such as the USS Monitor, Midway Island, sacred heritage sites for Native Americans, and some of the largest and oldest corals in the world. They are home to millions of species, preserve more than 300 shipwrecks and our nation's maritime heritage, and promote public access for exploration and world-class outdoor recreation and enjoyment for future generations. They generate \$8 billion annually in local economies and support numerous jobs and businesses in the fishing, tourism, recreation, and scientific research sectors. Sanctuary visitor centers, vessels and facilities are key assets for communities – they attract millions of

visitors to the coasts every year. In addition, they stimulate public-private partnerships on emerging technologies, new research and hands-on educational learning opportunities. **We request the Subcommittee fund the National Marine Sanctuaries program with sufficient funding to support the current national marine sanctuaries as well as Papahānaumokuākea, Rose Atoll and New England Coral Canyons marine national monuments.**

NOAA Office of Education – The Aquarium provides a wide variety of educational experiences for students, teachers, and families all designed to inspire ocean conservation. We support local schools by hosting field trips and hands-on learning experiences for students, as well as offering professional development activities for teachers. Our programs dovetail with NOAA’s educational programs that support the national effort to educate and train our workforce for the future. **We urge the Subcommittee to reject the Administration’s plan to terminate NOAA education programs and request funding at least at the following levels: \$8 million for the Environmental Literacy Grants Program (including ocean education grants) and \$12 million for the Bay, Watershed, Education and Training Program.**

Marine Mammal Commission –The Marine Mammal Commission (MMC) is an independent government body established by Congress to advance the conservation of marine mammals and their environment. Aquariums play a critical role in marine mammal conservation through broad-based public education and outreach activities, cutting-edge research projects and advocacy for strong policies to protect our oceans. **We request that the Subcommittee reject the Administration’s proposal to terminate the MMC and at least maintain funding at \$3.4 million.**

John H. Prescott Marine Mammal Rescue Assistance Grant Program – The Prescott Program provides an important source of grant funding and cooperative agreements to recover stranded marine mammals and turtles. The program covers a variety of activities related to marine mammal strandings, including recovery and treatment (i.e., rehabilitation), data collection from living or dead animals, facility upgrades, operational costs, staffing and training. **We call on the Subcommittee to reject the Administration’s proposal to terminate the Prescott Program and request funding of at least \$4 million.**

The Aquarium fully appreciates the extreme budget constraints confronting the Congress and the Executive Branch, and the intense scrutiny that must be applied to all federal programs. Nevertheless, we believe ocean conservation and science programs are an investment in the future health, well-being, and economic competitiveness of our Nation. Thank you for your consideration of these requests for the FY19 budget and we look forward to working with you to ensure strong support for these important ocean research and conservation programs.

Testimony of Kevin A. Sabet, Ph.D.
President and CEO of Smart Approaches to Marijuana (SAM)
House Appropriations Committee
Subcommittee on Commerce, Justice, Science, and Related Agencies
Marijuana Industry Protection in the
Fiscal Year 2019 CJS Appropriations Act

April 27, 2018

Thank you, Chairman Culberson and Ranking Member Serrano for the opportunity to submit testimony about proposed language to protect the marijuana industry from federal enforcement by the Department of Justice in the FY19 CJS Appropriations Act. I represent Smart Approaches to Marijuana (SAM), the leading non-partisan national organization offering a science-based approach to marijuana policy.

Expanded marijuana use appears to be exacerbating the opioid crisis. In a study of 34,000 individuals, marijuana users were discovered to be more than two times as likely to abuse prescription opioids or initiate non-prescription use of opioids.ⁱ This is in stark contrast to several population studies that claim marijuana legalization is correlated with reduced opioid deaths. These population studies suffer from the ecological fallacy and fail to properly account for concurrent actions taken to reduce mortality.ⁱⁱ Tragically, more Coloradans died from drug overdoses in 2017 than in any year in the state's history, as overdose deaths in all categories rose.ⁱⁱⁱ

Accordingly, SAM requests the absence of medical marijuana language in the Fiscal Year 2019 Commerce, Justice, Science, and Related Agencies Appropriations Act. In previous years, this language has stated:

None of the funds made available in this Act to the Department of Justice may be used, with respect to any of the States of Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming, or with respect to the District of Columbia, Guam, or Puerto Rico, to prevent any of them from implementing their own laws that authorize the use, distribution, possession, or cultivation of medical marijuana.

Both the Fiscal Year 2016 and 2017 budgets submitted by President Obama and the Fiscal Year 2018 and 2019 budgets submitted by President Trump requested the removal of this language.

Rather than change the law—which is in Congress’s power to do—the medical marijuana language merely refuses to enforce the law. In this sense, the medical marijuana language inhibits the President from taking care that the laws be faithfully executed.

Several other considerations also strengthen the case for removal of the medical marijuana language, as follows.

A. Marijuana Is Not a States' Rights Issue

Ultimately, those who argue that the commercial sale of marijuana is a states' rights issue are arguing one of two things: either the entire Controlled Substances Act (CSA) is unconstitutional, or marijuana is completely harmless and should be removed from scheduling under the CSA completely. Both arguments are incorrect.

1. All justices in Gonzalez v. Raich recognize the constitutionality of CSA

The Supreme Court answered the most fundamental questions about the ability of Congress to preempt state law and ban the growing, distribution, and sale of marijuana in the 2005 case of *Gonzales v. Raich*. Raich's attorneys argued that Congress did not have the power to regulate her growing of marijuana plants under the Interstate Commerce Clause. The Supreme Court ruled 6-3 against her that Congress could indeed ban marijuana, even for personal use under state medical marijuana programs.ⁿAs Justice Scalia stated in his concurring opinion, "In the CSA, Congress has undertaken to extinguish the interstate market in Schedule I controlled substances, including marijuana. The Commerce Clause unquestionably permits this."^{iv} The Supreme Court has interpreted the Controlled Substances Act (CSA) to apply to all facets of marijuana cultivation and distribution. Even in the dissents to the *Raich* case, the justices acknowledged the constitutionality of the CSA when it applies to the commercial sale of marijuana—something that was not at issue in that case but constitutes an integral part of present-day marijuana legalization programs.

2. Current science argues against removing marijuana from CSA

Current medical literature and statistical surveys are clear: marijuana is a drug of abuse, is physiologically and psychologically addictive, and causes clear negative effects in both individuals and society. Regular use of marijuana can cause permanent changes in the brain, increasing the mass of the nucleus accumbens (reward center),^v similar to the effect of other addictive drugs. Cessation of use may result in physical withdrawal symptoms, including cravings, decreased appetite, sleep difficulty, and irritability.^{vi} Surveys show that regular marijuana users report more severe consequences than alcohol in most categories, including serious problems at work or school, taking time away from work or school, causing problems with family or friends, or spending a lot of time getting/using drugs.^{vii} Drugged driving fatalities have markedly increased in states which have legalized marijuana, posing a hazard to the general public.^{viii} The current body of evidence strongly reinforces current classification of marijuana as a controlled substance under the Controlled Substances Act, particularly with respect to modern, high-potency marijuana and extracts.

B. Existing State Medical Marijuana Programs Are a Failed Experiment

1. Medical marijuana states are hubs for black market activity

A recent report by the Oregon State Police reveals that: Oregon is producing three to five times the amount of marijuana than can be consumed in state; 70% of the sales of marijuana are occurring in the black market; marijuana is being diverted out of state as far as Florida and even

internationally; and the counties with the highest rates of out of state diversion also have the most medical marijuana grower and dispensary registrants^{ix}. Colorado's marijuana program has similarly been abused. The state initially allowed cultivation of up to 99 marijuana plants at home, which resulted in both drug cartels and domestic drug dealers hiding in plain sight, shipping product out of state to more lucrative illegal markets. While the state has recently reduced the number of allowed plants, police are so inundated with reports of illegal grows that they can only track down a fraction of the tips they get.^x As Colorado Attorney General Cynthia Coffman has said, "The criminals are still selling on the black market. ... We have plenty of cartel activity in Colorado [and] plenty of illegal activity that has not decreased at all."^{xi}

2. Medical marijuana programs devolve into de facto legalization

Because of the wide variety of conditions medical marijuana is authorized to treat, and a number of unscrupulous doctors who are willing to recommend marijuana, anyone who wants medical marijuana can get it in many states. Marijuana is recommended to "treat" conditions as diverse as insomnia, headaches, writer's cramp, and anxiety. A 2017 survey of Oregon's medical marijuana program showed that just 1.5% of participating physicians (26 out of 1,715) were responsible for over 75% of the medical marijuana card applications (47,354 out of 62,903)^{xii}. Other surveys have revealed that under 5% of the holders of medical marijuana cards have cancer; instead, the average medical marijuana patient is a 32-year old white male with no history of life-threatening disease and a history of drug and alcohol abuse.^{xiii} Easy medical marijuana access is often publicly advertised on billboards or signs, with the most commonly cited example being the "Dr. Reefer" billboard in Las Vegas, NV.

C. Legitimate, FDA-Approved Medications Derived from the Marijuana Plant Help People More than Unregulated State Programs

1. Existing law can be improved to research medications without rescheduling marijuana

It is possible under existing law to research medications that can be derived from the marijuana plant. In fact, several such medications already exist. Marinol is a synthesized form of THC and is a Schedule III drug which is used to stimulate appetite in cancer and AIDS patients. Sativex is an oral spray with isolated cannabinoids used to treat spasticity in MS patients. Epidiolex is an isolated CBD oil medication that is in the final stage of FDA approval for treating severe seizures in children. This purified CBD medication has been tested for safety and drug interactions, with over 1,100 families accessing the medication through FDA's Early Access Program for their suffering children. The FDA voted unanimously for preliminary approval of the drug on April 19, 2018, and final approval is expected in June of 2018.

2. Despite state regulations, existing products sold under state marijuana laws are dangerously undosed, unlabeled, and unstandardized, placing people at risk

While purified, high-dose CBD oil is showing tremendous promise in clinical trials in treating childhood epilepsy, many unscrupulous dispensaries and manufacturers have taken advantage of desperate families to sell them untested products. When the FDA has performed tests on many of these products, they found some that were very low in CBD content and high in THC content. Others were contaminated with mold. Some contained no detectable levels of the active

ingredient advertised on their labels. These products were very dangerous for use, and the FDA sent cease and desist letters to these bad actors.^{xiv}

3. *Rescheduling marijuana does not increase research or access to treatments*

In the case of marijuana, rescheduling the drug to Schedule II or lower would immediately trigger requirements that the FDA regulate the safety and efficacy of the drug. Because the marijuana industry has realized that whole plant marijuana is unlikely to ever pass through FDA trials since it cannot be dosed or standardized, they no longer argue for rescheduling the drug. Rescheduling would also not effectively reduce barriers to research, as researchers for Schedule II drugs face nearly all of the same requirements and restrictions as those who research Schedule I drugs.

4. *Congress can easily facilitate additional, legitimate research through proposed legislation*

Much more research is needed, and Congress could reduce some of the barriers to research without rescheduling marijuana. H.R. 3391 [115th] – the Medical Marijuana Research Act by Congressman Andy Harris (MD-1) and S. 1803/H.R. 4825 [115th] – the MEDS Act by Senator Orrin Hatch (R-UT)/Congressman Rob Bishop (UT-1) would accomplish that goal. Senators Feinstein (D-CA) and Grassley (R-IA) have introduced similar marijuana research legislation.

D. Conclusion

In summary, SAM asks that you refrain from adding marijuana-related language to the Fiscal Year 2019 CJS Commerce, Justice, Science, and Related Agencies Act. “Medical marijuana” does not meet the definition of medicine; it has not been through clinical trials and has no standardized, prescribed dose. Instead, as the recent Oregon State Police report shows, medical marijuana legalization has provided cover for illicit, black market activity. The experiment has failed. The Department of Justice should be able to enforce the law when states have failed to do so.

ⁱ <https://www.drugabuse.gov/news-events/news-releases/2017/09/marijuana-use-associated-increased-risk-prescription-opioid-misuse-use-disorders>

ⁱⁱ Hall, et. al. It is premature to expand access to medicinal cannabis in hopes of solving the US opioid crisis. *Addiction*. 22 Feb. 2018.

ⁱⁱⁱ <https://www.denverpost.com/2018/04/04/colorado-drug-overdoses-opioid-deaths-ht-hyah/>

^{iv} *Gonzales v. Raich* (2005).

^v Gilman, et al., Cannabis Use Is Quantitatively Associated with Nucleus Accumbens and Amygdala Abnormalities in Young Adult Recreational Users, *Journal of Neuroscience*. 16 April 2014. 34 (16):5529-5538.

^{vi} Gorelick DA, Levin KH, Coppersino ML, et al. Diagnostic Criteria for Cannabis Withdrawal Syndrome. *Drug Alcohol Depend.* 2012;123(1-3):141-147.

^{vii} Caulkins, Johnathan P., *The Real Dangers of Marijuana*. National Affairs. Winter 2016 (30).

^{viii} AAA Foundation for Traffic Safety. Prevalence of Marijuana Involvement in Fatal Crashes: Washington, 2010-2014. May 2016. Web. 23 Oct 2016.

^{ix} Oregon State Police. A Baseline Evaluation of Cannabis Enforcement Priorities in Oregon. January 2017.

^x “Police left buried under a mountain of marijuana and red tape as weed laws change.” *Colorado Springs Independent*, 07 June 2017. Web. 11 April 2016.

^{xi} “Special report, ‘Clearing the haze’: Black market is thriving in Colorado.” *Colorado Springs Gazette*, 20 Mar. 2015. Web. 21 Oct. 2016.

^{xii} Oregon Health Authority. Oregon Medical Marijuana Program: Statistical Snapshot. April 2017.

^{xiii} O’Connell, T. et al. Long Term Marijuana Users Seeking Medical Cannabis in California (2001–2007): Demographics, Social Characteristics, Patterns of Cannabis and Other Drug Use of 4117 Applicants. *Harm Reduction Journal*. 2007 4:16.

^{xiv} Nunberg, H. et al. An Analysis of Applicants Presenting to a Medical Marijuana Specialty Practice in California. *Journal of Drug Policy Analysis*. Feb 2011; 4(1): 1.

^{xv} FDA News Release “2016 Warning Letters and Test Results for Cannabidiol-Related Products.” Web. 27 April 2017.

**HOUSE OF REPRESENTATIVES COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON COMMERCE, JUSTICE,
SCIENCE, AND RELATED AGENCIES**

TESTIMONY OF THE NEZ PERCE TRIBE

APRIL 26, 2018

The Nez Perce Tribe (Tribe) appreciates the opportunity to provide written testimony to the Committee as it evaluates and prioritizes FY 2019 appropriations for the Department of Commerce and the Department of Justice. The testimony below addresses spending allocations for the Pacific Coastal Salmon Recovery Fund and Salmon Management Activities within the National Oceanic and Atmospheric Administration (NOAA), and funding or set-asides for the grants provided to tribes within the Department of Justice.

As detailed below, for FY 2019, the Tribe recommends both preservation of the Pacific Coastal Salmon Recovery Fund—which has been proposed to be eliminated—and funding for the Pacific Salmon Recovery Fund at no less than \$65 million; funding for Salmon Management Activities at \$38.2 million; full funding for programs authorized under the Tribal Law and Order Act; preservation of the \$70 million in funding provided in FY 2018 for Office of Justice Programs tribal grants, with flexibility in program funding, or in the alternative, reinstatement of the 7% tribal set-aside that tribes advocated for and received in FY 2017; increasing tribal set-aside from 3% to 5% out of Crime Victims Fund distributions; and keeping tribal funding under the Community Oriented Policing Services program at \$30 million or greater.

The Nez Perce Tribe is a federally-recognized Indian tribe with treaty-reserved fishing, hunting, gathering, and pasturing rights in the Snake River Basin and Columbia River Basin. In its 1855 Treaty, the Tribe reserved, and the United States secured, “the right of taking fish at all usual and accustomed places in common with the citizens of the Territory; and of erecting temporary buildings for curing, together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land.”¹

It is the Tribe’s desire that all species and populations of anadromous and resident fish and their habitats be healthy and harvestable throughout the Tribe’s usual and accustomed fishing places. The Tribe has long had an interest, and played an active role, in restoring anadromous and resident fish runs—including fall and spring Chinook, steelhead, sockeye, lamprey, bull trout, and white sturgeon—throughout all of the areas where the Tribe reserved treaty fishing rights. The Tribe is involved in these efforts to protect implementation of treaty rights, to restore species and conditions consistent with the Treaty, and to protect the long-term productivity of their natural resources.

¹ Treaty with the Nez Percés, June 11, 1855, 12 Stat. 957. The Treaty with the Nez Percés, June 9, 1863, 14 Stat 647, preserved the off-reservation rights that the Tribe reserved in its 1855 Treaty.

The Tribe's Department of Fisheries Resources Management (DFRM) is one of the largest and most successful tribal fisheries programs in the United States,² with offices located at Lapwai, Sweetwater, Orofino, McCall, Powell, and Grangeville, Idaho, as well as Joseph, Oregon. The DFRM, with an annual operating budget of over \$22 million, and has more than 190 tribal and non-tribal employees, 150 of whom are full-time.

The DFRM manages its own salmon fish hatchery at Cherrylane, Idaho, as well as ten acclimation sites in Idaho and Oregon. In addition, the DFRM manages Kooskia National Fish Hatchery and co-manages Dworshak National Fish Hatchery. The DFRM also coordinates with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service on production from other salmon and steelhead hatcheries throughout Idaho. The Tribe is committed to this work and requests that the United States properly fund the programs that are an instrumental part of the overall work on fish recovery.

Pacific Coastal Salmon Recovery Fund

The Pacific Coastal Salmon Recovery Fund (PCSRF) was established by Congress in FY 2000 to protect, restore, and conserve Pacific salmonids and their habitats. The Congressionally authorized activities that were funded under the PCSRF program maintain populations necessary for exercise of tribal treaty fishing rights or native subsistence fishing. Over \$1.2 billion has been appropriated for PCSRF since 2000. With this funding, states and tribes have leveraged additional resources to collectively implement 12,000 projects to conserve West Coast salmon.³ The Tribe requests PCSRF be preserved and funded at a minimum of \$65 million for FY 2019.

PCSRF has been used by the Tribe to restore coho (silver) salmon to the Tribe's reservation in the Clearwater River, a distance of 500 miles from the ocean. Coho were extirpated from the Clearwater River over 40 years ago and most of these fish returned only as far as the lower Columbia River. Through the PCSRF (and Mitchell Act funds) the Tribe is able to rear and release almost one million coho into the Clearwater River, restoring their presence in the Snake River Basin. The Tribe views these returns as a tremendous success with counts of coho numbering more than 18,000 in 2014. In 2017, the Tribe worked with Oregon Department of Fish and Wildlife and the Confederated Tribes of the Umatilla Indian Reservation to also have the first release of coho in the Lostine River, a tributary of the Grande Ronde River. After decades of extirpation, these fish are being restored to some of the best habitat in the Columbia River Basin. Continued funding for the operation of these hatchery supplementation efforts is needed to maintain the populations of most species of salmon and steelhead in this "breadbasket" of salmon habitat, located upstream of eight Columbia River dams.

² The Nez Perce Tribe's DFRM received the 2015 Honoring Nations award with High Honors from The Harvard Project on American Indian Economic Development.

³ National Oceanic and Atmospheric Administration Budget Estimates Fiscal Year 2017; Page NMFS-93

Salmon Management Activities

The Mitchell Act provides for the conservation of the fishery resources of the Columbia River and is administered by NOAA's National Marine Fisheries Service. Funding for the Mitchell Act component of NOAA Fisheries supports the operations and maintenance of Columbia River hatcheries through grants and contracts to the states of Washington, Oregon, and Idaho, and to the U.S. Fish and Wildlife Service, to mitigate the loss of salmon on the Columbia and Snake Rivers. This subcommittee recommended funding in the amount of \$35.5 million for Salmon Management Activities in FY 2017, which was also the amount appropriated in FY 2018. The Tribe would request that \$38.2 million in funding be allocated in FY 2019 for Salmon Management Activities. The importance of this funding cannot be overstated as the comprehensive, geographic nature of its application in the Pacific Northwest provides for an integrated infrastructure for fish management. As stated above, this funding in conjunction with PCSRF funding is the only funding source for the Tribe's coho restoration work. In addition, these funds allow for fish to be grown at other facilities that are used at Nez Perce Tribal production facilities. Other regional agencies also use the funds to grow fish that enhance treaty fishing opportunities for Nez Perce Tribal members on the Columbia River.

Department of Justice Tribal Assistance Grant Funding

Providing law and order is one of the fundamental requirements of a functioning government. However, tribes are limited in the resources available to commit to these programs as the United States has historically underfunded such programs in Indian Country. Tribes rely on the grant programs with the Department of Justice to help grow the capacity of tribal law and order systems.

In order to provide law enforcement, victims services, and tribal justice to Indian and non-Indian residents of the reservation, the Tribe has relied on programs such as the Coordinated Tribal Assistance Solicitation grants program, the Tribal Juvenile Healing to Wellness Court program, the Comprehensive Tribal Victim Assistance Program, the Tribal Justice Systems Infrastructure Program, Violence Against Women Act programs, the Justice Systems and Alcohol and Substance Abuse Program, and the Children's Justice Act Partnership program. These programs need to continue.

As stated above, the Tribe recommends full funding for programs authorized under the Tribal Law and Order Act. The Tribe also recommends either preservation of the FY 2018 funding for Office of Justice Programs grants or a reinstatement of the 7% tribal set-aside that tribes advocated for and received in FY 2017. If the Committee chooses to fund these programs in the same way as FY 2018, there needs to flexibility provided in program funding so that the funding is not narrowly allocated to tribes solely through competitive grant programs. Finally, the Tribe recommends increasing the tribal set-aside from 3% to 5% from the Crime Victims Fund distributions and maintaining tribal funding under the Community Oriented Policing Services program at \$30 million or more.

Ms. Kristen J. Sarri, President and CEO, National Marine Sanctuary Foundation
Written Testimony Submitted to the House Appropriations
Subcommittee on Commerce, Justice, Science and Related Agencies
FY2019 NOAA Office of National Marine Sanctuaries Appropriations

April 27, 2018

Mr. Chairman and members of the Subcommittee on Commerce, Justice, Science and Related Agencies, thank you for the opportunity to submit written testimony regarding appropriations for the Office of National Marine Sanctuaries in Fiscal Year (FY) 2019. As supporters, stakeholders, and partners of America's National Marine Sanctuary System, we strongly urge Congress to support the Office of National Marine Sanctuaries at no less than \$65.5 million in FY2019. The same level requested by 91 Members of Congress in their bipartisan dear colleague letter. We respectfully request that you prioritize requests for:

- **Sanctuaries and Marine Protected Areas**, within the National Oceanic and Atmospheric Administration's (NOAA) Operations, Research, and Facilities (ORF) account, at a level of \$57 million; and
- **Marine Sanctuaries Construction**, within NOAA's Procurement, Acquisition, and Construction (PAC) account, at a level of \$8.5 million.

The National Marine Sanctuary Foundation, California Marine Sanctuary Foundation (CA), Cordell Marine Sanctuary Foundation (CA), Greater Farallones Association (CA), Monterey Bay National Marine Sanctuary Foundation (CA), Friends of Mallows Potomac (MD), Friends of Thunder Bay National Marine Sanctuary (MI), Gray's Reef National Marine Sanctuary Foundation (GA), Olympic Coast National Marine Sanctuary Foundation (WA), and Sanctuary Friends Foundation of the Florida Keys (FL) strongly support funding the National Marine Sanctuary System at these levels. Our organizations work together to conserve treasured places in our oceans and Great Lakes for current and future generations of Americans to enjoy. We promote citizen science, research, conservation, education, and community engagement to protect coral reefs and marine habitats, conserve places of cultural significance, and preserve our maritime history and heritage. Partnerships are critical to the National Marine Sanctuary System. Through collaboration with local communities, government, corporations, and individual donors, our organizations increase our impact.

Today, the National Marine Sanctuary Systems consists of 13 national marine sanctuaries, and NOAA ONMS co-manages two marine national monuments, totaling over 620,000 square miles. These sites conserve some of the Nation's most critical natural, historic, and cultural resources in the ocean and Great Lakes such as the USS Monitor, Midway Island, sacred heritage sites for Native Americans, and some of the largest and oldest corals in the world. They are home to millions of species, preserve more than 300 shipwrecks and our nation's maritime heritage, and promote public access for exploration and world-class outdoor recreation and enjoyment for future generations. Sanctuary visitor centers, vessels, and facilities are key assets for

communities; stimulate public-private partnerships on emerging technologies, cutting edge science, and hands-on education; and attract millions of visitors to the coasts each year.

Across all national marine sanctuaries, about \$8 billion annually is generated in local, coastal economies from diverse activities like commercial fishing, research, education and recreation-tourist activities. Over 42 million people visit sanctuaries each year. From restaurants and hotels, to aquariums and kayak operators, the success of many businesses, millions of dollars in sales and thousands of jobs, directly depend on thriving national marine sanctuaries. As a travel destination, few places on the planet can compete with the diversity of the National Marine Sanctuary System. The majority of national marine sanctuaries' waters are open to recreational activities, which also allows for considerable benefits to local economies. Public-private partnerships bring innovative approaches to conserving our natural and cultural resources. Collaborations among universities, institutions, non-profits, businesses, and enforcement entities at local, state, and national levels leverage resources and build relationships to have a greater impact for communities and the economy. Below are a few examples of the value of sanctuaries to local economies:

- In Washington State, \$101.6 million was spent on recreation in the Olympic Coast National Marine Sanctuary. This spending generated, with multiplier impacts, \$128.2 million in output, \$78 million in value-added (gross regional product), and \$46.1 million in income, which supported 1,192 jobs.
- Along the California coast, \$155.6 million on average is spent annually on recreational fishing in the state's four national marine sanctuaries. This spending supports an average of 1,400 jobs, and generates \$213.1 million in sales and output and \$74.6 million in income in local communities.
- In the Florida Keys, more than 33,000 jobs are supported by ocean recreation and tourism, accounting for 58 percent of the local economy and \$2.3 billion in annual sales.
- In Michigan, the Thunder Bay National Marine Sanctuary is the focus of its tourism attractions and local development strategy from the Sanctuary Inn to the Great Lakes Maritime Heritage Center, to the STEM education opportunities through the Alpena Community College and local high school ROV competitions, to its glass bottom boat tours to experience the shipwrecks without getting wet. Over half (58 percent) of visitors to Alpena came to visit Thunder Bay National Marine Sanctuary, which is the region's most popular attraction, boasting nearly 100,000 visitors per year.
- In Massachusetts, over \$126 million in whale watching revenue and 600 jobs at 31 businesses resulting from less than \$2 million invested in the Stellwagen Bank National Marine Sanctuary off of Massachusetts. Virtually all of Massachusetts whale watching occurs in Stellwagen Bank National Marine Sanctuary, recently named one of the premiere whale watching locations in the world.

Balancing multiple uses on the water and engaging many constituencies in the community, sanctuaries provide a comprehensive, highly participatory approach to managing and conserving marine and Great Lakes resources. National marine sanctuaries are the blue backyards for tens of thousands of citizens and volunteers who live along the coast or in the watersheds of these treasured sites. Public participation is a hallmark of sanctuaries and underscores their dedication to civic engagement and leadership.

Every year, thousands of volunteers devote their time and effort to protect sanctuaries for future generations. They represent the best of America and what starts as one passionate citizen becomes an empowered community. Sanctuary volunteer programs are nationally recognized and awarded for their work increasing awareness, engaging the community, promoting stewardship, and providing critical information and support for science, research, education, and management. In 2017, sanctuary volunteers contributed over 130,000 hours across the system, contributing more than \$3.14 million in valuable support. In 2017, almost 8,523 volunteers supported national marine sanctuary citizen science efforts helping to answer real-world scientific questions.

In 2022, the Nation will mark the 50th anniversary of the National Marine Sanctuaries Act. As the Nation moves towards this anniversary, it is a unique opportunity to invest in America's public waters, and the communities and businesses that depend upon them. We recognize this request is a significant increase in FY2019 but it will serve as the beginning of a deliberate and strategic ramp up to boost sustainable economic growth, business development, and community engagement centered in national marine sanctuaries.

For sanctuary Operations, Research and Facilities (ORF) funding, we urge Congress to provide \$57 million. Because sanctuaries are located offshore, public awareness and education about the sites and the resources they conserve are critical, as is technology to let Americans look "under the surface." Therefore, of the requested increase, we are proposing \$3 million for efforts to increase public education and awareness at individual sites in the National Marine Sanctuary System and strengthen the connection between communities and their marine and Great Lakes wonders. With the 50th Anniversary of the System only five years away, we hope to drive visitation and growth in the blue economy through fishing, diving, ports and shipping, recreation, hospitality, and tourism. To support this effort, the proposed increase includes \$1 million to for national blue business stewardship efforts for marine sanctuaries. We are requesting \$2 million to increase support for sanctuaries to conduct cooperative research efforts to improve resources management. Similar to America's national parks, marine sanctuaries support tourism and a robust recreational industry. Finally, the requested increase includes \$2 million to support the incremental growth that will enable sanctuaries to be responsive to the groundswell of communities nationwide seeking to expand sites or propose and designate new ones.

Sanctuary visitor centers, vessels, and facilities are key assets for communities; stimulate public-private partnerships on emerging technologies, cutting edge science, and hands-on education; and attract millions of visitors to the coasts each year. These platforms act as the public face of proactive management and protection, promoting partnerships for science and education, and

are a vital link between sanctuaries and the millions of Americans who visit the coast each year. For sanctuary Procurement, Acquisition, and Construction (PAC) funding, we propose \$8.5 million. This request includes \$4 million to replace vessels critical to operations. This April, ONMS released its Small Boat Fleet Assessment. Every national marine sanctuary relies on its NOAA small boats to access its protected resources, but increasing demands on an aging fleet are leading to higher operating costs as well as near and long-term challenges to maintaining safe, efficient and effective operations. Investment is necessary now for new vessels. The request also includes \$2 million for visitor centers, facilities, and signage improvements and ADA compliance; and \$2.5 million in a Sanctuary Challenge Fund. The Sanctuary Challenge Fund is an innovative approach, based on the model of the highly successful National Park Service Centennial Fund, to finance signature projects and programs across the National Marine Sanctuary System. The public investment would be matched at least 1:1 by nonfederal donations to address the backlog of needs for sanctuary facilities that enhance the sanctuary visitor experience as part of the ramp up to the 50th anniversary. In addition, these investments will create jobs through construction and shipbuilding in Alabama, Mississippi, or Washington.

Our national marine sanctuaries are national treasures. The National Marine Sanctuary Foundation and our network of community leaders strongly urge Congress to invest in community-based national marine sanctuaries by prioritizing a budget of no less than \$65.5 million in FY2019. Investments in these areas support local economies and jobs in a diversity of sectors from education to outdoor recreation to fishing and underscore the value of communities in America's iconic underwater places.

Thank you for this opportunity to provide written testimony to the House Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies.



John C. Yang, President & Executive Director
Terry Ao Minnis, Director of Census and Voting Programs
Asian Americans Advancing Justice | AAJC

On behalf of Asian Americans Advancing Justice | AAJC (Advancing Justice | AAJC), we submit this written testimony to the House Appropriations Committee's Subcommittee on Commerce, Justice, Science, and Related Agencies in connection with its April 18, 2018 hearing on Fiscal Year 2019 (FY19) budget for the Bureau of the Census. By the 2020 Census, which is less than two years, the Census Bureau must put its field infrastructure in place; finalize the design and operations for the census; verify the master address list that defines the census universe; develop an effective advertising and outreach campaign; and ensure that all IT systems that will support the first "high tech census" are secure and work well. FY19 is critical to ensuring a fair and accurate count – one that counts all communities equally well¹ – and must have a significant funding ramp-up – a minimum of \$4.735 billion.²

ORGANIZATIONAL BACKGROUND

Advancing Justice | AAJC is a national nonprofit, non-partisan organization founded in 1991. Our mission is to advance the civil and human rights of Asian Americans and to build and promote a fair and equitable society for all. Advancing Justice | AAJC considers the census, including the American Community Survey (ACS), to be the backbone of its mission. Advancing Justice | AAJC maintains a permanent census program that monitors census policy, educates policy makers, and conducts community outreach and education to encourage participation in the surveys conducted by the Census Bureau, including for Census 2000 and Census 2010. Advancing Justice | AAJC has also served as a member of numerous advisory committees to the Census Bureau since 2000, including currently, the National Advisory Committee on Racial, Ethnic and Other Populations. Additionally, Advancing Justice | AAJC currently co-chairs the Leadership Conference on Civil and Human Rights' (Leadership Conference) Census Task Force.

IMPORTANCE OF CENSUS TO ASIAN AMERICANS

Census data are critical for a functioning society as it allows for the distribution of over \$800 billion federal funds annually to states,³ informs effective and efficient policy and planning decisions, and is used to reapportion political representation and to redistrict at all levels. Without an accurate count of Asian Americans, these decisions will not address the needs of growing Asian American communities.

¹ Asian Americans are among those who have historically experienced a differential undercount. While the 2010 Census had a relatively "accurate" count for AAPIs, the 2010 Census, in fact, missed hundreds of thousands of Asian Americans – a problem that was offset, at the national level, by double counting or other mistaken enumerations.

² The president's proposed FY2019 funding level for the 2020 Census of \$3.015 billion is \$437 million below the Commerce Department's revised FY2019 cost estimate of \$3.452 billion. Thus, this amount is \$933.5 million above the president's request but only \$475.5 million above the Commerce Department's cost estimates for FY19 activities.

³ Andrew Reamer, George Washington University Institute of Public Policy, COUNTING FOR DOLLARS 2020 The Role of the Decennial Census in the Geographic Distribution of Federal Funds Report #2: Estimating Fiscal Costs of a Census Undercount to States (2018), https://gwipp.gwu.edu/sites/g/files/taxdts2181f/downloads/GWIPP_Reamer_Fiscal_Impacts_of_Census_Undercount_on_FMAP-based_Programs_03-19-18.pdf.

Census data are even more important for Asian Americans as the most comprehensive set of socioeconomic data points on Asian American communities, particularly for subgroups. Often viewed as homogenous, these communities include more than several dozen detailed racial and ethnic groups that can differ dramatically across key social and economic indicators. Only with detailed data can we build the solid foundation necessary for public policy, ensure that the right programs are reaching the right communities, and dismantle the conscious and unconscious beliefs that there is a racial hierarchy in our nation. As one of the few entities that collect and report detailed data, an inaccurate count of Asian Americans by the Census Bureau would mean that many of our communities, and their attendant needs, would be rendered invisible and neglected.

FUNDING REQUEST FOR FY 2019 FOR THE CENSUS BUREAU

The 2020 Census has been underfunded from beginning of its lifecycle by approximately \$210 million cumulatively from FY 2012 through FY 2017. Congress must ensure a sufficient funding ramp-up for the 2020 Census because of the unique cyclical nature of this constitutionally required activity. The failure to invest sufficiently in final preparations and early operations could depress participation and increase operational mistakes and failures in 2020, potentially increasing census costs by billions of dollars and diminishing public confidence in the results. Furthermore, the recent last-minute and misguided decision by Commerce Secretary Wilbur Ross to add an untested question about citizenship on the 2020 decennial census form will have unknown, but likely significant, impacts on participation rates, particularly of those already disinclined to participate, as well as on operational decisions. These impacts will increase the need for funding in the lead-up to Census Day, as well as for the Non-Response Follow-Up phase, which is the most expensive component of the census. It will be important to press Secretary Ross to understand the fiscal implications of this misguided decision and ensure the Census Bureau has the resources it needs to ameliorate the harmful impact of this decision.

The additional funds (to raise the full funding in FY19 to \$4.735 billion for the U.S. Census Bureau) are needed for the following activities:

- **Partnership Staff (+\$62.5 million)** – Provide funding for additional Partnership staff who will engage, educate, and mobilize states, localities, and community-based organizations in support of the census.
- **Communications Campaign (+\$100 million)** – Increase funding for communications, in light of a lower projected self-response rate, to expand targeted and “in-language” advertising to communities that are harder to reach, and to address public fears.
- **More Area Census Offices (+\$312 million)** - Expand the Census Bureau's “footprint” in the field by increasing the number of local (“Area”) census offices.
- **Contingency fund (+\$314 million)** – Congress has appropriated money for a contingency fund in past decades and should do so now, as Commerce Secretary Ross recommended.

The additional funding is critical for ensuring a fair and accurate count of Asian Americans, especially because of the importance of the partnership program and the media to communicate with hard-to-count Asian American communities. Respondents interacting with trusted leaders,

such as government leaders, school leaders, faith-based leaders, and other community leaders who are directly communicating with their members about the importance of participating and how the community benefits, rather than with a stranger representing the federal government, are more willing to participate in the census. Increasing the partnership staff is particularly important to provide the necessary outreach for minority communities. The growing privacy concerns and distrust in the Census Bureau, the growing diversity, hostile climate to certain communities, and the general distrust of government make a strong and vibrant partnership and outreach program even more necessary and important for an accurate count in 2020.

In addition to the partnership program, the communications campaign played an important role in reaching hard-to-count communities in the 2000 and 2010 Censuses. Media is an important tool in communicating with hard-to-count Asian American communities and thus increased funding to expand the communications program is critical to engaging the Asian American community. In particular, ethnic media⁴ is the most effective way to reach a substantial part of Asian American communities, though the precise use of ethnic media may be different across various ethnic groups.⁵ Online media is a particularly ripe opportunity for reaching Asian Americans, but many Asian Americans, particularly those in hard-to-count communities, are not internet proficient and lack access to computers. Also, as Asian Americans vary generationally, spanning from recently arrived immigrants to those with roots in the community for more than one hundred years, any communications or marketing plan must be multi-faceted to address the needs of the various ethnic groups, various languages, and various generations. Each individual Asian American sub-ethnic group has intrinsic characteristics that require customization in messaging, treatment, and media vehicles based on particular nuances. In addition, there are multiple factors that pose additional challenges for reaching the especially hard-to-count Asian American communities. Thus, there needs to be increased funding to ensure the Asian American-focused subcontractor can effectively reach the different segments within the Asian American community.

As part of the expanded Partnership program and communications plan, a robust language support program for the 2020 Census must be properly funded, in place in a timely fashion, and culturally appropriate and relevant. The Asian American population in the United States is larger than it has ever been in our nation's history, currently at 21.4 million.⁶ Asian

⁴ See New America Media, *National Study on the Penetration of Ethnic Media in America* (2009), http://media.namx.org/polis/2009/06/National_Study_of_the_Penetration_of_Ethnic_Media_June_5_2009_Presentation.pdf (hereinafter "New American Media Study").

⁵ The New American Media Study saw 59% of Chinese, 61% of Koreans, 83% of Vietnamese, 84% of Filipinos and 85% of Asian Indians relying on ethnic media. See New American Media Study. Other differences seen include: 52% of Vietnamese, 45% of Chinese and 43% of Korean relied on ethnic media as a news source for political information while only 11% of Asian Indians, 19% of Filipinos, and 8% of Japanese and do the same. Karthick Ramakrishnan, Janelle Wong, Taeku Lee, and Jennifer Lee, *Asian American Voices in The 2016 Election Report On Registered Voters in The Fall 2016 National Asian American Survey* (2016), <http://naasurvey.com/wp-content/uploads/2016/10/NAAS2016-Oct5-report.pdf>.

⁶ Asian Americans Advancing Justice – Los Angeles, Press Release, Asian Americans Remain Fastest Growing Racial Group In Country, Growth Driven By New Immigrants (June 21, 2017), available at <https://advancingjustice->

Americans represented the fastest growing group in the 2010 Census,⁷ and continues to be the fastest growing during this decade.⁸ Of this rapidly growing segment of the population, about two-thirds are foreign-born,⁹ and more than a third of the Asian American population, over 5.6 million people, is considered limited English proficient (LEP).¹⁰ The LEP rate of Asian Americans is almost 22 times more than that of non-Hispanic Whites (1.6%). Additionally, Asian American households are 25 times more likely to be limited English speaking households.¹¹ This is important because it means all adults in the household are LEP, which makes participating in the census even more difficult. Together, these factors result in a significant portion of the population being both linguistically and culturally at a disadvantage when it comes to census participation.

The Census Bureau's current plan includes an Internet questionnaire and Census Questionnaire Assistance in approximately 12 non-English languages, and the development of video and paper Language Assistance Guides (LAGs) in 59 non-English languages.¹² Additionally, the 2020 Language Support Team and the Integrated Partnership and Communications team are already working together to ensure these languages are supported through the Integrated Partnership and Communications Plan. However, the Census Bureau must have adequate funding to finalize development of, and operationalize, its language program. Factoring in the development of appropriate materials for promotion and outreach – leaflets to distribute to individuals, posters and other promotional materials – and questionnaire aids in different languages, the Census Bureau needs to start the process as soon as possible, and the additional funds can help ensure that the Bureau has the appropriate funding to support such work.

CONCLUSION

Advancing Justice | AAJC appreciates the opportunity to provide input on the FY19 appropriations for the U.S. Census Bureau. Census Day is less than two years away, and the time is now to right the ship and get a fair and accurate count in 2020. The Census Bureau must receive a significant funding ramp-up – a minimum of \$4.735 billion – in order to fulfill its constitutional duty and achieve a fair and accurate count of all communities.

[la.org/media-and-publications/press-releases/asian-americans-remain-fastest-growing-racial-group-country#.WbgZebKGNkg](https://www.census.gov/media-and-publications/press-releases/asian-americans-remain-fastest-growing-racial-group-country#.WbgZebKGNkg) (hereinafter "Fastest Growing Press Release").

⁷ See U.S. Census Bureau, *2010 Census Briefs: The Asian Population: 2010* (2012), available at <https://www.census.gov/content/dam/Census/library/publications/2012/dec/c2010br-11.pdf>.

⁸ See Fastest Growing Press Release.

⁹ U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates, Table B05003d Sex By Age By Nativity and Citizenship Status (Asian Alone).

¹⁰ U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates, Table B16005d Nativity By Language Spoken At Home By Ability To Speak English For The Population 5 Years And Over (Asian Alone).

¹¹ A "limited English-speaking household" is one in which no member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English "very well." U.S. Census Bureau, 2011-2015 American Community Survey Selected Population Tables, Table B16002: Household Language by Household Limited English Speaking Status.

¹² U.S. Census Bureau, 2020 Census Program Management Review, Questions Planned for the 2020 Census and the American Community Survey: A Process Overview (Jan. 26, 2018), <https://www2.census.gov/programs-surveys/decennial/2020/program-management/pmr-materials/01-26-2018/pmr-2020-operations-01-26-2018.pdf>.

**Felice J. Levine, PhD, Executive Director
American Educational Research Association
Written Testimony**

**U.S. House of Representatives, Committee on Appropriations Subcommittee on
Commerce, Justice, Science and Related Agencies
Fiscal Year 2019 Appropriations for the
National Science Foundation: Education and Human Resources and Social,
Behavioral and Economic Sciences Directorates and
U.S. Census Bureau
April 27, 2018**

Chairman Culberson, Ranking Member Serrano, and Members of the Subcommittee; thank you for the opportunity to submit written testimony on behalf of the American Educational Research Association (AERA). I want to begin by recognizing the longstanding support for the National Science Foundation and thank you and your staff for your strong commitment to maintaining agency flexibility to fund cutting edge science. AERA recommends that the National Science Foundation (NSF) receive \$8.45 billion in fiscal year 2019. This recommendation is consistent with that of the Coalition for National Science Funding (CNSF), in which we are a long-term active member. Furthermore, this request aligns with the bipartisan dear colleague letter led by Representatives McKinley and Butterfield. AERA also recommends funding the Census Bureau at \$4.735 billion in fiscal year 2019, consistent with the recommendation of The Census Project.

AERA is the major national scientific association of 25,000 faculty, researchers, graduate students, and other distinguished professionals dedicated to advancing knowledge about education, encouraging scholarly inquiry related to education, and promoting the use of research to serve public good. Many of our members are engaged in science, technology, engineering, and mathematics (STEM) education research. Our members work in a range of settings from universities and other academic institutions to research institutes, federal and state agencies, school systems, testing companies, and nonprofit organizations engaged in conducting research in all areas of education and learning from early childhood through the workforce. Given the expertise of the AERA membership, my testimony will focus on the importance of the Education and Human Resources (EHR) and the Social, Behavioral and Economic (SBE) Sciences Directorates. Many of our members depend on an accurate Census count and data available from the American Community Survey to do their work.

The EHR and SBE Directorates are central to the mission of the National Science Foundation (NSF) to advance fundamental knowledge and scientific breakthroughs and to ensure significant continuing advances across science, engineering, and education. Research and science supported by these directorates are intertwined with science and research of the other Directorates (for example, Computer and Information Science and Engineering). Furthermore, the EHR and SBE directorates are vital not just to producing essential knowledge and innovative methodologies but also to preparing our students and citizens to use new technologies and harness knowledge to enhance productivity, safety, security, and social economic well-being.

As indicated in the agency's budget request, "Ninety-three percent of appropriated funds directly support research and science, technology, engineering, and mathematics (STEM) education, seventy-eight percent of it at our Nation's colleges and universities."

Education and Human Resources Directorate

The EHR Directorate at NSF is responsible for providing the research foundation necessary to achieve excellence in U.S. STEM education. EHR accomplishes this goal by supporting the development of a scientifically-literate citizenry as well as a STEM-skilled workforce. As stated in the NSF Strategic Plan 2018-2022: "NSF's investments in basic research on how peoples learn, in the traditional period stretching from pre-kindergarten to college as well as continually throughout life, will be crucial to the advances in U.S. education needed to ensure that the Nation thrives in a rapidly evolving 21st century world."

The EHR Directorate supports STEM education and education research from early childhood learning to doctoral work and beyond and promotes evidence-based innovations in teaching practices, instructional tools, and programs that advance STEM education and prepare the next generation of STEM professionals. EHR funded researchers are asking key questions, for example, about how to spark students' interest in math and science and keep them engaged, or about why so many students lose interest and confidence and about what can be done to keep them engaged. Understanding these and many other questions will help the United States build a well-educated and technology-literate workforce necessary for a prosperous economic future.

Social, Behavioral and Economic Sciences Directorate

In addition to the significant investments in education sciences provided by EHR, AERA values the important role the SBE Directorate in funding important education research, including the essential statistical information provided by the National Center for Science and Engineering Statistics (NCSES).

The SBE Directorate supports research to better understand people and reveals basic aspects of human behavior in the context of education and learning. SBE funded research has the potential to advance fundamental knowledge in the social, behavioral, and economic sciences that provide critical research to promote the Nation's economy, security, and global leadership. Understanding social organizations and how social, economic, and cultural forces influence the lives of students is key to improving teaching and learning and advancing STEM education.

The budget for SBE is not even 4 percent of the NSF budget, yet it provides approximately 68 percent of the federal funding for basic research in the social, behavioral, and economic sciences at academic institutions.

National Center for Science and Engineering Statistics (NCSES)

In addition, AERA has a strong interest in the National Center for Science and Engineering Statistics (NCSES) within SBE. NCSES provides invaluable statistical information about science and engineering in the U.S. and around the world. NCSES

collects and analyzes data on the progress of STEM education and the research and development, providing valuable information on the trajectories of STEM graduates both in STEM and non-STEM careers. Adequate funding in FY 2019 for NCSES would support critical activities to develop new data techniques building on administrative data and enhance data tools, techniques, and visualizations to facilitate access to statistical resources.

As you know, the public strongly supports a federal investment in science. According to a report issued by the American Academy of Arts & Sciences, 71 percent of U.S. adults say that government investments in basic scientific research pays off in the long run. When asked about priorities for scientific research, 56 percent of respondents consider improving education and how our children learn to be an urgent priority. (*Perceptions of Science in America* 2018)

On behalf of AERA, I thank both the Chairman and the Ranking Member for your ongoing recognition of the importance of providing NSF with the flexibility to determine directorate funding levels within the Research and Related Activities Account. AERA shares the opinion of Director Córdova Cordova, that this flexibility enables NSF to best “build a portfolio of the most exciting research across all fields.”

In addition to my attention in this testimony to the National Science Foundation, I also wish to emphasize the importance of adequate support for the Census Bureau. AERA recommends funding the Census Bureau at \$4.735 billion in fiscal year 2019. Even with the much-needed resources provided in the final fiscal year 2018 appropriations bill to plan for the 2020 Census, funding for the Bureau remains below the levels required to appropriately prepare for the decennial census, leading to the cancellation of test sites in 2017 and 2018. Adequate support for the Census Bureau will enable the necessary technology, methodologies, and staff for the rollout of the decennial census. The recommended funding support will also allow the Census Bureau to continue to conduct the American Community Survey and the Current Population Survey.

Thank you for the opportunity to submit written testimony in support of \$8.45 billion for the National Science Foundation and sharing our particular interest in the Education and Human Resources Directorate and the Directorate for Social, Behavioral, and Economic Sciences in fiscal year 2019. AERA would welcome the opportunity to work with you and your subcommittee to best further the crucial advances of the National Science Foundation. Please do not hesitate to contact me if AERA can provide additional information regarding this budget proposal or the significant science made possible through NSF support.



**American Geosciences Institute
Written Testimony**

**Testimony Submitted by
American Geosciences Institute**
Allyson K. Anderson Book
Executive Director

**To the United States House of Representatives Committee on Appropriations
Subcommittee on Commerce, Justice, Science, and Related Agencies**

**Regarding the National Science Foundation, National Oceanic and Atmospheric
Administration, National Institute of Standards and Technology, National Aeronautics and
Space Administration, and the Office of Science and Technology Policy**

April 27, 2018

Thank you for this opportunity to provide the perspective of the American Geosciences Institute (AGI) on fiscal year (FY) 2019 appropriations for geoscience programs within the Subcommittee's jurisdiction.

AGI applauds Congress for successfully negotiating and passing the Bipartisan Budget Act of 2018 and the Consolidated Appropriations Act, 2018. We are grateful to the Members of Congress and congressional staff who crafted this significant legislation. The FY 2018 appropriations bill creates a robust baseline for future budgets, and AGI supports sustained funding increases for science agencies.

AGI supports critical earth science research conducted by the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), the National Institute of Standards and Technology (NIST), and the National Aeronautics and Space Administration (NASA). Cutting-edge research on the Earth system – its resources and complex geologic, marine, atmospheric, and hydrologic processes that sustain life and the economy – has fueled economic growth, mitigated loss of life and property, and improved our quality of life. All of these agencies carry out vital, mission-focused geoscience research and education, and participate in interagency collaborations with the U.S. Geological Survey (USGS), the Department of Energy, and other federal, state, tribal, and local agencies on topics ranging from emergency planning and response to anticipating water availability. The Earth system is highly complex and interconnected – geoscience information supported and developed by these agencies is vital for decision making at all levels of government and by the private sector. In addition, AGI supports the vital educational programs of these agencies that build the geoscience workforce and public trust in the geosciences to foster creative solutions for the nation.

AGI respectfully requests at least \$8.45 billion funding for NSF, including robust support of the Geosciences Directorate. AGI supports \$6.2 billion for NOAA, \$1.3 billion for NIST, \$2 billion for NASA Earth Science programs, \$5.6 million for OSTP, and continued statistical data collection at the Department of Commerce.

AGI appreciates the difficult choices that Congress faces in developing the FY 2019 budget. Investing in our nation's future workforce, in our scientific and Earth monitoring infrastructure, and in research and development that feeds innovation will reinforce the United States' role as the global leader. We respectfully request that this Subcommittee maintains its commitment to a strong future for the nation by funding critical scientific research, infrastructure, data collection, and educational programs at the agencies under your jurisdiction.

AGI is a nonprofit federation of 52 scientific and professional societies representing more than 260,000 geoscientists across the nation who work in industry, academia, and government. Founded in 1948 under a directive of the National Academy of Sciences, AGI provides information services to geoscientists, serves as a voice of shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resilience to natural hazards, and the health of the environment.

National Science Foundation

Research across all areas of science and engineering contributes knowledge and understanding about many societal issues ranging from homeland security to cyberinfrastructure, and it produces revolutionary and often unforeseen breakthroughs. Basic research provides information that is used to improve people's quality of life: it is the foundation for a dynamic and innovative economy, and it strengthens the security of the nation. NSF not only provides core funding and essential infrastructure for basic research: it also supports the education and training of the next generation coming into our nation's workforce.

AGI believes that investment in NSF programs, where funding is allocated based on scientific merit and competitive peer review, will pay important dividends in maintaining U.S. dominance in science and technology far into the future. AGI applauds Congress for increasing NSF's budget for FY 2018. **AGI supports funding of \$8.45 billion for NSF in FY 2019.**

NSF Geosciences Directorate: The Geosciences Directorate (GEO) is the principal source of federal support for academic geoscientists and their students who seek to improve understanding of the Earth and the processes that sustain and support life and human well-being. The GEO Directorate provides about 64 percent of federal funding for basic geoscience research at academic institutions and supports indispensable research infrastructure and instrumentation. Geoscience researchers study natural hazards, including earthquakes, tornadoes, hurricanes, drought, solar storms, and all aspects of the air, water, ice, and rocks that define our environment and provide the raw materials for economic prosperity.

GEO research supports the entire geoscience community, which includes petroleum geologists, geotechnical engineers, ocean and atmospheric scientists, hydrogeologists, economic geologists, soil scientists, natural hazards specialists, and other experts whose work interacts with the Earth system. Most geoscientists work in the private sector, at state and federal agencies, or as consultants. The GEO Directorate helps universities build a skilled workforce to meet the economic, safety, and environmental needs of the nation. Research funded by GEO is contributing to the U.S. energy boom, to our understanding of the land-ocean interface, and to fundamental understanding of Earth processes that impact health and safety.

NSF's Office of Polar Programs (OPP) funds basic research in the Arctic and Antarctic and manages all U.S. activities in Antarctica as a single, integrated program. The polar regions are the focus of intense scientific and political interest as new navigation routes are opening access to resources and presenting security challenges. NSF-funded research and infrastructure are helping United States decision-makers understand environmental conditions in extreme environments, develop polar technology, and construct data-driven strategic and security policies. AGI encourages robust funding for the Antarctic Infrastructure Modernization for Science program.

A centralized pool of national geoscience infrastructure is an efficient way to achieve the maximum return on investment and to ensure that the nation has the equipment and expertise needed to respond rapidly to opportunities and emergencies. AGI strongly supports robust and steady funding for infrastructure, operation, and maintenance of major facilities, including the Academic Research Fleet, the continuation of the important geodetic, seismic, and related geophysical functions in the GAGE and SAGE multi-user facilities, Ocean Discovery Program, the Ocean Observatories Initiative, and the National Center for Atmospheric Research (NCAR).

AGI respectfully asks the Subcommittee to provide at least \$6.6 billion to NSF's Research and Related Activities with appropriate distribution to GEO.

NSF Directorate for Education and Human Resources: AGI's *Status of the Geoscience Workforce Report 2016* predicts a shortfall of approximately 90,000 geoscientists by 2024. NSF funding for geoscience education is essential to develop the competitive, skilled workforce that can fill this predicted gap in areas of vital national interest including jobs in the energy and natural resource sectors. Geoscience education also creates an informed citizenry prepared to make well-founded decisions about our planet and its resources. Outreach and education are important at all levels from K-12 through graduate-level education and should include formal and informal outlets to facilitate lifelong learning. **AGI strongly encourages funding for geoscience education at all levels and particularly supports programs to diversify the geoscience student population and workforce, such as the NSF INCLUDES initiative.**

Department of Commerce

National Oceanic and Atmospheric Administration: Geoscientists rely on NOAA for much of the data and long-term monitoring tools that enable research and rapid response for events such as hurricanes, drought, marine oil spills, and a range of coastal phenomena. The National Weather Service (NWS), Oceanic and Atmospheric Research (OAR), National Ocean Service (NOS), National Environment Satellite, Data and Information Service (NESDIS), and Office of Marine and Aviation Operations (OMAO) programs provide the data necessary to understand and mitigate these events and to sustain our natural resources. Extreme weather events cause major impacts throughout the country, triggering coastal erosion, landslides, and flooding. AGI supports increased, dedicated funding for NWS to support landslide hazard assessments and to reduce losses from landslides and other ground failures. We also recommend continued funding for the National Sea Grant College program, which supports applied research, education, and communication of marine and coastal science, and NOAA's Office of Education.

AGI supports \$6.2 billion for NOAA and respectfully requests that the Subcommittee continue to support NOAA's observation, analysis, and research initiatives.

National Institute of Standards and Technology: Earth scientists and geotechnical engineers well-versed in the geosciences conduct basic research at NIST that is used by the public and private sectors to build resilient communities and stimulate economic growth. NIST research and information is essential for understanding natural hazards, identifying the infrastructure needed to build strong communities, and stimulating economic growth.

NIST is the lead agency for the National Earthquake Hazard Reduction Program (NEHRP), an interagency program responsible for the efficient coordination of research and resources to understand and mitigate earthquakes, but has received only a small portion of authorized funding in the past. **AGI strongly supports \$1.2 billion for NIST and urges Congress to reauthorize and fully fund the National Earthquake Hazards Reduction Program (NEHRP).**

Bureau of Economic Analysis and Census Bureau: AGI relies on key information from the Bureau of Economic Analysis and the Census Bureau, including the American Community Survey, when developing our analyses of the geoscience workforce. **AGI respectfully asks Congress to maintain your support for continued, consistent statistical data collection.**

National Aeronautics and Space Administration

NASA's fleet of Earth-observing satellites provides the data necessary to understand our dynamic planet. Scientists, farmers, industry professionals, and emergency managers rely heavily on this data gathered from space to support Earth and space weather predictions, to detect and monitor emergency situations such as volcanic eruptions, oil spills, and droughts, and to understand the links between ocean, atmosphere, land, and biological systems.

Other government agencies as well as the private sector use NASA information intensively for decision making. NASA supports important NOAA and USGS missions. For instance, geoscientists have used observations from Landsat satellites since 1972 to monitor, predict, and react to drought, wildfires, and other changes to the Earth's surface. We ask Congress to please continue to support the Landsat program.

AGI strongly supports continuation of the NASA Earth Science program, which received flat funding in FY 2018 despite an increase for the overarching NASA Science program. Satellites and remote sensing provide unique information about the Earth's air, ice, water, land, and biological systems – information that is essential for well-informed decision making by government and the private sector. **AGI recommends \$2 billion for NASA Earth Science to ensure the continued collection, preservation, and dissemination of long-term, consistent datasets. AGI also supports sustained funding for NASA's Office of Education to ensure education and outreach that inspires students and informs the nation about our planet.**

Office of Science and Technology Policy

The President must have the best possible advice on the science and technology that underpin the nation's prosperity and security. **We ask Congress to please support \$5.6 million for OSTP.**

Thank you for the opportunity to present this testimony to the Subcommittee. If you would like additional information for the record, please contact Anna Normand at 703-379-2480 ext. 220, anormand@americangeosciences.org, or 4220 King Street, Alexandria, VA 22302-1502.



Testimony of the **American Geophysical Union**
 Prepared by Brittany Webster, Senior Specialist, &
 Carissa Bunge, Senior Specialist

Prepared on 24 April 2018 for the
U.S. House Committee on Appropriations
Subcommittee on Commerce, Justice, Science, and Related Agencies

The American Geophysical Union (AGU), a non-profit, non-partisan scientific society, appreciates the opportunity to submit testimony regarding the Fiscal Year (FY) 2019 budget request for the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), and the National Science Foundation (NSF). **The AGU, on behalf of its 60,000 Earth and space scientist members, respectfully requests that the 115th Congress appropriate:**

- **\$21.7 billion overall for NASA, including \$6.5 billion for the Science Mission Directorate;**
- **\$6.2 billion overall for NOAA;** and
- **\$8.45 billion overall for NSF.**

National Aeronautics & Space Administration

AGU requests that Congress appropriate \$21.7 billion for NASA in FY2019 - a 5% increase above the amount provided by the FY2018 Omnibus. This increase will ensure that NASA is able to continue its work and preserve U.S. leadership in Earth and space science and exploration. Additionally, AGU requests that Congress appropriate \$6.5 billion for NASA's Science Mission Directorate, including robust and equitable funding for NASA's Earth Science, Planetary Science, and Heliophysics Missions. A request of 5% allows NASA to grow above the rate of inflation and make critical progress towards achieving the scientific goals outlined in the Decadal Surveys produced by the National Research Council.

Earth Science and Planetary Science Divisions

Over a third of the U.S. economy is influenced by climate, weather, and natural hazards, demonstrating the strong economic need to study the Earth. Missions within NASA's Earth Science Division allow us to more accurately predict floods and droughts, respond to earthquakes, and optimize military and commercial operations – all information that decision makers need to better protect the American public. Greater knowledge and forecasting skills are urgent when we consider the effort, time, and costs of protecting infrastructure and public

health from natural and manmade hazards. Additionally, robust funding for Earth science ensures the reliability of our current fleet of Earth observing satellites and lays the groundwork for implementation of the 2017 Earth Science Decadal Survey, including the recommendation to competitively select future missions that address Designated and Earth System Explorer target observables. Competitively selected missions will help to constrain costs and resources, while simultaneously helping to leverage the talents of a broad array of scientists and universities.

Scientists still do not understand approximately 90% of the universe – even in our own “neighborhood” – the solar system, but NASA’s Planetary Science Division is helping to expand our understanding. Its awe-inspiring missions and discoveries also inspire future generations of scientists and STEM professionals to choose science as a career. With appropriate funding, NASA is on schedule to launch the next Mars rover and launch a Europa mission in the 2020s, furthering our understanding of the conditions needed to sustain life.

Earth and planetary sciences are complementary and integrally related to one another. From picking the perfect day to launch a satellite to ensuring that our understanding of other planets is accurate, our knowledge of Earth informs our understanding of other worlds in the solar system. In turn, our exploration of other worlds advances our knowledge of Earth’s evolution and processes.

Heliophysics Science Division

Studying the sun and its interactions with Earth is crucial to increasing our knowledge of the dynamic solar processes that impact all life on our planet. NASA’s Heliophysics Division advances our understanding of the threat of space weather, as directed by the 2016 *National Space Weather Action Plan*. The Division carries out activities related to basic research into solar radiation and forecasting and studies ways to mitigate the effects of big space weather events, which have can damage our space- and ground-based national security assets, aviation systems, power grid, and electric rail systems. Robust funding for NASA’s Heliophysics division will also accelerate the pace of small and mid-size missions, which can often accomplish scientific goals for a fraction of the cost of a flagship mission. Finally, adequate funding will enable the further implementation of Science Definition Study Teams to define the next areas of science investigation, as recommended in the last Solar and Space Physics Decadal Survey..

National Oceanic & Atmospheric Administration

AGU requests that Congress appropriate \$6.2 billion for NOAA in FY19, a 6 percent increase over the FY18 appropriated level for NOAA. Investing in NOAA not only keeps our country resilient in the face of natural hazards that affect the environment and public health, but also provides superior economic and national security services by enabling businesses and government to better manage risk.

The forecasts, infrastructure, and research provided by NOAA save lives in time-sensitive emergencies. In 2016, there were 442 deaths in the U.S. resulting from severe weather and natural hazards, with about half of the deaths caused by flooding and severe storms. Strong

support for NOAA will allow the agency to continue creating detailed flooding forecasts and developing monitoring systems for the millions of Americans who do not currently have them; maintain the NEXRAD radar system used for 85% of all tornado and severe storm warnings; and continue the satellite rescue program that has saved 42,000 lives by locating aviators, mariners, and land-based users in distress. In addition, continued and predictable support for both geostationary and polar orbiting satellites such as the GOES-R series and JPSS will ensure that we are equipped to collect data that is high quality and reliable. Finally, the continuation of uninterrupted data through programs such as the Polar Follow On, which serves as the next phase for the JPSS satellites, plays a critical role in keeping American families safe by ensuring that forecasters and decision makers have the best available data to assess risk.

NOAA is also essential to our nation's economic stability. From coast to coast, one third of U.S. GDP is affected by weather and the environment. In 2017 alone, the U.S. saw 16 major weather and climate disaster events that resulted in \$309.4 billion in damages – a new U.S. annual [record](#). NOAA services are critical in ensuring that the losses from natural disasters and environmental factors are as small as possible. For example, losses from weather-related aviation delays alone are estimated at more than \$1 billion per year, and NOAA drought forecasts are worth up to \$8 billion per year to the farming, transportation, tourism, and energy sectors. From large corporations to small businesses, the decision-based forecasts provided by NOAA save vital time, money, and resources.

NOAA also plays a unique and vital role in supporting homeland security and national defense. The Pentagon reports that 153 naval installations are at significant risk from climatic stresses and expects climate change worldwide to cause more extreme weather, food scarcity, and mass migration, which leads to instability. The Pentagon classifies climate change as threat multiplier, and in order to combat these issues, we need the best science available. Without robust funding, we risk losing the data needed to make informed and proactive decisions, and our national security will be left in a dangerously vulnerable position.

National Science Foundation

AGU requests that Congress appropriate \$8.45 billion for NSF in FY19. This reflects a nine percent increase over the FY18 appropriated level for NSF.

U.S. investment in research and development has been slowing. Significantly, the most recent OECD report projects that China will surpass the United States in total R&D funding from all sources in 2019. Although the United States continues to be the biggest investor in R&D, our R&D intensity, or percent of GDP invested in R&D, has been steadily decreasing over the last decade. Congress has the ability to reverse this trend and re-invest in our nation's scientific enterprise, especially in the areas of basic research and STEM education at NSF.

NSF accounts for only 4% of federal R&D spending but supports nearly 60% of the nonmedical basic research at our colleges and universities. Moreover, NSF is the only federal agency that supports research and education across all STEM fields at all educational levels. 95% of NSF's projects are funded using grants or cooperative agreements, of which three-fourths go to

academic institutions. Research and education programs supported by NSF help increase and develop the knowledge base needed to push the frontiers of science, mathematics, and engineering disciplines, contribute to the development of the future science and technology workforce, underpin new fields of inquiry, and promote interdisciplinary research and education. Additionally, these grants support economic opportunities for labs, lab techs, and other employees needed to pursue scientific endeavors and make substantial contributions to local economies.

Geosciences Directorate

The NSF Geoscience Directorate (GEO) awards research grants in the Earth, atmospheric, ocean, and polar sciences. GEO research leads to a better understanding of critical national needs such as the availability of water, mineral resources and energy reserves, and advances our knowledge of how to provide food to the world and mitigate the effects of natural hazards. AGU asks the Subcommittee to strongly support these programs.

Robust funding for GEO will also support investments in the scientific infrastructure, including its operation and maintenance, increasingly needed for cutting edge basic and applied research. Among the major infrastructure that NSF supports are U.S. Arctic and Antarctic Facilities, through which the U.S. has maintained a 60-year uninterrupted Antarctic presence; the Academic Research Fleet, which includes 58 academic institutions and national laboratories working cohesively to further our understanding of our coasts and oceans; and EarthScope Operation, which includes almost 4,000 instruments analyzing the North American continent and operates in the continuous 48 states and Alaska. AGU strongly supports robust and steady funding for the operation and maintenance of NSF facilities.

The geoscience workforce is aging and retiring at a fast rate. The American Geosciences Institute estimates that, by 2024, there will be 90,000 open geoscience jobs and insufficient American geoscientists to fill those positions. Congress can help to prevent this deficit, stimulate economic growth in the energy, natural resources, and information technology sectors, and improve natural resource literacy by supporting the full integration of Earth science information into mainstream science education at the K-12 and higher education levels. Additionally, robust funding will allow NSF to continue providing life-changing programs for scientists, such as the Graduate Research Fellowships Program (GRFP), which allows students to become STEM professionals; Research Experiences for Undergraduates (REU), which provide undergraduates with hands-on field experiences that can inspire them to pursue STEM careers; and Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES), which aims to ensure all students interested in STEM fields have the opportunity to pursue their goals and that America is not leaving talented but underserved students behind.



**Outside Witness Testimony in Support of FY 2019 Funding for the
National Science Foundation**

April 26, 2018

**Submitted by:
Jyotsna Pandey, Ph.D.
Public Policy Manager
and
Robert Gropp, Ph.D.
Co-Executive Director**

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**Submitted to:
House Committee on Appropriations
Subcommittee on Commerce, Justice, Science and Related Agencies**

The American Institute of Biological Sciences (AIBS) appreciates the opportunity to provide testimony in support of fiscal year (FY) 2019 appropriations for the National Science Foundation (NSF). We encourage Congress to provide the NSF with at least \$8.45 billion in FY 2019.

The American Institute of Biological Sciences is the national scientific organization that promotes the use of science to inform decision-making that advances biology for the benefit of science and society. Established in 1947 as a part of the National Academy of Sciences, AIBS has been an independent, member-governed organization since the 1950s. The combined membership and staff of our more than 130 member organizations exceeds 200,000 individuals.

Biological research is in our national interest. Increasing our knowledge of how genes, cells, tissues, organisms, and ecosystems function is vitally important to efforts to improve the human condition. Food security, medicine and public health, national security, and sound environmental management are all informed by biological research. Biological knowledge gained from NSF-funded research also stimulates the development of new research tools and industries.

Biological research strengthens our economy. The translation of biological research into formal and informal education programs fosters the development of the scientifically and technically

informed workforce employers seek. Federal research programs, especially those of the NSF, are important engines powering our nation's economic growth. Over the past 50 years, roughly half of the economic growth at private businesses in the United States has resulted from advances in knowledge resulting from research and development. Research funding from NSF has given rise to successful companies, such as Genentech, Allylix, Google, and Chromatin, as well as new industries that provide more robust food crops or disease detection tools and techniques. Additionally, data show that employers continue to seek workers with scientific and technical skills. Since 1960, growth in U.S. employment in science and engineering has outpaced growth in total employment, increasing at an average rate of 3 percent per year.

The cornerstone of NSF excellence is a competitive, merit-based peer review process that underpins the highest standards of excellence. Through its research programs, NSF invests in the development of new knowledge and tools that solve the most challenging problems facing society.

- **Combating emerging diseases:** Long before Zika virus made headlines in the United States, the NSF was supporting research to study the environmental and social factors that put people at risk from diseases carried by mosquitos, to understand the physiology and life cycles of disease vectors, to model the spread of mosquito-borne disease, and to understand the evolution of insecticide resistance. The knowledge gained from these lines of research enabled public health officials to respond quickly when an outbreak of Zika virus started in the U.S. in late 2015.
- **Controlling invasive species:** NSF-supported research on population biology and ecosystems provides the knowledge required to inform efficient strategies to combat economically harmful invasive species. Such research has shed light on the variable rates of spread of invasive species, the understanding of mass extinctions, and informed calculations of the costs resulting from invasive species.
- **Mobilizing big data:** Access to and analysis of vast amounts of data are driving innovation. The NSF enables integration of big data across scientific disciplines, including applications in the biological sciences. Digitization of natural science collections involves multi-disciplinary teams, which have put more than 95 million specimens and their associated data online for use by researchers, educators, and the public.

Other examples of research that have benefited the public are chronicled in a recent AIBS report, "Biological Innovation: Benefits of Federal Investments in Biology," which is available at https://www.aibs.org/public-policy/biological_innovation_report.html.

The NSF also plays a central role in recruitment and training of our next generation of scientists. Support for science education for undergraduate and graduate students is critically important to our research enterprise. Students learn science by doing science, and NSF programs engage students in the research process.

Initiatives such as the Graduate Research Fellowship and the Faculty Early Career Development program are important parts of our national effort to attract and retain the next generation of researchers. Since 1952, the number of students supported by NSF Graduate Research

Fellowships has grown to 55,700. Other programs, such as the NSF Research Traineeship and Postdoctoral Research Fellowships in Biology, provide opportunities to train biologists in high priority areas like data-enabled science and research using biological collections. NSF awards reach 2,000 colleges, universities, and other public and private institutions across the country.

The NSF is an important supporter of biological research infrastructure, such as field stations, natural history museums, and living stock collections. These place-based research centers enable studies that take place over long time periods and variable spatial scales.

The U.S. share of worldwide R&D has continued to decline in the past 15 years, whereas foreign countries, especially China, have been rapidly increasing their investments in science. To fully realize the benefits of NSF-supported research and to remain at the forefront of innovation, the government must make new and sustained investments in the NSF. Unpredictable swings in funding can disrupt research programs, create uncertainty in the research community, and stall the development of the next great idea.

Funding rates have become “dangerously low” according to NSF. When pre-proposals are taken into account, the funding rate for some program areas within the Directorate for Biological Sciences are in the single digits. The NSF is the primary federal funding source for biological research at our nation’s universities and colleges, providing 69 percent of extramural federal support for non-medical, fundamental biological and environmental research at academic institutions.

Funding the NSF at \$8.45 billion in FY 2019 is a step toward resolving the issues that slow scientific discovery. The requested funding will enable NSF to pursue its 10 Big Ideas. These are important new cutting-edge initiatives at the frontiers of science and engineering. These include research programs such as Understanding the Rules of Life (URoL), Navigating the New Arctic (NNA), Growing Convergence Research (GCR), and Harnessing the Data Revolution for 21st-Century Science and Engineering (HDR).

Thank you for your thoughtful consideration of this request and for your prior efforts on behalf of science and the National Science Foundation.

Testimony submitted on behalf of the American Physiological Society, Jeff Sands, MD, President. The American Physiological Society (APS) thanks you for your sustained support of science at the NSF and NASA. In this statement we offer our recommendations for FY 2019 funding levels for these two agencies.

- **The APS urges you to fund the FY 2019 NSF budget at a level of at least \$8.45 billion to prevent further erosion of program capacity.**
- **The APS urges you to restore cuts to NASA's life sciences research budgets and to increase funding for the Human Research Program.**

NSF and NASA support scientific research and technology development programs that are critical to the future technological excellence and economic stability of the United States. Federal investment in research is critically important because breakthroughs in basic and translational research are the foundation for new technologies that help patients, fuel our economy, and provide jobs. A strong federal investment in the sciences is also critical to maintaining the United States' position as a science and engineering leader in a global context. The 2018 Science and Engineering Indicators show that other countries including China have continued to increase their investments in research at a rate that outpaces the growth of US investments.¹

NSF funds outstanding research and education programs

NSF provides support for 27% of all federally funded basic science and engineering and provides 69% of the support for non-medical biology research. This includes investment in basic biological research across a broad spectrum of subdisciplines, as well as the infrastructure that is needed to support scientists in their work. Time and time again we have seen that the knowledge gained through basic biological research is the foundation for more applied studies that sustain the health of animals, humans and ecosystems. NSF-funded research has led to countless new discoveries that could not have been envisioned when the research began. Nevertheless, these unforeseen applications have had enormous impact on science, health and the world's economy.

The majority of the NSF funding is awarded through competitive, merit-based peer review. Merit review ensures that the best possible projects are supported. Both the scientific reviewers and NSF program staff consider not only the intellectual merit of each research proposal, but also its broader impacts. NSF's criteria for broader impact address the potential for research to benefit society or to achieve specific outcomes. NSF has an exemplary record of accomplishment in terms of funding research that produces results with far-reaching potential. Since its inception in 1950, NSF has supported the work of 231 Nobel Laureates, including the 2017 winners of the Medicine, Chemistry, Physics and Economics prizes.

Biological research is just one part of the NSF portfolio. The APS believes that each of the NSF directorates support research that is critical to NSF's mission "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense..." Collaboration among scientific disciplines is increasingly recognized as the best and most efficient way to advance science. This will only be possible with strong support for all disciplines of research.

In addition to funding innovative research in labs around the country, the NSF education programs foster the next generation of scientists. The APS is proud to have partnered with NSF in programs to provide training opportunities and career development activities to enhance the participation of underrepresented minorities in science. We believe that NSF is uniquely suited to foster science education programs of the highest quality, and we recommend that Congress continue to provide federal funds for science education through the NSF.

The APS joins the Federation of American Societies for Experimental Biology (FASEB) in recommending that the NSF be funded at a level of at least \$8.45 billion in FY 2019. The increase provided to the NSF in FY 2018 is a first step toward restoring the erosion of NSF's purchasing power. Prior to FY 2018 the NSF budget had been flat in real terms for 15 years. The NSF is poised to address major challenges facing our nation and our world in the 21st Century, but it needs adequate resources to continue to carry out its mission.

Support for Life Sciences Research should be increased at NASA

NASA sponsors research across a broad range of the basic and applied life sciences, including gravitational biology, biomedical research and the Human Research Program (HRP). The gravitational biology and biomedical research programs explore fundamental scientific questions through research carried out both on Earth and aboard the International Space Station, which provides an environment for the conduct of experiments in space. NASA's HRP conducts focused research and develops countermeasures with the goal of enabling safe and productive human space exploration. The program funds more than 300 research grants that go to academic researchers in more than 30 states around the country.

During prolonged space flight, the physiological changes that occur due to weightlessness, increased exposure to radiation, confined living quarters, and alterations in eating and sleeping patterns can lead to debilitating conditions and reduced ability to perform tasks. Scientists are actively engaged in research that explores the physiological basis of these problems with the goal of contributing to the identification of therapeutic targets and development of novel countermeasures. One of the most well-known studies of these physiological changes is the NASA Twin Study which compares identical twin brothers and fellow astronauts Mark and Scott Kelly to see what changes occurred following Scott Kelly's one year mission aboard the International Space Station.² The knowledge gained from this research is not only relevant to humans traveling in space, but is also directly applicable to human health on Earth. For example, some of the muscle and bone changes observed in astronauts after prolonged space flight are similar to those seen in patients confined to bed rest during periods of critical illness as well as during the process of aging.

NASA is the only agency whose mission addresses the biomedical challenges of human space exploration. Over the past several years, the amount of money available for conducting this kind of research at NASA has dwindled. In the past, appropriations legislation specified funding levels for biomedical research and gravitational biology, but ongoing internal reorganizations at NASA have made it difficult to understand how much money is being spent on these programs from year to year. The APS recommends that funding streams for these important fundamental research programs be clearly identified and tracked within the NASA budget. The APS also recommends restoration of cuts to peer-reviewed life sciences research to allow NASA-funded

scientists to conduct research that will be critical in not only supporting the success of future long-range manned space exploration but also leading to innovative discoveries that can be applied to Earth-based medicine. As highlighted above, investment in the basic sciences is critical to our nation's technological and economic future. This innovative engine of research fuels our world leadership and our economy. The APS urges you to make every effort to provide these agencies with increased funding for FY 2019.

The APS is a professional society, numbering more than 11,000 members, dedicated to fostering research and education as well as the dissemination of scientific knowledge concerning how the organs and systems of the body function.

¹<https://www.nsf.gov/statistics/2018/nsb20181/report/sections/overview/introduction>

²<https://www.nasa.gov/feature/nasa-twins-study-confirms-preliminary-findings>

**Testimony for the Record
Submitted to the
United States House of Representatives Committee on Appropriations
Subcommittee on Commerce, Justice and Science**

Dr. Roger Falcone, President
The American Physical Society

April 27, 2018

On behalf of the American Physical Society (APS), representing more than 55,000 scientists in universities, national laboratories and the private sector, I want to express our strong support for the National Science Foundation (NSF). APS is grateful for the 4 percent increase to NSF's budget in the fiscal year (FY) 2018 omnibus bill and thanks the Subcommittee for recognizing the agency's critical role in our scientific ecosystem. Looking forward, APS urges the Subcommittee to build on NSF's momentum from FY 2018 by prioritizing the agency in its FY 2019 appropriations bill. Doing so would provide NSF the resources to support a leading-edge research portfolio, world-class facilities and education programs to help prepare the future STEM workforce, while also investing in the agency's 10 Big Ideas.

NSF – established by Congress in 1950 with a mission “to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes” – is a pillar of our nation's scientific enterprise, supporting nearly one quarter of all federally funded fundamental research conducted at U.S. colleges and universities. The agency supports science and engineering education, from pre-K to graduate school and beyond, helping to ensure the U.S. has a pipeline of talent ready to work at the forefront of science and technology.

NSF is the only federal agency that invests in fundamental, early stage research across all non-medical fields of science and engineering, advancing our scientific knowledge and understanding across many disciplines, including physics. The agency supports high-risk, high-reward research projects that not only have the potential to advance our knowledge, but also benefit society. NSF-sponsored research projects have resulted in discoveries leading to new technologies and companies, spawning new industries and strengthening the U.S. economy. NSF-funded research can be linked to applications that enhance our national preparedness and security, including advanced sensors to aid in early warning earthquake systems and new tools for detecting explosives. While NSF does not directly fund medical research, the NSF research portfolio includes projects – such as the foundational research that led to MRI techniques and brain imaging technology – that have yielded critical insights that enhance the quality of life for Americans.

NSF also plays a critical role in preparing our students for a world increasingly dependent on science and technology. By supporting education at all levels – from K-12 STEM education to postdoctoral training – NSF is helping to prepare America's future STEM workforce. NSF-

sponsored research and education programs strengthen our nation's scientific knowledge base today and help prepare our scientists and engineers of tomorrow.

For more than half a century, the U.S. government's commitment to funding early stage research – through NSF and other federal science agencies – at our colleges, universities and research institutions has helped ensure our position as a global leader in science, technology and innovation. With other nations across Europe and Asia taking note of America's success and bolstering their own national investments in science and technology, we must build on Congress's bipartisan commitment to scientific research demonstrated in the FY 2018 omnibus bill.

APS recognizes the need for thoughtful and measured federal spending, but robust funding for NSF is an essential investment for strengthening the U.S. economy and our global competitiveness, enhancing our national security, and improving the quality of life for Americans. APS urges your strong support of NSF throughout the FY19 appropriations process.

Thank you for your consideration of our views. If you would like any additional information for the record, please do not hesitate to contact Francis Slakey, Chief Government Affairs Officer, American Physical Society - Office of Government Affairs [slakey@aps.org 202.662.8706].



Inspiring Innovation. Advancing Research. Enhancing Education.

**Official Written Testimony in Support of
Fiscal Year 2019 National Science Foundation and National Aeronautics and Space
Administration Funding**

Submitted to the House Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Appropriations
United States House of Representatives
April 27, 2018

Submitted by

Bevlee Watford, Ph.D., P.E., President, American Society for Engineering Education
Norman Fortenberry, Sc.D., Executive Director, American Society for Engineering Education

Summary

This written testimony is submitted on behalf of the American Society for Engineering Education (ASEE) to the House Subcommittee on Commerce, Justice, Science, and Related Agencies for the official record. ASEE appreciates the Committee's support for the National Science Foundation (NSF) in the fiscal year (FY) 2018 omnibus and asks you to robustly fund the agency in FY 2019, including the Research and Related Activities and the Education and Human Resources accounts. ASEE joins the academic and scientific community in requesting support of at least \$8.45 billion for NSF in FY 2019 to advance both core research and education activities as well as NSF's Big Ideas for Future Investment. Additionally, ASEE supports continuation of funding at the National Aeronautics and Space Administration (NASA) dedicated to the Space Technology Mission Directorate (STMD), which supports engineers and scientists in developing technology to advance science and space missions in the national interest, and the Office of Education, which supports and coordinates NASA educational efforts in engineering and STEM.

Written Testimony

The American Society for Engineering Education (ASEE) is dedicated to advancing engineering and engineering technology education and research, and is the only society representing the country's schools and colleges of engineering and engineering technology. Membership includes over 12,000 individuals hailing from all disciplines of engineering and engineering technology and including educators, researchers, and students as well as industry and government representatives. The **U.S. engineering workforce numbered 1.7 million** people in 2015,¹ the most jobs of any STEM discipline, and the demand for engineering professionals continues to grow. As the pre-eminent authority on the education of engineering

¹National Science Board. 2018. Science and Engineering Indicators 2018. NSB-2018-1. Alexandria, VA: National Science Foundation.

professionals, ASEE works to develop the future engineering and technology workforce, expand technological literacy, and convene academic and corporate stakeholders to advance innovation and sound policy.

National Science Foundation

Engineering shapes our Nation and powers our innovation ecosystem. **National Science Foundation (NSF) basic research**, conducted in engineering schools and colleges around the country, **catalyzes new industries and revolutionary advances**. A workforce of well-trained engineers in industry and government takes those discoveries and develops innovative new technologies to improve our future. This system is **essential to growth and innovation across our economy**, and is helping to solve challenges in health, energy, and national security. **NSF is an essential partner, funding basic engineering and engineering education research at universities and supporting students to enable access to engineering education.**

ASEE would like to commend you for your vision and commitment to funding NSF and for providing a critical increase of \$295 million in funding, or \$7.767 billion total, in the fiscal year (FY) 2018 omnibus. Prior to this increase, NSF received flat funding for several years, challenging the agency's ability to spur innovative discoveries and research, particularly as the buying power of this funding decreased. **ASEE joins the research and higher education community in requesting that the Committee fund NSF at \$8.45 billion in FY 2019** to continue the momentum from increased funding in FY 2018 to drive advances in research and education and enable the U.S. to retain global competitiveness and scientific leadership.

ASEE strongly supports NSF's **Big Ideas for Future Investment** that would dramatically propel engineering research and education forward while revolutionizing the human-technology frontier, medicine, quantum communications, and other areas. NSF cannot adequately pursue these exciting, new interdisciplinary and transformative ideas without increased investments or would risk threatening core investments that power our research ecosystem.

NSF-funded research catalyzes fundamental advances that are utilized for national security applications while engineers trained with NSF funding become key components of the national security workforce and industrial base. Our national security ecosystem depends on healthy NSF research and workforce support. Additionally, we are encouraged by recent efforts by NSF and the Air Force to partner on new innovations such as space, materials, and quantum technologies. NSF is also tackling major national security challenges through the *Navigating the New Arctic* and other Big Ideas.

Investments in engineering education and research from NSF are essential for having a workforce trained and ready to contribute to industry, government, and academia. NSF is a major supporter of engineering research and workforce initiatives funding 40 percent of engineering and 87 percent of computer science academic fundamental research. NSF-funded advancements touch every corner of our lives and economy, from wireless systems to advanced manufacturing, and from new tools to combat brain diseases to technologies to ensure our cybersecurity. NSF supports engineering education at all levels, ensuring that the next

generation of the U.S. engineering workforce is appropriately prepared to contribute and innovate across sectors and that domestic students are attracted to careers in engineering and engineering technology.

The NSF **Directorate for Engineering** provides critical support for engineering education and research across the breadth of the discipline. These investments have the dual outcomes of training future engineers that will discover tomorrow's innovations, all while furthering today's cutting-edge research. Engineering investments at NSF provide critical advancements in areas such as resilient infrastructure, advanced materials and manufacturing, and bioengineering, in addition to equipping students with the skills they need to be the next generation of technological leaders. These programs support university research and centers, as well as partnerships with industry, that provide experiential opportunities fundamental to engineering education.

The NSF **Directorate for Computer and Information Science and Engineering** also plays a key role supporting engineering education and research, particularly within the Division of Information & Intelligent Systems, which supports efforts at the frontiers of information technology, data science, artificial intelligence, among other areas. These investments are critical as we move into a world even more reliant on human-technology interactions.

ASEE strongly supports NSF **Education and Human Resources** (EHR) funding to foster inclusive and effective learning and learning environments. The STEM workforce, particularly engineers, technologists, and computer scientists, is the driving force behind innovation and our economic development. We need to fully develop all of our nation's human talent in order to tackle the pressing problems we face. Access to STEM experiences and skills are a critical aspect of developing well-rounded citizens, technological literacy, and the future STEM workforce. ASEE supports the *Improving Undergraduate STEM Education* (IUSE) program, which is critical for preparing professional engineers and enhancing engineering educational experiences to broaden participation and retention in engineering and engineering technology programs.

NSF also plays a key role ensuring the development of new tools for teaching engineering design and analysis skills, which are under-taught in today's K-12 classrooms. As noted in the 2009 National Academies report *Engineering in K-12 Education*, engineering education has received little attention yet has the potential to improve student learning and achievement in other areas of STEM, increase awareness of engineering careers, and increase technological literacy. Engineering's focus on design and analysis enhances problem solving, teaches students new ways to approach challenges, and encourages students to connect science and math topics to real-world applications. These skills are critical to the future technical workforce. EHR also supports graduate fellowships and broadening participation efforts to create a pipeline of students knowledgeable and excited about engineering to fill workforce needs.

National Aeronautics and Space Administration

ASEE is concerned with the Administration's proposal to consolidate the **Space Technology Mission Directorate (STMD)** of the **National Aeronautics and Space Administration (NASA)** and redirect its activities solely towards human exploration. Of importance to ASEE, STMD activities support the workforce development pipeline of future space engineers and technologists by engaging directly with the academic community through early career faculty programs, early stage research grants, and university-led multidisciplinary research institutes. STMD's broad portfolio of activities helps to meet NASA's science objectives, establishes new commercial and academic partnerships, and stimulates the growth of the nation's technology sector. STMD programs fill significant capability gaps for NASA and better position the agency to meet its long-term strategic goals in areas across all its directorates ranging from propulsion and power generation to materials science and high-performance computing. **ASEE urges the Committee to block the Administration's proposal** and protect STMD's ability to focus on a broad array of NASA technology challenges, continue its engagement with the academic and private sectors, and keep its long-term focus beyond specific near-term mission goals. **ASEE joins the research community in requesting \$796 million for STMD in FY 2019.**

ASEE is also concerned with the Administration's proposed elimination of **NASA's Office of Education** and asks that the Committee sustain funding for this office in FY 2019 and beyond. NASA Education programs inspire students to pursue engineering, science, and technology careers, and the Office of Education plays a vital role coordinating education programs throughout the agency, including those at NASA centers. ASEE supports the continuation of NASA Education programs including the *National Space Grant College and Fellowship Program* (Space Grant), which supports university consortia in all 50 states, funding fellowships for engineering and other STEM students, while also offering important resources for faculty professional development and strengthening curricula. ASEE is also supportive of initiatives at the NASA Office of Education to broaden participation in STEM and to bring engineering design and analysis experiences to K-12 students.

Conclusion

National Science Foundation education and research investments have truly transformed our world through engineering breakthroughs such as the internet, fiber-optics, and medical imaging technology. These investments keep our communities safe, lower healthcare costs, and spur our economy. Today, engineering research is opening possibilities through advances in areas such as artificial intelligence, biosensors, and advanced materials. We ask that you robustly fund NSF at \$8.45 billion to support critical education and research programs. In addition, we urge you to continue both the Space Technology Mission Directorate and Office of Education at NASA in FY 2019. Thank you for the opportunity to submit this testimony.



**Written Statement of
Cristin Dorgelo
President and Chief Executive Officer
of the
Association of Science-Technology Centers
to the
United States House Appropriations Subcommittee on
Commerce, Justice, Science, and Related Agencies
April 27, 2018**

Chairman Culberson, Ranking Member Serrano, and Members of the Subcommittee:

Thank you for accepting this statement submitted by the Association of Science-Technology Centers (ASTC). I am Cristin Dorgelo, the President and Chief Executive Officer for ASTC. I appreciate the opportunity to present the views of ASTC to the Subcommittee for its consideration as it prepares to write the Fiscal Year 2019 Commerce, Justice, Science, and Related Agencies Appropriations bill, particularly regarding the **National Science Foundation (NSF)**, the **National Oceanic and Atmospheric Administration (NOAA)**, and the **National Aeronautics and Space Administration (NASA)**.

ASTC represents more than 670 members in nearly 50 countries, including not only science centers and museums, but also nature centers, aquariums, planetariums, zoos, botanical gardens, and natural history and children's museums, as well as companies, consultants, and other organizations that share an interest in informal science education. Of those members, more than 380 are science centers and museums located throughout the United States. Taken together, our global reach demonstrates the universal recognition of the importance of science in our lives. Our centers are leading institutions in the efforts to promote education in science, technology, engineering, and mathematics (STEM), through innovative and creative informal and classroom experiences. We are helping to create the next generation of scientific leaders and inspiring people of all ages about the wonders and the meaning of science in their lives.

In the past we have testified on behalf of the specific funding numbers for programs under this Subcommittee's jurisdiction. But today I want to start by looking at the bigger picture—the overall science budget of the U.S. Federal Government.

As you are well aware, last year the Administration proposed significant cuts to the budgets of a number of domestic agencies. Included in the list of impacted programs were a number of science agencies and science programs. Similar cuts have been proposed in the Administration's Fiscal Year 2019 budget.

I want to personally thank you for not agreeing to the cuts. You, the members of this Subcommittee, and indeed, the entire Congress, rejected the proposed budget and instead passed a budget with robust funding for science. The Subcommittee increased funding for NSF, NOAA, NASA, and the National Institute of Standards and Technology. Other Subcommittees increased funding for the National Institutes of Health, the science programs of the U.S. Department of Energy, and the science programs of the U.S. Department of Agriculture. Congress also increased funding for the Institute of Museum and Library Services, among other agencies.

Taken together, the science budget of the U.S. Federal Government is larger than ever. Total R&D funding increased 12.8 percent or \$20 billion in the Fiscal Year 2018 budget over the FY2017 budget according to Science Magazine, to a total of \$176.8 billion. On behalf of the all the members of ASTC, I want to say thank you, with gratitude for a job well done.

ASTC and its member centers were involved in the effort to support a robust science budget last year and will continue our efforts in the future. Many of our centers hosted science days, participated in marches, and reached out to their elected representatives to make the case for the importance of science and STEM education. ASTC will continue to advocate for science funding at every opportunity.

Every day, our science centers and museums open their doors for students and the public. And every day, our centers across the United States reach out to students of underserved populations in both urban and rural areas, so that quality STEM education can be accessed by every American student. Every day, our centers provide these educational experiences with science and technology in interesting and innovative ways. Every day, our centers reach out to every student in their community, to ensure that our nation has the trained STEM workforce we will need for the future. With continued Congressional support for informal STEM education programs, you will make our efforts more effective.

Turning to specifics, ASTC strongly urges the Subcommittee to provide for the following programs at NSF:

- \$902 million for the Directorate for Education and Human Resources (EHR)
- \$62.5 million for Advanced Informal STEM Learning (AISL)
- \$51.9 million for Science, Technology, Engineering, and Mathematics + Computing Partnerships (STEM+C)

For the programs within **NASA**, ASTC recommends the Subcommittee provide:

- \$100 million for NASA Education programs
- \$10 million for the Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers (CP4SMPVC) within the STEM Education and Accountability Projects

Within the budget for **NOAA**, ASTC recommends the Subcommittee maintain the total budget for the Office of Education at \$28 million.

These are the amounts the Subcommittee allocated in the final version of the FY2018 budget. ASTC strongly urges you to maintain this level of funding in the FY2019 budget and to again reject the Administration's proposals to cut these programs.

In summary, we continue to thank this Subcommittee for all its support of a robust science budget. You have demonstrated your support for crucial programs that promote STEM education for our nation's students. Like ASTC, you recognize these are vital investments in our future, and we thank you in advance for taking action accordingly.



**BOYS & GIRLS CLUBS
OF AMERICA**

**Statement of Jim Clark
President & CEO, Boys & Girls Clubs of America**

**Submitted to the House Appropriations
Subcommittee on Commerce, Justice, Science, and Related Agencies**

April 25, 2018

Boys & Girls Clubs of America (BGCA) would like to thank the Members of the Subcommittee for their leadership and continued support. We appreciate the opportunity to comment on the Department of Justice's (DOJ) National Mentoring Program.

BGCA serves 4.3 million youth each year, with 458,000 children and teens entering the doors of a Boys & Girls Club every day. Our nearly 4,400 Clubs represent a cross-section of American culture and heritage – with 1,659 school-based Clubs, 1,008 Clubs in rural areas, 287 Clubs in public housing facilities, 492 affiliated youth centers on military installations worldwide, and 177 Clubs on Native lands. We are the largest provider of youth services on Native lands and the second largest provider of afterschool programs in rural America, with public schools being the largest.

At BGCA, we believe every young person deserves a great future. Our vision is to provide a world-class Club Experience that ensures success is within reach of every young person who enters our doors, with all members on track to graduate from high school with a plan for the future, demonstrating good character and citizenship, and living a healthy lifestyle. Clubs offer young people a safe and positive place to learn and grow so that they become productive, caring and responsible citizens.

A growing body of evidence proves out-of-school time and summer learning programs are effective at helping youth to improve grades and school attendance, while fostering higher aspirations for graduating high school and attending some form of post-secondary education. According to our evidence-informed National Youth Outcomes Initiatives (NYOI) report (<https://www.bgca.org/about-us/club-impact>):

- 97% of Club teens expect to graduate from high school and 87% plan to attend college
- 84% of Club members believe they can make a difference in their community
- 84% of Club 12th graders abstain from alcohol use, compared to 58% of their peers nationally
- 54% of alumni save the Club saved their life

**NYOI is the largest set of privately-held youth development data. It enables us to leverage member-provided data to adjust our strategies in real-time to maximize outcomes for youth.*



**BOYS & GIRLS CLUBS
OF AMERICA**

The impact of Clubs extends far beyond the young people who walk through our doors every day. A study by the Institute for Social Research and the School of Public Health at the University of Michigan found that for every dollar invested in Boys & Girls Clubs, \$9.60 is returned to communities, approximately \$13.8 billion annually. Clubs provide underserved youth with regular access to and engagement in areas such as STEM, sports leagues, homework help and tutoring, summer learning loss prevention, and engagement in the arts. As a result, Club youth are able to leverage and create opportunities that shift the course of their life trajectories and undermine cycles of inequity. Additionally, access to affordable, reliable and safe out-of-school time programs allows parents and caregivers the opportunities to participate in the workforce. While their children are actively engaged at the Club, families can rest assured knowing that they have access to enhanced academic support to ensure youth are on track to graduate, nutritious food, opportunities to be physically active and health education, all provided by caring staff within the context of a safe and supportive Club environment. As a result, Clubs contribute to major savings for society by helping to prevent costly expenditures for health care, public assistance programs, and criminal justice system involvement and incarceration.

As Congress negotiates the fiscal year 2019 Commerce, Justice, Science, and Related Agencies Appropriations bill, we urge you to support \$120 million for the National Youth Mentoring Initiative, a key grant program administered by DOJ's Office of Juvenile Justice and Delinquency Prevention. While many young people have access to mentors, there are many more who do not. Mentoring promotes positive behaviors, attitudes, and outcomes for youth and reduces risk factors. It has been shown to improve academic performance, social and job skills, support behavioral or other personal development, and reduce consumption of alcohol and other drugs.

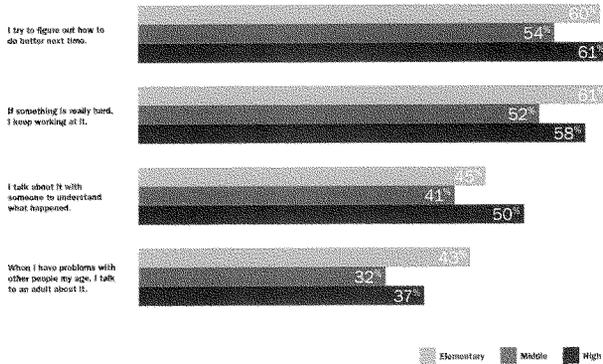
The National Youth Mentoring Initiative allows Boys & Girls Clubs to strengthen, expand and enhance youth mentoring programs with a focus on at-risk youth, delinquency and gang prevention, native youth, and military-connected youth. BGCA's National Youth Mentoring grant supports over 32,900 youth at Clubs in all 50 states, Puerto Rico and the District of Columbia, and at overseas military installations. Clubs use a combination of group and one-on-one mentorship approaches to foster the development of peer-to-peer relationships, strengthen the development of critical social skills, augment their ties with positive adult influencers and establish close connections to their communities.

BGCA compared regularly attending Club members and youth nationally by grade level. Across almost all health-risk behavior indicators, with each successive grade, the difference between Club members' abstention rates and those of Youth Risk Behavior Surveillance Systemⁱ respondents increased. In other words, teens who stay connected to a Boys & Girls Club as they get older seem better able to resist engaging in high-risk behaviors than their counterparts nationally at the same ages. Additionally, Club members learn the social-emotional skills they need to become successful.



**BOYS & GIRLS CLUBS
OF AMERICA**

Club Members Report Using Social-Emotional Skills When Experiencing Challenges
But Young Adolescents Don't Fare as Well



In addition to the return-on-investment Boys & Girls Clubs provide to members, communities, and the country at-large, investing in mentoring also pays dividends. The importance of mentoring has been demonstrated by a three-year, DOJ-contracted study on BGCA’s group mentoring approach. The study shows that preventing at-risk youth from pursuing delinquent behavior over a three year period provided an average taxpayer savings per Club of \$374,622 and an average amount per youth of \$4,921, for a total maximum potential savings of \$110,891,000.ⁱⁱ

Prioritizing our youth not only leads to better individual outcomes but also to a healthier, safer and more prosperous nation. We stand willing to work with you to help build the next generation of American leaders by increasing the number of young adults who have the character, education, fitness and skills they will need to be successful.

Thank you for your leadership and support for this vital program.

ⁱ The Youth Risk Behavior Surveillance System (YRBSS) is a national survey administered by the Centers for Disease Control and Prevention that monitors health-risk behaviors among youth and young adults. The survey is administered every two years to students in 6th through 12th grades in their school classrooms. The NYOI member survey includes questions from the YRBSS.

ⁱⁱ U.S. Department of Justice Programs. (2015). A comprehensive evaluation of group mentoring at the Boys & Girls Clubs of America. 2010-JU-FX-0119

April 27, 2018

Congressional Testimony from Pam Iorio, President and CEO, Big Brothers Big Sisters of America, for the House Committee on Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies

I want to thank the committee for the opportunity to submit testimony in favor of expanding funding for youth mentoring. As the President and CEO of Big Brothers Big Sisters of America and as a former mayor, I understand how impactful and life-changing a caring mentor has on a child's life.

This week, I visited our Affiliate in Broward County, Florida to meet with 27 students who serve as High School Bigs through Marjory Stoneman Douglas High School to Little Brothers and Little Sisters from a nearby elementary school. They meet every Monday with their Littles, spending time with them going over homework, talking about what's going on in their lives, and being the caring mentor they need.

These 27 High School Bigs were at school that terrible day in February, and one of them was shot during the incident and is recovering. Knowing the trauma these high schoolers had gone through, I thought it was possible that the group might have lost some interest in spending time with their Littles. I was wrong. They shared with me something I didn't expect to hear – that the relationships they had formed with their Littles actually helped them get through the past two months. They spoke of the innocence of the elementary school children, and how the Littles' questions and concerns helped them process what they had experienced. They spoke about how giving a part of themselves to a child helped them move forward with purpose. What came clearly into focus for me was the importance of the connection between two people, a reminder that the relationships we create every day strengthen both the child and the volunteer.

For more than 100 years, Big Brothers Big Sisters has been creating life-changing mentoring relationships like these between youth and caring adults. Big Brothers Big Sisters' mentoring model is evidence-based, backed up by sound research and sustained by thorough monitoring and support. We match youth ("Littles") with mentors ("Bigs") taking into account background, personality, and interests. The mentoring relationships ("matches") often last years, and are supported by our professional staff who focus on child safety and youth development.

Having a mentor can contribute to a child's sense of self-confidence in general and competence at school. Mentoring can also make it more likely that a student will strive to attain higher education. Seventy-six percent of at-risk young adults who had a mentor aspire to attend and graduate college, whereas only 56 percent of at-risk young adults without a mentor have those goals.¹ One of the first signs that a child is falling off track is that he or she starts missing school. Having a mentor can be key to getting a child back on track and attending school regularly. A study of Big Brothers Big Sisters programs showed that having a mentor meant that youth were 52 percent less likely to skip school.²

¹ Bruce, Mary and Bridgeland, John (2014). *The Mentoring Effect: Young People's Perspectives on the Outcomes and Availability of Mentoring*. Washington, D.C.: Civic Enterprises with Hart Research Associates for MENTOR: The National Mentoring Partnership. www.civice enterprises.net/Education

² Tierney, J. P., Grossman, J. B., & Resch, N. L. (1995). *Making a difference: An impact study of Big Brothers/Big Sisters*.

Being a Little in a Big Brothers Big Sisters program can also lead to a child engaging in fewer risky behaviors. Research shows that, compared to children who did not have a Big Brothers Big Sisters mentor, Littles are 46 percent less likely to start using drugs and 27 percent less likely to start using alcohol. They are also almost one-third less likely to hit someone. Decreasing the frequency of these risky behaviors means that fewer youth will start engaging in criminal activity or be involved with the juvenile justice system, which relieves a considerable financial burden on the state while promoting prosocial behaviors.

Last year, Big Brothers Big Sisters of America received \$6 million in mentoring grants from the U.S. Department of Justice Office of Juvenile Justice and Delinquency Prevention (OJJDP) which we administered to 67 Affiliates for one-to-one mentoring. OJJDP's mission to prevent juvenile delinquency and ensure all youth have the chance for a successful future aligns with Big Brothers Big Sisters' mission. Federal grants from OJJDP allow our Affiliates to serve more children by matching them in mentoring relationships through our rigorously tested, evidence-based program. OJJDP grants have also allowed us to enhance our Bigs in Blue program, which recruits law enforcement officers to become volunteer mentors ("Bigs") to youth facing adversity (our "Littles"). This program creates understanding between police and the communities they serve. We greatly appreciate OJJDP's support.

Our model, the oldest in the country, has faithfully served millions of children over the past century and continues to change the lives of youth and adults alike by creating strong and supportive matches. On behalf of the thousands of youth waiting to be matched with a mentor, I thank you for your past support of Big Brothers Big Sisters, and ask you continue to make mentoring a priority in your discussions.



**FY 2017 Testimony of the ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES'
(APLU) Board on Oceans, Atmosphere, and Climate (BOAC) to the House Appropriations
Subcommittee on Commerce, Justice, and Science and Related Agencies**

Submitted by co-chairs: Dr. John M. Kelly, President, Florida Atlantic University and Dr. Steve Ackerman, Associate Vice Chancellor for Research and Graduate Education, and Director, Cooperative Institute for Meteorological Satellite Studies, University of Wisconsin

On behalf of the Association of Public and Land-grant Universities' Board on Oceans, Atmosphere, and Climate (BOAC), we thank you for the opportunity to provide recommendations for the proposed FY 2019 budgets for the National Oceanic and Atmospheric Administration (NOAA), the National Aeronautics and Space Administration (NASA) and the National Science Foundation (NSF). BOAC represents hundreds of scientists and administrators at APLU's 218 U.S. member universities and systems. *We support a budget of \$549 million for NOAA's Office of Oceans and Atmospheric Research, including \$85 million for the National Sea Grant Program, \$52.8 million for Sustained Ocean Observations and Monitoring, \$37.7 million for the NOAA's Regional Integrated Ocean observing System of the National Ocean Service, \$6.5 billion for NASA's Science Directorate and \$8.456 billion for NSF.*

NOAA

NOAA is responsible for providing the nation with weather, climate, and water information; and protecting, conserving and managing the use of coastal and ocean resources.

One-third of the nation's gross domestic product is supported via NOAA's products and services. From farmers to truckers to airlines and energy companies, every American depends on the vital weather and climate information provided through NOAA and the support of marine shipping through nautical charts and navigational information. Last year, the nation set a record for highest cost of damages from weather and climate disasters – a total of \$309.4 billion. By comparison, NOAA's entire budget in 2017 was \$5.7 billion.

To help NOAA meet its mission, NOAA's Office of Oceanic and Atmospheric Research (OAR) enables better forecasts, earlier warning for natural disasters, and a greater understanding of the complex systems that support our planet. We recommend a budget of \$549 million for OAR. OAR conducts research across three major areas: weather and air quality; climate; and ocean and coastal resources. Supporting NOAA's efforts in all these areas are the Cooperative Institutes, which are academic and non-profit research institutions that conduct research for NOAA. Currently, NOAA supports 16 Cooperative Institutes (CI) consisting of 42 universities and research institutions across 23 states and the District of Columbia. Many of the CI collocated with NOAA research laboratories, creating a strong, long-term collaboration between scientists in the laboratories and in the university. Funding the CI expands NOAA's scientific workforce

and capacity. In addition, many of the cooperative agreements between NOAA and our academic partners provide for formal NOAA sponsorship of students through fellowships. Thus, Cooperative Institutes serve an additional important function: they help educate and train the next generation of NOAA's and the nation's scientific workforce.

Another strong federal-state partnership is the National Sea Grant College Program, which we would recommend funding at \$85 million. Sea Grant works to turn research into action, ensuring that coastal communities are economic engines and remain resilient in the face of natural hazards. In 2016, Sea Grant activities resulted in over 7,000 jobs created or retained, \$611 million dollars in economic benefit to the communities they serve, and the training of over 2,300 undergraduate and graduate students. Sea Grant leverages \$3 for every \$1 of Federal money it receives. In 2016, Sea Grant worked with nearly 1,300 industry and private sector, local, state and regional partners and assisted 494 communities with technical assistance.

Sea Grant is local; it provides NOAA with boots on the ground throughout the country's coastal areas. Sea Grant personnel hear directly from community members about their needs and work directly with communities to provide technical assistance. We provide below two examples of the type of work Sea Grant has done related to community resiliency.

In 2015, Texas Sea Grant helped ease regulatory burden on Texas inshore shrimp fishermen. Texas' inshore shrimp fishery annually lands millions of pounds of shrimp for human consumption and as bait for the growing recreational saltwater fishery in the state, but the fishery was experiencing financial hardships from restrictive harvest regulation, imported shrimp that reduced the dockside value of wild shrimp, and high overhead. By facilitating discussion between Texas state marine fishery regulatory agencies and inshore shrimp fishermen, Texas Sea Grant aided shrimp fishermen in changing trawling and shrimp size regulations to allow for longer fishing times and potentially increased catches.

Every day NOAA collects more than 20 terabytes of data, which is more than twice the volume of data in the US Library of Congress' printed collection. NOAA and its partners translate that data into weather forecasts, information on harmful algal blooms, tactical information for search and rescue operations, and many other important products.

Two programs that provide an enormous amount of data for NOAA are OAR's National Sustained Ocean Observations and Monitoring (SOOM) program and the National Ocean Services' Integrated Ocean Observing System (IOOS).

BOAC supports a funding level of \$52.8 million for SOOM, which funds observing, including globally deployed floats, drifters, and fixed moorings to provide information essential for accurate forecasting of hurricanes, atmospheric rivers and associated flooding and heat waves. Ocean observing is increasingly relevant to drought early warning systems, enhanced tsunami warning systems, and storm surge monitoring. Ocean observations are also imperative for calibrating and validating satellite observations.

BOAC recommends funding for the National Ocean Services Integrated Ocean observing System (IOOS) at \$37.7 million. IOOS provides new tools and forecasts to improve safety, enhance the economy, and protect our life and property. IOOS data is available in near real-time, as well as retrospectively, and support a variety of missions, including weather forecasting, efficient marine operations, daily tactical support of military operations worldwide, and ecosystem monitoring. IOOS is a partnership of 17 Federal agencies and 11 regional associations. The regional associations fill critical ocean observing information gaps providing over 50 percent of the marine data used by the National Weather Service.

NSF

BOAC supports \$8.456 billion for NSF. NSF provides 59% of geoscience basic research funding at academic institutions as well as supporting critical infrastructure such as the National Center for Atmospheric Research – Wyoming Supercomputing Center, the Academic Research Fleet, and the Ocean Observatories. Additionally, NSF is the home of traditionally strong STEM education programs. NSF’s investments in the geosciences address important national challenges, spur new economic sectors, and lead to the development and implementation of advanced technologies that save lives, protect property, and support our economy.

BOAC supports the NSF’s research effort called Prevention of and Resilience against Extreme Events (PREEVENTS), the purpose of which is to enhance national resilience to natural hazards by improving our understanding of the fundamental processes underlying natural hazards and extreme events in the geosciences. Along the U.S. coast, storm surge is often the greatest threat to life and property from a hurricane. NSF-funded researchers are quantifying how future tropical storm surges may impact U.S. coastal properties, using past patterns of coastal sea-level change. From 1990 to 2008, population density increased by 32% in Gulf coastal counties, 17% in Atlantic coastal counties, and 16% in Hawaii, according to the U.S. Census Bureau. In 2011, 45% of our nation’s GDP was generated in the Coastal Shoreline Counties along the oceans and Great Lakes. A storm surge of 23 feet could inundate 67% of interstate highways, 57% of arterial roads, almost half of rail miles, 29 airports, and virtually all ports in the Gulf Coast area. Information on coastal property risk is vital to owners, insurers, and government.

NSF has also teamed up with NOAA to devise new ways to warn citizens of the dangers of storm surge. They devised a new storm surge communication system that will likely save lives. By bringing social scientists together with meteorologists, NSF is protecting Americans’ welfare.

Danger, of course, does not only come from Earth. Rare violent storms on the Sun – the source of space weather – have the potential to knock out the entire electrical power grid, possibly for months, resulting in trillions of dollars of damage and bringing chaos to much of the country. NSF’s investment in understanding, modeling, and observing space weather systems are developing predictive models to forecast and mitigate this catastrophic possibility.

Finally, BOAC is also pleased to see NSF continue research into Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS). This cross-directorate program aims to research the intersection of food, energy, and water systems to discover new knowledge and novel technologies to solve challenges facing all three areas. The INFEWS program seeks to support research that incorporates social and behavioral processes (such as decision making and

governance), physical processes (such as built infrastructure and new technologies for more efficient resource utilization), natural processes (such as biogeochemical and hydrologic cycles), biological processes (such as agroecosystem structure and productivity), and cyber-components (such as sensing, networking, computation and visualization for decision-making and assessment) into the complex systems of food, energy, and water. Investigations of these complex systems may produce discoveries that cannot emerge from research on food or energy or water systems alone.

NASA

Like NOAA & NSF, NASA is critical to understanding Earth's ever-changing processes. Space-based observations of our planet matters to each of us, on a daily level, for things like GIS technology, weather forecasts, and agricultural productivity. Earth observations contribute to our economy, our national security, and our personal safety. Without a sustained commitment to both exploratory and applied Earth science and related observing systems, none of these benefits would be possible.

In 2018, the National Academies issued the decadal survey report, "*Thriving on Our Changing Planet: A Decadal Strategy for Earth Observation from Space*." ***BOAC supports the current decadal survey and its recommendations.***

NASA is instrumental in deploying satellites used by NOAA. Furthermore, without the tools developed at NASA, oceanic, atmospheric, hydrologic and earth-system scientists and the nation would have only a fragmentary picture of the interconnected functioning of the planet's oceans, atmosphere and land. NASA plays a role in technology transfer from NOAA by testing new sensors. The NASA data archive is an irreplaceable collection of environmental information that researchers depend upon. NASA also flies the WB-57 high altitude research aircraft, which performs valuable atmospheric research missions including remote sensing for coastal resiliency and the study of hurricane formation and intensity change. Furthermore, through its support for young scientists and graduate students, the NASA science mission supports innovation in the education and future workforce pipeline.

BOAC thanks you for the opportunity to provide our views to the Subcommittee. We look forward to working with you through the FY 19 appropriations process.

About APLU and the Board on Oceans, Atmosphere and Climate

APLU's membership consists of 224 state universities and state-university systems. APLU institutions enroll more than 4.1 million undergraduate students, and 1.2 million graduate students, award 1.1 million degrees, employ 1.1 million faculty and staff and conduct \$42.4 billion annually in university-based research annually. The Board's mission is to provide federal relations for issues involving university-based programs in marine, atmospheric, and climatological sciences. BOAC representatives are chosen by their president's office to serve. They include some of the nation's leading research and educational expertise in atmospheric, marine, and climate disciplines.



April 20, 2018

The Honorable John Culberson
2161 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Richard Shelby
304 Russell Senate Office Building
Washington, D.C. 20510

The Honorable José Serrano
2354 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Jeanne Shaheen
506 Hart Senate Office Building
Washington, D.C. 20510

Dear Chairman Culberson, Ranking Member Serrano, Chairman Shelby and Ranking Member Shaheen:

The Coalition for Aerospace and Science (CAS) is an alliance of prominent industry, university, and science organizations united in our support for robust and sustained federal investments in the National Aeronautics and Space Administration (NASA). As a group, we believe that increasing federal support and maximizing the efficiency and effectiveness for this vital agency will help ensure our nation's scientific, industrial, and academic leadership long into the future. **As you allocate funding for Fiscal Year (FY) 2019, we urge you to provide NASA with at least \$21.7 billion for FY 2019, five percent above the funding level in the FY2018 Omnibus.**

Strong funding, a balanced portfolio of missions and research, and policies that encourage innovative collaborations are essential to our nation's leadership in science, expanding the frontiers of human exploration, new space technology and aeronautical technology development. NASA's long history of transformative advances in science and technology have positioned the U.S. as a world leader across many fields, driving strong U.S. exports, supporting jobs, and drawing the best and brightest students to American universities. As the nation addresses new problems and challenges, robust support for NASA is critical to fostering a 21st century economy and restoring America's global scientific and technological leadership.

Every member of CAS has unique concerns and requests. However, the entire coalition is united in our support and advocacy for NASA's critical research, missions, and programs. As NASA-wide stakeholders, we respectfully request that within the topline request, Congress take note of the following specific opportunities for progress and impact:

TECHNOLOGY

CAS requests at least \$796 million for the **Space Technology Mission Directorate (STMD)**. Since its inception, STMD has focused on improving NASA's technological capabilities across a wide array of areas—from propulsion and power generation to materials science and high-performance computing—that help the agency achieve mission requirements across all its directorates. As recently as 2016, the National Academies of Science, Engineering, and Medicine (NASEM) reaffirmed its support for this approach, asserting that a standalone technology development program is critical to meeting technology needs across the agency's mission portfolio.

More broadly, STMD has spurred the creation of a technology development ecosystem that spans numerous states—including those that do not host NASA centers—and supports industry and academic researchers alike. In so doing, STMD has created products and services that stimulate America's economy with new businesses, industries, and high-skilled, sustainable jobs. These activities underpin partnerships across government agencies with commercial space programs and international space entities. Ultimately, STMD enhances the United States' global economic competitiveness and international recognition as the principal driver in the field of space technology.

The Coalition is unified in its opposition to STMD becoming subsumed by another directorate and strongly advocates that its independence and standalone activities remain within the current structure. STMD's culture, strategy, and technology implementation approach is unique within the agency and has a proven, successful track record. It is imperative that Congress rejects the Administration's request to subsume STMD into another directorate.

HUMAN EXPLORATION AND SPACE OPERATIONS

The Coalition requests continued funding support for the **Orion Multi-Purpose Crew Vehicle and Space Launch System (SLS)** programs. For our nation to continue making progress towards human exploration beyond Earth orbit, it is vital to ensure these programs have the resources needed to build upon the progress already achieved on SLS and Orion – the foundational programs for future U.S. human exploration. Consequently, for FY2019, we are requesting \$2.15 billion for SLS, including no less than \$400 million for the SLS Exploration Upper Stage; \$1.35 billion for Orion; and at least \$557 million for Exploration Ground Systems – with the additional funds needed to complete the second Mobile Launch Platform and accelerate the crewed Orion EM-2 mission to the vicinity of the moon.

Furthermore, NASA should utilize SLS and Orion vehicles for the development of cislunar space – a region with the potential to vastly expand economic activity in space. The United States economy can benefit greatly from the commercial development of cislunar space, and it is vitally important for reasons of national security and foreign policy, as well, that the United States be at the forefront in cislunar development.

Regarding other parts of the **Human Exploration and Operations Directorate**, CAS recommends \$1.46 billion for the ISS, including for commercial cargo resupply. For the Commercial Crew program, which is important both to restore independent US access to the ISS and to increase the amount of science performed on it, CAS recommends \$2.11 billion. CAS commends the Administration's interest in developing a plan to privatize the day-to-day operations for ISS and research in Low Earth Orbit. We believe this will help to maintain this vital capability for continued U.S. operations and leadership in LEO, and CAS also supports the \$150 million requested for commercial LEO development to create new stakeholders to offset future operating costs. Realized savings should be applied to accelerate the deep space exploration program.

The Coalition requests that NASA only consider bids from cargo and science providers from domestic launch providers. NASA should be utilizing and benefiting from a competitive US launch

landscape and avoid putting any taxpayer funded cargo or exploration missions on foreign launch vehicles.

Finally, to support new deep space exploration capabilities, including NASA's Lunar Orbital Platform (LOP) - Gateway, CAS supports the Administration's request for \$889 million.

SCIENCE

The Coalition requests at least \$6.5 billion to fund NASA's **Science Mission Directorate (SMD)** and maintain a balance across the portfolio. This represents a five percent increase over the FY2018 enacted level. NASA science programs help us answer profound questions about Earth as well as our place in the universe. New knowledge made possible from SMD inspires future generations to pursue careers in science, technology, engineering and mathematics (STEM), sustaining U.S. leadership in groundbreaking discoveries.

The Coalition requests Congress continue to provide ample funding in order for the **Planetary Science Division** to adhere to the priorities set by the Planetary Science Decadal Survey. We applaud Congress' past support for exploring Europa, which the scientific community has determined offers one of the most promising extraterrestrial habitable environments in the solar system. Additionally, sufficient funding is necessary to ensure the Europa Clipper mission can meet target launch dates in the 2020s. The Coalition also supports ongoing missions on Mars and elsewhere – including the Mars2020 rover and preliminary sample return plans – as well as continued funding for future Discovery and New Frontiers missions in alignment with decadal priorities.

CAS requests robust funding for the **Earth Science Division (ESD)** to ensure continued support for key missions and programs. The Coalition appreciates the continued support in FY2018 for OCO-3, PACE, NISAR, CLARREO Pathfinder, and Earth-facing instruments on DSCOVR, and requests that Congress continue its funding in FY2019. These missions will advance science frontiers and provide critical data for society. For example, PACE will help us monitor the duration and impact of harmful algae blooms and CLARREO Pathfinder will enable industry and military decision-makers to more accurately assess natural hazards, such as flooding. Increased funding for ESD in FY2019 will be critical to responding to recommendations of the National Academy of Sciences' Earth Science and Applications from Space (ESAS) Decadal Survey report released earlier this year. An increase in funding for FY 2019 will be necessary to meet the report's top recommendations - Designated and Earth System Explorer mission classes – whose budgetary requirements begin rapidly increasing starting in FY 2020. Additionally, the Coalition requests that Congress direct NASA to competitively select these future missions to encourage responsible cost and schedule constraints, develop novel remote sensing technologies, and leverage the talents and expertise of scientists at universities and research institutions.

The Coalition requests strong support for the **Heliophysics Division**. Heliophysics will lead to a greater understanding of our Sun and will help to mitigate the hazards that solar activity poses to the ground- and space-based platforms that strengthen our national security, economic competitiveness, and scientific prowess. Robust support will allow for implementation of key community priorities outlined in the Space Weather Action Plan.

Additionally, increased funding for Heliophysics is needed to support missions under formulation and development and current Announcement of Opportunities (such as the Interstellar Mapping and Acceleration Probe, IMAP) within the Living with a Star, Solar Terrestrial Probes, and Explorer programs without jeopardizing the future of vital activities within the other elements of the HPD. These include new initiatives such as the *Diversify, Realize, Integrate, Venture Educate (DRIVE)*, Heliophysics Science Centers and increased support, jointly with NOAA, for “O2R/R2O” and computational programs in space weather research. Support for these programs is consistent with congressional intent for each NASA Division to make progress on the top recommendations of the Solar and Space Physics Decadal Survey.

Full funding for the **Astrophysics Division** will allow for continued progress on the balanced portfolio of Astronomy and Astrophysics Decadal Survey priorities, including the Wide Field Infrared Survey Telescope (WFIRST). WFIRST is the top-ranked large space mission in the most recent decadal survey. This next generation telescope will advance the search for life on planets outside our solar system, and its wide field instrument will provide a field of view of the sky that is 100 times larger than what is possible with the Hubble Space Telescope. CAS supports efforts by NASA to actively manage the scope of the mission during formulation to control costs and asks Congress to allow planned efforts to control costs to move forward. Abandoning this top scientific priority, as proposed in the President’s FY2019 budget, undermines future decadal surveys and erodes U.S. ability to develop future flagship missions as part of a world-leading program.

EDUCATION

The Coalition opposes the Administration’s proposed elimination of NASA’s Office of Education, and asks you to once again reject this proposal, as you did in FY18. NASA plays a pivotal role in inspiring and encouraging young people to pursue STEM disciplines of study and careers; engaging the broader public in NASA’s mission; and strengthening NASA and the nation’s workforce. The NASA Office of Education supports programs such as the Space Grant College and Fellowship Program and the Minority University Research and Education Project (MUREP).

The Space Grant program funds nearly 4,000 fellowships and scholarships for students in all 50 states and the District of Columbia who are pursuing a STEM career, allowing them to participate in NASA aeronautics and space projects integrating classroom learning with on-the-job training much like apprenticeships. Through MUREP, NASA provides competitively bid awards to minority-serving institutions to recruit and retain underrepresented and underserved students into STEM fields, preparing these students with marketable skills and practical work experience. Continued support for the Office of Education is vital to ensure the United States continues to train and inspire our next generation of scientists, engineers, and technicians in order to remain globally competitive.

AERONAUTICS

Beyond our requests for space programs, the Coalition also recommends at least \$790 million for the **Aeronautics Research Mission Directorate (ARMD)**, which will allow for an increase in funding for subsonic, supersonic and hypersonic flight technologies and flight demonstrators. This

directorate conducts and funds research that is vital to the continued leadership of our nation’s aviation sector. Research from this directorate develops technologies that transform the way we fly by lowering operating costs while increasing efficiency and reducing aviation’s environmental impact. Aviation contributes more than one trillion dollars annually to the U.S. economy, and it is vital we fund this research to continually improve the efficiency, safety and adaptability of our air transportation system. NASA’s Aeronautics enterprise is also doing essential research to enable harnessing the potential of Unmanned Aircraft Systems by safely integrating their operations into the national airspace while assuring U.S. hypersonics research remain first rate.

Thank you for your consideration of our funding requests. We hope you will consider CAS as a resource as you work to craft FY2019 appropriations.

NASA Funding, numbers in millions

Account	FY17	FY18	FY19 President’s	FY19 CAS Request
	Omnibus	Omnibus	Budget Request	
Science	5,764.9	6,221.50	5,895.0	6,500.0
Space Technology	686.5	760	Moved to ERT	796.0
Aeronautics	660.0	685	633.9	790.0
<i>Orion Multi-purpose Crew Vehicle</i>	1,350.0	1,350	1,163.5	1,350.0
<i>SLS</i>	2,150.0	2,150	2,078.1	2,150.0
<i>SLS Exploration Upper Stage</i>	300	300	N/A	400.0
<i>Exploration Ground Systems</i>	429.0	895	428.2	557.0
<i>ISS</i>	1,450.9	N/A	1,462.2	1,460.0
<i>Commercial Crew Program</i>	1,184.8	N/A	731.9	2,110.0
<i>Advanced Exploration Systems</i>	0	N/A	889.0	889.0
NASA Overall	19,653.3	20,736.14	19,892.2	21,700.0

Member Organizations:

- | | |
|---|--------------------------------------|
| Aerospace Industries Association | Consortium for Ocean Leadership |
| American Astronautical Society | Crop Science Society of America |
| American Astronomical Society | Geological Society of America |
| American Geophysical Union | Georgia Institute of Technology |
| American Society of Agronomy | Human Factors and Ergonomics Society |
| Association of American Universities | Lockheed Martin Corporation |
| Association of Public and Land-grant Universities | New Mexico State University |
| Ball Aerospace | Northrop Grumman Corporation |
| Boston University | Princeton University |

Purdue University
Raytheon Company
Soil Science Society of America
SPIE – the international society for optics and
photonics
The Planetary Society
United Launch Alliance
University Corporation for Atmospheric
Research
University of Arizona
University of Colorado – Boulder
University of California – San Diego

University of Florida
University of Iowa
University of Maryland – Baltimore County
University of Maryland – College Park
University of Michigan
University of New Hampshire
University of Texas at Austin
University of Washington
University of Wisconsin – Madison
Washington State University
Woods Hole Oceanographic Institution



Hilarie Bass
President

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March 29, 2018

The Honorable John Culberson
Chairman
Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies
House of Representatives
Washington, D.C. 20515
Dear Chairman Culberson:

On behalf of the more than 400,000 members of the American Bar Association (ABA), I thank you for your work to fund the Legal Services Corporation (LSC) in the Consolidated Appropriations Act, 2018.

You kept true to your comments at the full committee markup about LSC being “vitaly important” and “particularly for battered women who need help in court.” We are gratified at the movement in the right direction with the increase in funding. The extra funding will allow LSC to assist at least an additional 100,000 people.

Even with this welcomed increase, more funding is needed. In the past year, low-income Americans received inadequate or no legal help for 86 percent of their civil legal problems, according to a nonpartisan research organization at the University of Chicago.

For FY2019, the ABA is requesting LSC funding of \$482 million, which would match the FY2010 funding level when adjusted for inflation.

Support continues to grow for the LSC. I was delighted to see that on March 16, 2018, 181 Members of Congress, up from 148 last year, signed on to a [letter](#) to your House Appropriations Commerce, Justice, Science Subcommittee urging robust FY 19 funding for the LSC. The letter included 30 Republican House members, an increase of 20 from last year, demonstrating the increased importance and bipartisanship of LSC funding.

Money spent for legal aid is money well spent, with over 30 studies all showing substantial return on investment—as high as \$12 for every \$1 invested. Furthermore, the federal funding for legal aid leverages 3 times as much in non-federal funding.

Thank you, again, for your support of LSC. If you or your staff have any questions, feel free to contact me or Aloysius Hogan in the ABA Governmental Affairs Office at aloysius.hogan@americanbar.org or (202) 662-1767.

Sincerely,

Hilarie Bass



Animal Welfare Institute

900 Pennsylvania Avenue, SE, Washington, DC 20003
 awionline.org phone: (202) 337-2332 fax: (202) 446-2131

TESTIMONY TO THE HOUSE APPROPRIATIONS SUBCOMMITTEE ON COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES FOR FISCAL YEAR 2019

Submitted by Nancy Blaney, Director, Government Affairs
 April 27, 2018

Thank you for the opportunity to submit testimony on Fiscal Year 2019 funding priorities for the U.S. Department of Commerce's (DOC) John H. Prescott Marine Mammal Rescue Assistance Grant Program (Prescott Grant Program), which is funded through the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS); as well as on the Marine Mammal Commission (MMC), an independent federal agency established by Congress under the Marine Mammal Protection Act (MMPA).

Prescott Grant Program

\$4.00 million

The Prescott Grant Program, under NOAA's National Marine Fisheries Service, provides competitive grants to marine mammal stranding network organizations to rescue and rehabilitate sick, injured, or distressed live marine mammals and to investigate the events and determine the cause of death or injury to marine mammals. Over the past 18 years, the Prescott grants have been critical to protecting and recovering marine mammals across the country while also generating critical information regarding marine mammals and their environment. As the sole source of federal funding for the National Marine Mammal Stranding Network, which is comprised of over 90 member organizations within 23 states, robust funding is required for the Prescott Grant Program in order for it to continue with its vital work.

Marine Mammal Commission (MMC)

\$5.25 million

The Marine Mammal Commission (MMC) is an independent federal agency established by Congress in 1972 under the Marine Mammal Protection Act (MMPA). Responsible for overseeing the proper implementation of the MMPA, the MMC provides comprehensive, independent, science-based oversight of all federal and international policy and management actions affecting marine mammals. The MMC's work is crucial for maintaining healthy populations of marine mammals, such as whales, manatees, dolphins, seals, sea otters, walrus, and polar bears, and ensuring their survival for generations to come. Additionally, the MMC seeks to ensure that Alaska Natives can meet their subsistence needs through hunting of marine mammals.

Since Fiscal Year 2015, the MMC has been funded at a flat level of \$3.43 million – this level of funding translates to about one penny per American per year. However, since that time, the MMC has absorbed significant fixed costs leading to reduced discretionary funding for its core functions by roughly 53 percent (\$1.82 million). In order to restore the MMC to the discretionary funding level it had in FY 15, \$5.25 million is needed. This level of funding will better enable the MMC to fulfill its obligations as outlined in the MMPA.

Testimony Regarding Fiscal Year 2018 and 2019 Funding
for the University Atmospheric Science and Technology Community
Submitted to the
Subcommittee on Commerce, Justice, Science and Related Agencies
Committee on Appropriations,
United States House of Representatives
by Dr. Antonio Busalacchi, President
University Corporation for Atmospheric Research
April 27, 2018

On behalf of the University Corporation for Atmospheric Research (UCAR), I am pleased to submit this testimony to the House Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies and we ask the Subcommittee to continue its strong support for Federal investment in basic research and development in the atmospheric, Earth, and related sciences – in particular at the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), and the National Oceanic and Atmospheric Administration (NOAA). Through the support of our federal partners, UCAR is able to facilitate and leverage vital atmospheric, Earth, and related research in hundreds of universities across the country. UCAR assists not only in the initial research, but also by bringing those scientific gains back to society by working with Federal, state, and local governments as well as the private sector and turning those research and observations into life-saving decisions and economic prosperity. The knowledge, expertise and innovation of our academic institutions continues to be a driving force behind a robust U.S. economy.

UCAR is a consortium of 117 research institutions, including 77 doctoral degree granting universities, which manages and operates the National Center for Atmospheric Research (NCAR) on behalf of NSF. UCAR is proud to collaborate with and enhance the capabilities of our member universities and federal partners so that they can carry out important research and meet their mission responsibilities on behalf of the nation. UCAR respectfully submits a set of research priorities for the academic atmospheric, Earth, and related sciences for this Subcommittee and the 115th Congress. Continued federal investment in the atmospheric, Earth, and related sciences will make significant contributions towards meeting societal concerns including: protection of American lives and property; expansion of new economic opportunities; enhancement of national security; and strengthening the U.S. leadership in research and development. UCAR's subject matter research and education priorities are:

- **Weather:** Accurate weather forecasting is critical to providing important information for short-term and long-term forecasts, including, early warnings of impending severe weather. The goal of weather prediction is to provide timely and accurate information that will serve to reduce weather-related losses, protect life and property, improve public health and safety, support economic prosperity and national security, and improve the quality of life for all citizens.
- **Water:** Water challenges are facing communities and regions across the United States and the world, impacting billions of lives and costing billions of dollars in damages. Weather and climate models are fundamental for understanding the earth's water cycle and issues related to availability, quality, water resource management, energy production, flooding, and drought.

- **Climate:** Fundamental research, using cutting-edge tools for collecting and analyzing data, is providing the knowledge that governments, businesses, and communities need as they address the climate-related changes that pose growing risks to life, property, natural resources, and the economy.
- **Air Quality:** Air quality affects broad sectors of society, from human health, to agricultural crop yields, to the enjoyment of our national parks. Particulate matter, in addition to ozone, triggers most air quality alerts and health effects. Scientists are improving pollutant tracking and developing detailed air quality predictions. Research is also focused on developing detailed air quality forecasts days in advance. Improved forecasts offer the promise of significant benefits to society.
- **Space Weather:** Space weather can disrupt vital technology that forms the backbone of this country's economic vitality and national security, including satellite and airline operations, communications networks, navigation systems, and the electric power grid. Research and observations will help drive advances in modeling capability and improve the quality of space weather products and services. Transitioning research to operations, will improve forecasting.

The priorities outlined below advance UCAR's commitment to serving the missions of our federal partners and facilitating and advancing the research done at and by our member institutions. These priorities are consistent with the recently enacted legislation including the American Innovation and Competitiveness Act, the Weather Research and Forecasting Innovation Act of 2017, and the pending Space Weather Research and Forecasting Act.

UCAR's 2019 Priorities

- 1) Increased funding for NCAR base budget and overall Research & Related Activities line at NSF

Essential to UCAR's ability to meet the research and operational needs of our community and nation is the robust and sustained support for NCAR. UCAR continues to elevate the understanding of, and support for, the atmospheric, Earth, and related sciences nationwide. The atmospheric science programs at our member institutions are drivers of innovation and the fundamental scientific research that has pushed our understanding of weather, water, climate, air quality, and space weather into exciting and groundbreaking new areas. These advances have improved our ability to predict and understand some of the most dangerous phenomena that occur on our planet every day. Protection of life and property are the central drivers of this scientific innovation and discovery.

As the subcommittee is aware, NCAR is NSF's only Federally Funded Research and Development Center in the geosciences. The national center is a vital community resource that provides scientific talent, unmatched facilities, and the capability to convene and gather consensus across our community. NCAR base funding keeps these facilities operating for the benefit of our understanding of earth systems, our university researchers, and the larger scientific community. NCAR facilities represent a powerful federal investment, through the NSF, that allows academia access to resources and tools that no individual researcher or institution could afford or maintain. Two examples of our facilities that elevate the science across our entire atmospheric and earth science community are:

NCAR-Wyoming Supercomputing Center (NWSC)

NCAR's facilities include the world's largest supercomputer dedicated to the earth sciences (this 5.34 petaflop supercomputer, named Cheyenne, was delivered ahead of schedule and under budget in 2017).

Located in Cheyenne, Wyoming, the NWSC provides advanced computing capabilities to scientists studying a broad range of disciplines, including weather, climate, oceanography, air pollution, space weather, computational science, energy production, and carbon sequestration. It also houses a landmark data storage and archival facility that will hold, among other scientific data, unique historical climate records.

NCAR's Earth Observing Laboratory (EOL)

Aircraft owned by NSF and operated by NCAR provide essential research capabilities to our academic and scientific research communities. NCAR's EOL, operates a C-130 as well as a Gulfstream 5. These airborne labs execute research missions, gathering data throughout the atmosphere and in and around severe weather phenomena, providing researchers with the data to test hypotheses and improve our national forecast capabilities. NCAR's G5 was even called upon in 2016 to gather operational forecast data for an imminent hurricane threat in the Pacific while a NOAA aircraft was under repair.

These aircraft are essential to future research projects funded by the NSF. For example, project GRAINEX, which plans to investigate the impacts of the rapid commencement irrigation and subsequent sustained irrigation on the evolution of planetary boundary layer atmosphere in a region of the Central Great Plains, specifically in Nebraska. This research will benefit a wide range of scientists in both meteorology and hydrology. Forecasters will gain from a deeper understanding of irrigation impacts on weather and will be able to provide better forecasts to "save lives and property." The research will foster collaboration between both scientists and students at Western Kentucky University (WKU), the University of Alabama at Huntsville (UAH), and the University of Colorado (CU). Furthermore, this research project will also develop collaboration with George Mason University and NASA which would involve both scientists and students.

NCAR is a shining example of the resources that the NSF can bring to bear for the advancement of science and greater understanding of our Earth systems. This Congress has also answered the call by providing the NSF with a 4.7% increase over the current Administration's FY 2018 budget request and we are hopeful that NSF, recognizing the vital role that NCAR plays in the geoscience community, will fund NCAR at a commensurate level. As this Congress addresses national needs in the FY 2019 appropriations process, we ask that additional resources at or above FY 2018 enacted levels be considered for the Research and Related Activities line at the NSF.

2) Support for NOAA's continued investment in Airborne Phased Array Radar (APAR)

Airborne radar is a critical tool for studying weather and related hazards, especially over rugged terrain or the open ocean, where other tools can have major limitations. Continued support for NOAA's investment in the APAR program will enable research and development of advanced methods of aircraft-based hazardous weather observation, which provide critical information about severe, tropical and heavy precipitation storms, for more accurate public warnings and forecasts. Airborne Doppler radar measurements provide critical location and intensity information about these storms, especially, where other radar information does not exist. The investment will focus on the research and development of an airborne radar system which can be utilized on a NOAA aircraft, and will provide more data, more accurately. Funding will be used to examine the potential benefits of APAR for providing the real-time data needed for National Weather Service (NWS) forecasts and warnings and to determine how APAR's additional, advanced capabilities can improve forecasts in the future. This

Congress has recognized the importance of this new capability and has called on NOAA to invest an additional \$4M in FY18. This investment is an essential further step in greatly improving our research and operation forecasts for the benefit of the nation.

3) Support NASA Earth Science Division funding

UCAR requests full funding of the Earth Science Division and opposes any proposals to reduce Earth Science research in FY 2019. Adequate funding of the Earth Science Division will go a long way to ensuring that the 2017 Earth Science Applications from Space Decadal Survey, released earlier this year by the National Academies of Sciences, Engineering and Medicine (NASEM), will be fully absorbed and implemented. The survey, titled "Thriving on Our Changing Planet: A Decadal Strategy for Earth Observations from Space" outlines the next steps necessary to continue to understand our changing planet and finding ways to sustain balance and prosperity while adapting to new realities and challenges. The 2017 Decadal notes that comprehensive observations of Earth's changes are key to understanding natural and man-made changes to the planet and are essential to ensure a thriving society. NASA, working closely with other agencies like NOAA, NSF, and USGS will be the drivers behind the research and innovation necessary to moving closer to understanding our entire earth system.

4) Support for NSF mid-scale infrastructure projects

The COronal Solar Magnetism Observatory (COSMO). COSMO is a unique mid-scale facility designed to address current shortfalls in our capability to measure magnetic fields in the solar corona. This ground based observatory will enable the United States to better understand, prepare for, and respond to space weather events – particularly a Coronal Mass Ejection. NCAR has developed the prototype concept for COSMO and hope to utilize the NSF mid-scale research infrastructure project to address the need.

5) Fund the COSMIC-2 micro satellite program

The Constellation Observing System for Meteorology, Ionosphere, and Climate (COSMIC) program is a six-satellite constellation that was launched to the polar orbit in 2006 in a joint collaboration between Taiwan, National Science Foundation, NASA, United States Air Force (USAF), and University Corporation for Atmospheric Research (UCAR). COSMIC-2 is a continuation of this partnership to produce an operational constellation of GNSS RO satellites. The USAF is providing six RO sensors to be launched in low-inclination (equatorial) orbit, known as COSMIC- 2A. Taiwan will procure and operate the spacecraft for the GNSS RO satellites. NOAA will provide the ground reception system for processing data from the GNSS RO satellites. UCAR strongly supports the COSMIC-2 program, especially in light of the impending RO data gap. COSMIC-2 is a "shovel ready" program and continued funding in FY19 will be a strong move toward mitigating or avoiding the degradation of forecasting capability that would result from a gap in valuable RO data currently being collected by satellites long past their projected lifecycles.

Conclusion

We recognize the constraints the Subcommittee must confront in developing its FY 2019 appropriations bill. We also thank this subcommittee for its continued efforts to sustain basic scientific R&D. It is UCAR's hope that you will continue see the research programs that we have highlighted, and the overall budgets of NSF, NOAA, and NASA, as good investments and essential priorities for our nation. These R&D investments have traditionally been drivers of our Nation's economic and national security as well as public safety. Thank you for the opportunity to submit these views.



Testimony of Laura L. Lott
President and CEO, American Alliance of Museums
to the
House Appropriations Subcommittee on Commerce, Justice, Science & Related Agencies
April 27, 2018

Chairman Culberson, Ranking Member Serrano, and members of the Subcommittee, thank you for allowing me to submit this testimony. My name is Laura Lott and I serve as President and CEO of the American Alliance of Museums (AAM). We urge the Subcommittee to restore Fiscal Year (FY) 2019 funding for the Advancing Informal STEM Learning (AISL) program at the National Science Foundation (NSF) to at least \$65 million; provide funding for the NSF Directorates for Biological Sciences; Education and Human Resources; Geosciences; and Social, Behavioral and Economic Sciences to support museum research and collections, which are key to STEM education; and continue to fund informal STEM education programs at the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), and the National Institutes of Health (NIH).

We also urge the Subcommittee to clearly direct NSF to return the focus of AISL in support of public engagement in science. This would reverse the trend of focusing AISL funding on formal (university-led) research at the expense of effective educational and public engagement programming conducted through museums.

Representing more than 35,000 individual museum professionals and volunteers, institutions—including aquariums, art museums, botanic gardens, children’s museums, cultural museums, historic sites, history museums, maritime museums, military museums, natural history museums, planetariums, presidential libraries, science and technology centers, and zoos—and corporate partners serving the museum field, the Alliance stands for the broad scope of the museum community.

Museums are essential in their communities for many reasons:

- Museums are economic engines and job creators. According to *Museums as Economic Engines: A National Report*, U.S. museums support more than 726,000 jobs and contribute \$50 billion to the U.S. economy per year. The economic activity of museums generates more than \$12 billion in tax revenue, one-third of it going to state and local governments. For example, the total financial impact that museums have on the economy in the state of Texas is \$3.9 billion, including supporting 62,013 jobs. For New York state it is a \$5.37 billion impact supporting 61,796 jobs. This impact is not limited to cities: more than 25% of museums are in rural areas.
- Museums are key education providers. Museums spend more than \$2 billion yearly on education activities; the typical museum devotes 75% of its education budget to K-12 students, and museums receive approximately 55 million visits each year from students in school groups. Children who visited a museum during kindergarten had higher achievement scores in reading, math and science in third grade than children who did not,

including children most at risk for delays in achievement. Also, students who attended a half-day field trip to an art museum experienced an increase in critical thinking skills, historical empathy and tolerance. For students from rural or high-poverty regions, the increase was even more significant. Museums help teach the state and local curriculum in subjects ranging from art and science to history, civics, and government. Museums have long served as a vital resource to homeschool learners. For the approximately 1.8 million students who are homeschooled—a population that has increased by 60% in the past decade—museums are quite literally the classroom. It is not surprising that in a 2017 public opinion survey, 97% of respondents agreed that museums were educational assets in their communities. The results were statistically identical regardless of political persuasion or community size.

The National Science Foundation is an independent federal agency responsible for about two-thirds of all federal funding for biological, geological and anthropological research at America's universities, science centers and other museums. NSF is also charged with promoting the vitality of the nation's STEM research and education enterprises.

The mission of NSF's Directorate for Education and Human Resources (EHR) is to achieve excellence in U.S. STEM education at all levels and in all settings (both formal and informal) in order to support the development of both a well-prepared workforce and a well-informed citizenry. EHR's Advancing Informal STEM Learning program invests in research and development of innovative and field-advancing, out-of-school STEM learning, and emerging STEM learning environments.

The NSF Directorates for Biological Sciences, Education and Human Resources, Geosciences, and Social, Behavioral & Economic Sciences have all supported museums in the areas of field and collections-based research, collections improvements and digitization, database development, and educational programming.

Millions of Americans of all ages and backgrounds learn about STEM each year by visiting museums, science centers, public gardens, zoos, and aquariums. Museum exhibitions and educational programs and resources are built on a firm foundation of research, and museum researchers make major original contributions to the understanding of important issues such as changes in climate, environments, biodiversity, and human culture. Informal STEM education programs at other federal agencies are also critical to helping museums attract, inspire, and educate the current and future STEM workforce.

NASA's Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers (CP4SMPVC) is authorized by law and has helped the agency meet numerous goals identified in its strategic plan—including advancing the nation's STEM education and workforce pipeline. NASA has transitioned many of these activities into a new competitive grant program for museums, the Teams Engaging Affiliated Museums and Informal Institutions (TEAM II) program.

A number of vital NOAA programs—including the Competitive Education Grant Program and Bay Watershed Environmental Training (B-WET)—currently help zoos, aquariums, science centers, and other museums to bring real world examples of science to students nationwide.

NIH’s Science Education Partnership Awards (SEPA) program builds relationships that improve life science literacy nationwide.

What was true almost a decade ago, when the National Research Council of the National Academies released a report entitled *Learning Science in Informal Environments: People, Places and Pursuits*, is true today. Findings included:

- “Do people learn science in non-school settings? This is a critical question for policy makers, practitioners and researchers alike—and the answer is yes.”
- “Designed spaces—including museums, science centers, zoos, aquariums and environmental centers—can support science learning. Rich with real-world phenomena, these are places where people can pursue and develop science interests, engage in science inquiry, and reflect on their experiences through sense-making conversations.”
- “Informal environments can have a significant impact on science learning outcomes for individuals from non-dominant groups who are historically underrepresented in science.

Please consider this request in the context of the essential role that museums play in our nation, as well as their immense economic and educational impact. In closing, I highlight 2017 national public opinion polling that shows that 95 percent of voters would approve of lawmakers who acted to support museums and 96 percent want federal funding for museums to be maintained or increased. People love museums.

I want to acknowledge the difficult choices that the Subcommittee faces. I hope that my testimony has made it clear why these priorities are of critical importance to the nation and will provide a worthwhile return on investment to the American taxpayer. Thank you again for the opportunity to submit this testimony.

Laura L. Lott
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**STATEMENT OF GABRIELLE MARTIN, NATIONAL PRESIDENT
 NATIONAL COUNCIL OF EEOC LOCALS, NO. 216, AFGE/AFL-CIO
 TO
 THE HOUSE APPROPRIATIONS SUBCOMMITTEE ON
 COMMERCE, JUSTICE, SCIENCE AND RELATED AGENCIES
 ON
 FY19 APPROPRIATION FOR EEOC
 MAINTAIN THE FY18 FUNDING LEVEL THAT INCLUDED A \$15.7M INCREASE TO
 ADDRESS SEXUAL HARASSMENT SO THAT EEOC CAN CARRY OUT ITS
 MISSION; OVERSIGHT MUST ENSURE THE INCREASE IS USED ON FRONTLINE
 RESOURCES THAT PROVIDE REAL ASSISTANCE AND EFFICIENCIES
 April 27, 2018**

Chairman Culberson, Ranking Member Serrano, and members of the Subcommittee, this testimony is submitted on behalf of the National Council of EEOC Locals, No. 216, AFGE/AFL-CIO. The Council is the exclusive representative of the bargaining unit employees at the Equal Employment Opportunity Commission (EEOC), including investigators, attorneys, administrative judges, mediators, paralegals, and support staff in 53 offices nationwide. The Council thanks this Subcommittee for its leadership in supporting the much-needed increase of \$15.7M in the FY18 Omnibus for EEOC to address sexual harassment.

After seven years of flat or reduced budgets, EEOC's funding did not support the workload. EEOC's recent initiatives to "substantially reduce inventory" result in fewer mediations and more case closures without substantive processing. Workers come to EEOC for help, not for a cursory closure. EEOC should use the targeted funding increase wisely to hire frontline positions that provide real help to the public and implement the efficiencies discussed.

The Council seeks this Subcommittee's continued support to ensure EEOC effectively enforces laws barring workplace discrimination, including sexual harassment, by including bill and report language for FY19 which: (1) at least maintains EEOC's budget of \$379.5M; (2) directs EEOC to hire frontline field staff; (3) requires EEOC to implement efficiencies, i.e., pilot the Dedicated Intake Plan, reduce supervisor to employee ratio to 1:10, improve the Digital Charge and Appointment Systems, cut unnecessary contracts and management travel, and stop costly turnover; (4) preserves Federal workers' rights to discovery, including subpoena authority, for full and fair hearings; and (5) maintains oversight of any restructuring.

Introduction: The EEOC's mission is to enforce this nation's laws which protect against discrimination in employment based on race, color, religion, sex (including sexual harassment), national origin, age, disability, genetics, and retaliation. Workers and applicants filed 85,254 discrimination charges with EEOC last FY17, before the #MeToo movement went viral.

Sexual Harassment Remains a Persistent Concern: EEOC Must Maintain Budget Increase: Sexual harassment in the workplace is not new, nor unfortunately will it be eliminated quickly. But, during Fiscal Year 2018 the issue has risen to prominence due to the Weinstein effect, #MeToo Movement, and Times Up Campaign. More workers are visiting EEOC's website for information and training on harassment and other covered bases. This supports the need for EEOC to maintain the additional \$15.7M included in the Omnibus for FY18.

EEOC Should Use the Budget Increase to Restore Frontline Staffing: The FY18 increase coincided not only with the #MeToo movement, but when a lack of resources has harmed service.

EEOC ended FY17 with only 2,082 employees nationwide. This includes just 552 investigators (compared to a high of 917 in FY01), who process charges and conduct training and outreach. EEOC's FY19 budget for \$363.8M, anticipated a net loss of investigators. Investigative staffing shortages were exposed when the appointment system went nationwide at the start of FY18 and calendars filled, with not enough staff to handle the demand.

While EEOC's mediation program receives high marks from participants, low staffing means mediators conducted only 9,476 mediations in FY17, compared to FY16's 10,5461. EEOC has only 30 intake information representatives (IRs) down from 65, causing 45-minute hold times.

Jobs are lost and workers, including those experiencing harassment, are vulnerable to retaliation during delays. Resources are needed for EEOC to press both for systemic cases and one-on-one cases, as sexual harassment cases often tend to be, for the agency to maintain its deterrent force. Therefore, the Council requests this Subcommittee's continued support by funding EEOC at the current \$379.5M. Now is not the time to go backwards on addressing workplace discrimination.

Frontline field positions that will produce real assistance to the public, include:

Investigators; Investigator Support Assistants; Mediators; Administrative Judges; Information Intake Representatives; Paralegals and other support staff.

Oversight Needed to Enable Real Help, not Case Closure Schemes that Focus on Quotas: EEOC's giant backlog of 61,621 cases delays help to workers. But, case closure strategies EEOC used to slash its backlog by 12,000 cases in FY17 raise red flags of justice denied.

In most of the past years, EEOC's backlog has grown from 1% to 38% (see table). The last time the backlog dropped by double digits was by 10% in FY11 and FY12. By all accounts this was due to additional staff. However, in FY17, EEOC reported a 16.2% reduction to the backlog, a decrease completely out of scale with previous years, and at a time when EEOC's frontline staffing was at a record low, particularly investigators (approximately 200 fewer than in FY11).

EEOC's enforcement statistics for FY17 show a decrease in merit resolutions and settlements. For FY17, EEOC received 84,254 charges, while filing only 184 complaints in court. Only 2.9% of charges were reasonable cause, the lowest percent EEOC has ever reported. The statistics also show a jump in "no reasonable cause" dismissals.

The statistics are an apparent outcome of an initiative discussed by the OIG in the EEOC's performance and accountability report, "Acting Chair Victoria Lipnic, in July 2017, addressed the inventory issue by distributing a discussion memo to senior managers describing how to substantially reduce the inventory." EEOC's priority charge handling process (PCHP) - A, B, C system, was reinterpreted to increase "C" cases, which require the least processing to close.

Staff have seen this translate to office closure quotas and arbitrary "C" categorization goals. The result is a press for cursory closures of older cases on the back-end, and to triage out cases on the front-end, without even requesting an employer position statement. The changes also undermine

EEOC's popular mediation program, by reducing the pool of "B" cases eligible for mediation. These initiatives dovetailed with a controversial new performance system that for the first time contains arbitrary closure quotas of percentile of aged inventory and "rigorous" use of PCHP.

EEOC claims that due to limited staffing, it must focus on cases with the greatest impact. This means the vast majority of those seeking EEOC's help receive a dismissal with a "right to sue." Now, EEOC should use the increase to hire staff and let them properly work the cases. Congress should direct a review of EEOC's new performance system and leadership initiative "to substantially reduce inventory" to determine if justice is denied to workers by strategies that result in fewer mediations and more case closures without substantive processing.

EEOC Should Work Smarter to Make Sure Its Valued Resources are Used Efficiently:

The Council respectfully requests report language to initiate these efficiencies:

(1) Make EEOC Flatten its Current 1:5 Supervisor to Employee Ratio:

EEOC should flatten its current inefficient 1:5 supervisor to employee ratio. Fewer layers of processing mean faster help for the public. Hiring frontline staff instead of high salaried managers is also more cost efficient. Direct hiring that will rebalance the top-heavy agency.

(2) Direct EEOC To Finally Pilot the Cost-Saving Intake Plan to Help the Public:

Council 216's Full Service Intake Plan is to utilize well trained investigator support assistants (ISAs) and other support staff grades (GS-5 through GS-9) as dedicated units to advance the intake process from pre-charge counseling through charge filing. Investigators, who now must stop investigating their cases to rotate into intake about three months a year, would be able to focus on their caseload. This would reduce the backlog and wait times.

(3) Require EEOC to Reduce Costly Turnover by Improving Morale with Efficiencies:

Sadly, EEOC is a long way from realizing its goal to be the "model employer." Civility training EEOC promotes for the public to combat harassment has not rolled out in-house. EEOC receives scores below the government average on Federal Employee Viewpoint Survey, such as: "I can disclose a suspected violation of any law, rule or regulation without fear of reprisal." EEOC's reasonable accommodation program is in shambles since being shifted without notice from the disability manager to an HR attorney, whose other duties include disciplining and terminating staff. EEOC's OEO department has made 0% findings of discrimination. FLRA issued three Unfair Labor Practice complaints against EEOC, one escalating to a Summary Judgment Order.

(4) Work Smarter by Eliminating Management Travel and Unnecessary Contracts:

EEOC should not hire contract mediators, when an in-house mediator is within 100 miles. EEOC pays contractors to evaluate its work practices, that could be done by its Office of Inspector General (OIG). EEOC should eliminate management travel that can occur by VTC.

(5) Invest in technology to improve EEOC's new Digital Charge and Appointment Systems:

EEOC's digital systems were built on a 1990s platform that require workarounds, making the systems awkward to use and inaccessible for many, because it is not compatible for smartphones.

Federal Employees Must Have Rights to Discovery and Full and Fair Hearings before AJs:

EEOC has fewer than 100 Administrative Judges (AJs) to adjudicate the approximately 8,000 federal sector discrimination complaints received each year. According to, the April 2, 2018

Washington Post, “Justice in the #MeToo Era is not nearly as swift for Federal employees:” “Before they can sue, federal workers must undergo a fuller, more time-consuming administrative process, which includes the EEOC, where staffing has dwindled and funding has stagnated in recent years. While the commission says about half of its discrimination complaints are resolved within three months, it took an average of 1,300 days — about 3½ years — to resolve the rest through the EEOC in fiscal 2017, the commission said.” New Federal Case Management and initial conference systems, without staff, simply leave a pool of languishing cases to be decided. New performance standards pressure AJs to quickly close cases, by denying discovery and granting summary judgment. Judicial independence and subpoena power are critical to a full and fair hearing. EEOC also routinely transfers huge batches of Federal sector complaints from one short-staffed office to another. While the EEOC apparently authorized the hire of six AJs prior to the Omnibus increase, that is less than one AJ for each of EEOC’s 15 district offices. With the increase, hiring additional AJs and support staff should be a priority.

Bill Language Should Retain Oversight of any EEOC Restructuring:

The Council urges the Subcommittee to retain bill language regarding oversight of restructuring. The last restructuring added bureaucratic layers, but no frontline staff. Additionally, the restructuring drew concerns from House and Senate CJS Subcommittees. Congress should ensure a transparent process for stakeholders to provide feedback to any draft reorganization plan(s).

Conclusion:

The Council appreciates the \$15.7M increase for FY18 for EEOC. The Council seeks this Subcommittee’s continued support to ensure that EEOC can effectively enforce laws barring workplace discrimination, including sexual harassment. The Council requests bill and report language for FY19 which: (1) at least maintains EEOC’s budget of \$379.5M; (2) directs EEOC to hire frontline field staff; (3) requires EEOC to implement efficiencies, i.e., pilot the Dedicated Intake Plan, reduce supervisor to employee ratio to 1:10, improve the Digital Charge and Appointment Systems, cut unnecessary contracts and management travel, and stop costly turnover; (4) preserves Federal workers’ rights to discovery and full and fair hearings, including subpoena authority; and (5) maintains oversight of any restructuring.

CHART: EEOC’S TROUBLING CUSTOMER SERVICE TRENDS

	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
FTEs	2,617	2,462	2,349	2,250	2,137	2,174	2,192	2,385	2,454	2,346	2,147	2,098	2,190	2,137	2082
Backlog	29,368	29,966	33,562	39,946	54,970	73,941	85,768	86,338	78,136	70,312	70,781	75,935	76,408	73,508	61,621
% Backlog increase	+1%	+2%	+12%	+19%	+38%	+34.5%	+16%	+7%	-10%	-10%	+1%	+7.28	>+1%	-3.8%	-16.2%
Charge Receipts	81,293	79,432	75,428	75,768	82,792	95,402	93,277	99,922	99,947	99,412	93,727	88,778	89,385	91,503	84,254
Resolutions	87,755	85,259	77,352	74,308	72,442	81,081	85,980	104,999	112,499	111,139	97,252	87,442	92,641	97,443	99,109
Avg. Charge Processing Days	160	165	171	193	199	229	294	313	293	288	267	EEOC did not report	EEOC did not report	300	300

Daniel Schuman, Policy Director, Demand Progress Action
Testimony on the FY19 Appropriations Bill for the
House Appropriations Commerce, Justice, Science Subcommittee
Concerning Transparency and the Public Availability of
Opinions Issued by the Justice Department’s Office of Legal Counsel and
Lobbyist Filing Under the Foreign Agents Registration Act

Dear Chairman Culberson, Ranking Member Serrano, and members of the House of Representatives Commerce, Justice, Science Appropriations subcommittee:

Thank you for the opportunity to submit testimony on improving transparency and accountability at the Department of Justice. My testimony is focused on congressional and public access to information about two sets of government documents: (1) final opinions promulgated by the Office of Legal Counsel at the Department of Justice, and (2) lobbying disclosure forms collected pursuant to the Foreign Agents Registration Act.

Providing to Congress an Index of Current DOJ Office of Legal Counsel Opinions

Opinions by the Justice Department’s Office of Legal Counsel often have the effect of law within the executive branch, but many opinions with legal effect and precedential value have been withheld from Congress and the public despite the Justice Department’s “proactive disclosure” policy. Indeed, no one outside the executive branch knows how many opinions are currently in effect. In addition, the OLC has at times reached legal conclusions that are at variance with the understanding of the law held by Congress or interpretations that would be rendered by the Courts— but the OLC did not enlighten Congress regarding the difference of opinion.

We believe it is essential that Congress and the public have notice of the existence of legal interpretations contained in final OLC opinions so that our system of checks and balances can operate effectively. This is consonant with a letter signed by a bipartisan group of 19 senior former DOJ officials in 2006 that declared “OLC should publicly disclose its written legal opinions in a timely manner, absent strong reasons for delay or nondisclosure.”¹

We recommend that the General Provisions account of the portion of the CJS Appropriations bill concerning the Department of Justice include the following legislative language that would require: a report detailing the total number of final OLC opinions in effect, the opinion’s subject line, the date it was finalized or updated, the agency that

¹ See “Guidelines for the President’s Legal Advisors,” the American Constitution Society (May 2006), available at http://www.acslaw.org/files/Microsoft%20Word%20-%2011_Johnsen_OLC.pdf.

requested it, and the creation of an unclassified summary. The definition of what constitutes a final OLC opinion is drafted narrowly to cover only promulgations of executive branch policy that have been put into effect.

Bill language:

The Attorney General shall publicly report to Congress within 180 days and contemporaneously thereafter—

- (A) The number of final OLC opinions in effect;
- (B) A list of final OLC opinions in effect that includes for each opinion—
 - (a) An unclassified summary;
 - (b) The subject line, subject to classified redaction;
 - (c) The date finalized/updated;
 - (d) The agency/entity requesting it;
 - (e) Whether it is newly issued, updated, or withdrawn.
- (C) A final Office of Legal Counsel opinion is a document in written or electronic form that expresses the opinion of the Attorney General on questions of law or final opinions made in the resolution of inter-agency disputes, rendered in accordance with 28 USC §511-513, and—
 - (1) The Attorney General or his/her designee determines that it is final; or
 - (2) Government officials or contractors follow its guidance; or
 - (3) It is relied upon to formulate legal guidance; or
 - (4) It is cited directly/indirectly in another Office of Legal Counsel opinion.

Improved Disclosure of Foreign Agent Filings Under the Foreign Agents Registration Act (FARA)

Reports by Foreign Agents on their lobbying are important, but they are gathered and published by the Justice Department's FARA Unit in difficult-to-use formats. The use of modern technology and techniques, long embraced by other components in government, would improve the FARA Unit's ability to ensure compliance with the law and improve congressional and public ability to scrutinize the filings. There is a decade-long effort to

encourage the Department of Justice to modernize its practices, but it has failed to do so.² In light of agency inaction we believe it is appropriate for Congress to step in.

We recommend that the General Provisions account of the portion of the CJS Appropriations bill concerning the Department of Justice include the following report language. In summary, it requests a public consultation and report on (1) requiring filings by foreign agents under FARA to be in an electronic and structured format, and (2) the publication of those report in a bulk, structured data format for public reuse. This would help transform FARA from a paper exercise into something that helps effectuate the purposes behind the Foreign Agents Registration Act of tracking information about agents of foreign governments.

Report language:

Review of Reports from Foreign Lobbyists: The Attorney General of the United States shall review the United States Department of Justice's implementation of the Foreign Agent Registration Act, which should include a review of the recent DOJ Inspector General Report on FARA and consultation with public stakeholders, and within 6 months of enactment of this act issue a report to Congress that is publicly available and addresses (1) the feasibility and steps necessary to require all filings by foreign agents to be made in an electronic, structured data format where the information can flow into a machine processable digital format; (2) the publication by the FARA Unit of filing information to the public in bulk in a structured data format so it can be searched, sorted, and downloaded by the public.

Thank you again for the opportunity to submit this testimony. I would welcome the opportunity to answer any questions you might have. My email is daniel@demandprogress.org and my phone number is 240-237-3930.

² See Civil Society Comments to the FARA Unit (April 7, 2017), available at https://s3.amazonaws.com/demandprogress/letters/2017-04-07_Civil_Society_Comments_on_FARA.pdf

Written Testimony

FY19 Funding: VAWA, VOCA Programs & Crime Victims Fund

Prepared for presentation to the
U.S. House Appropriations Subcommittee on
Commerce, Justice, Science, and Related Agencies

Submitted By:

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April 27, 2018

Chairman Culberson, Ranking Member Serrano, and distinguished members of the Commerce, Justice, and Science Appropriations Subcommittee, the **Daughters of Penelope (DOP)**, an international service organization for women of Greek heritage and Philhellenes, which is dedicated in part to supporting victims of domestic violence, is requesting support for **Victims of Crime Act (VOCA)** and **Violence Against Women Act (VAWA)** programs at the Department of Justice. Specifically, we request a **Crime Victims Fund** cap for FY2019 to be set at least at the FY2018 level of \$4.4 billion and without any transfers to programs not authorized under the VOCA statute; and we support a strong investment of **\$571 million** for **VAWA** programs.

VOCA Programs & Crime Victims Fund

The Victims of Crime Act (VOCA) created the Crime Victims Fund, which serves as a mechanism to fund compensation and services for the nation's victims of federal crime. The Fund is comprised of money from criminals, and by law, the Fund is dedicated solely to victim services. For example, the Fund is used to help pay for state victim compensation and assistance programs, grants to victim service providers, and other victim related programs. A considerable amount of this money supports victims' out-of-pocket expenses such as medical and counseling fees; lost wages and funeral and burial costs. According to the Department of Justice, in FY2017, state VOCA victim assistance grants supported an estimated 14,000 victims' services projects administered by 7,800 public and community-based agencies in the United States. These agencies provided services to nearly millions of victims of crime, including victims of murder, assault and sexual assault, domestic violence, stalking and elder abuse, among many others.

The Crime Victims Fund is financed by fines, forfeitures, or other penalties paid by federal crime offenders. Therefore, the Crime Victims Fund is not funded by taxpayer dollars. However, it is unfortunate Congress often carves out funds from the Crime Victims Fund to use as offsets for other government programs. Because the

Crime Victims Fund is comprised of non-taxpayer dollars, it should not be considered available for use for non-VOCA programs in the federal budget. Moreover, according to the co-chairmen of the Congressional Victims' Rights Caucus, U.S. Reps. Ted Poe (R-TX) and Jim Costa (D-CA), "not only does raiding the Crime Victims Fund violate the intent of the law, but it violates the [VOCA] statute itself..." Therefore, we recommend to the Subcommittee that the Crime Victims Fund be used only for programs authorized under the VOCA statute. However, recent major appropriations bills passed by Congress, and previous administrations' budget requests, have carved out funds from the Crime Victims Fund for non-VOCA authorized programs. As examples, the FY2018 omnibus appropriations bill transferred \$492 million from the Crime Victims' Fund to VAWA programs and the administration's FY2019 budget proposes a \$485.5 million transfer from the Crime Victims' Fund to VAWA programs. We request the elimination of transfers that harm the Fund's long-term viability and ability to commit fully to crime victims. Another unfortunate ramification of allowing transfers from the Fund is that it causes politicization of the Fund. This is why we support **H.R. 5363, Crime Victims Fund Preservation Act of 2018**. The bipartisan-backed bill creates a "lockbox" to ensure that money in the Fund cannot be used for anything other than victims' programs authorized under the VOCA statute. Also, the bill permanently excludes the Crime Victims Fund from any future government sequestration.

Finally, we recommend setting the Crime Victims Fund cap to at least the FY2018 enacted level of \$4.4 billion. Congress established an appropriation cap on funds available for distribution intended to maintain the Crime Victims Fund as a stable source of support for future victim services. At the cap level, Congress will not only ensure the continuation of enhanced services to victims to meet their needs, but it also does not contribute to, or add to, the national debt or deficit because these are non-taxpayer funds.

VAWA Programs

Domestic violence is a pervasive, life-threatening crime affecting millions of individuals across our nation regardless of age, gender, socio-economic status, race or religion. The statistics are alarming. According to the Centers for Disease Control and Prevention (CDC) and The National Intimate Partner and Sexual Violence Survey (NISVS), 2010-2012 State Report:

- In the United States, Intimate partner contact sexual violence, physical violence, and/ or stalking was experienced by 37.3% of U.S. women during their lifetime.¹
- One in 4 women and 1 in 9 men have experienced severe physical violence by an intimate partner during their lifetime.²
- In 2015, 1270 women and men were murdered by an intimate partner (e.g. husband, wife, boyfriend, girlfriend).³

Also, of concern, are the following stats:

¹ <https://www.cdc.gov/violenceprevention/pdf/NISVS-StateReportBook.pdf>

² <https://www.cdc.gov/violenceprevention/pdf/NISVS-itfographic-2016.pdf>

³ <https://www.cdc.gov/violenceprevention/pdf/NISVS-StateReportBook.pdf>

- Nationwide, an average of 3 women are killed by a current or former intimate partner every day.⁴
- Approximately 15.5 million children are exposed to domestic violence annually.⁵

Our nation's response to intimate partner violence is driven by VAWA programs at the U.S. Department of Justice. Each of these programs is critical to ensuring that victims are safe, that offenders are held accountable, and that our communities are more secure. Thanks to VAWA, steady progress has been made there are many victims who still suffer in silence. In fact, a 2016 24-hour survey of domestic violence programs across the U.S. found that although 20,239 Hotline calls were answered (averaging more than 14 calls every minute), that nearly 12,000 requests for services (such as emergency shelter, transportation, or legal representation) went unmet because programs lacked the resources to provide them. The unconscionable gap between need and resources only widens.

Daughters of Penelope's Work to Support Domestic Violence Shelters

Why are VAWA and VOCA programs important to the Daughters of Penelope? In addition to our chapters supporting domestic violence shelters in their respective local communities, the Daughters of Penelope is a national sponsor and stakeholder of two domestic violence shelters—Penelope House, in Mobile, Alabama; and Penelope's Place, in Brockton, Massachusetts. In the past, the Daughters of Penelope has supported WIN Hellas, which is an NGO based in Athens, Greece that is active in the prevention of violence against women.

Regarding Penelope House, it was the first of its kind in Alabama when it opened its doors in 1979. Since then, Penelope House has become a nationally-recognized as a model shelter for others to emulate. VAWA and VOCA grant funding has been critical in helping Penelope House to meet its mission of providing safety, protection and support to victims of domestic violence and their children through shelter, advocacy, and individual and community education.

For example, Penelope House has been awarded VAWA and VOCA grants from the following programs: Shelter Services, Court Advocate Program, and Transitional Living Program. Portions of these grants help to fund the case managers, case and court advocates, and children's counselors and program coordinators, among other employees who help to provide the life-saving support to domestic violence victims and their children.

Statistics – Effectiveness and Importance of VAWA & VOCA Grant Funding

- **VOCA/VAWA grant funding comprises 27% of Penelope House's 2018 budget.**
- VOCA is the largest source of Penelope House's funding.

Penelope House's Court Advocacy Program is funded by VOCA & VAWA. It's stats for clients served are:

- Adult Clients: 4,895

⁴ NNEDV Domestic Violence Fact Sheet, accessed <https://nnedv.org/mdocs-posts/domestic-violence-and-sexual-assault-factsheet/>

⁵ Ibid.

- Children: 4,676
- Court Appointments with Clients: 3,904
- Clients Assisted to obtain protection from abuse or no contact orders: 1,272

VOCA supports the salaries and benefits for seven Court/Victim Advocates who provide services to victims of domestic violence throughout Mobile, Washington, Clarke and Choctaw Counties of Alabama as they navigate within the court system. (VOCA grant funding has become increasingly important to Penelope House because Penelope House's services has been expanded to include to more counties in Alabama.)

VAWA supports a full-time Court Advocate Assistant and a portion of the salary for a Court/Victim Advocate for the Court Advocacy Program. The Court Advocate Assistant provides administrative support to Court/Victim Advocates and provides assistance to the Court Advocacy Supervisor. The Court Advocate Assistant collects and complies program data needed for the evaluation of the Court Advocacy Program. The Court Advocate Assistant is dually trained to serve as a Court/Victim Advocate when necessary in case of illness or any other absence of court advocates. Thus, a victim will not have to be alone as he/she attempts to navigate within the court system.

Penelope House's Emergency Shelter Program is funded by VOCA. It's 2017 service stats are:

- Adults sheltered: 402
- Children sheltered: 431
- Total Client Service Hours: 12,773
- Total Nights of shelter provided: 7,960
- Crisis calls: 1,602
- Meals Served: 23,880

RECOMMENDATION

The Daughters of Penelope (DOP) is requesting support for **Victims of Crime Act (VOCA)** and **Violence Against Women Act (VAWA)** programs, which are vital to DOP programs that serve its mission. Specifically, we request a **Crime Victims Fund** cap for FY2019 to be set at least at the FY2018 level of \$4.4 billion and without any transfers to programs not authorized under the VOCA statute; and we support a strong investment of **\$571 million** for **VAWA** programs.

The Crime Victims Fund is not funded by taxpayer dollars. Therefore, the cap can be sustained or raised without adding to the national debt or deficit and transfers (or carve outs) must be eliminated in FY2019 and going forward. Also, it therefore must not subject to sequestration.

Clearly, as the missions of domestic violence centers across the country, such as Penelope House, have expanded into jurisdictions due to the unfortunate increased need to provide victims' services, that the viability of the Crime Victims Fund, VOCA, and VAWA grants, have become increasingly important to meet the victims' needs.

Thank you for the opportunity to present and submit our written testimony before the Subcommittee.



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Testimony of
Michael Parrella, PhD, President
Entomological Society of America
On
Fiscal Year 2019 Appropriations for the National Science Foundation
Submitted to the
Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies
United States House of Representatives

April 26, 2018

The Entomological Society of America (ESA) respectfully submits this statement for the official record in support of funding for the National Science Foundation (NSF). **ESA requests a robust fiscal year (FY) 2019 appropriation of \$8.45 billion for NSF, including strong support for the Directorate for Biological Sciences (BIO).**

Research in basic biological sciences, including entomology, provides the fundamental discoveries that advance knowledge and facilitate the development of new technologies and strategies for addressing societal challenges related to economic growth, national security, and human health. Basic research on the biology of insects has provided fundamental insights across all areas of biology, including cell and molecular biology, genomics, physiology, ecology, behavior, and evolution. In turn, these insights have been applied toward meeting challenges in a wide range of fields, including conservation biology, habitat management, livestock production, and pest control.

Insects have also long played an essential role as model organisms for understanding basic biological processes across all organisms, including humans. Insects are often ideal laboratory experimental subjects because they are generally small and inexpensive to obtain, they complete development rapidly, and they can be maintained without the special facilities required for vertebrate animals. The common fruit fly, *Drosophila melanogaster*, for example, has been the subject of NSF-funded research that has profoundly transformed the understanding of human health in countless ways; in 1995, NSF-funded studies elucidating the genetic control of embryo development in this insect was recognized with the Nobel Prize in Medicine or Physiology.

NSF is the only federal agency that supports basic research across all scientific and engineering disciplines, outside of the medical sciences. Each year, the foundation supports an estimated 300,000 researchers, scientific trainees, teachers, and students, primarily through competitive grants to approximately 2,000 colleges, universities, and other institutions in all 50 states. NSF also plays a critical role in training the next generation of scientists and engineers, ensuring that

the United States will remain globally competitive in the future. For example, the NSF Graduate Research Fellowship Program selects and supports science and engineering graduate students demonstrating exceptional potential to succeed in science, technology, engineering, and mathematics (STEM) careers.

Through activities within its BIO Directorate, NSF advances the frontiers of knowledge about complex biological systems at multiple scales, from molecules and cells to organisms and ecosystems. In addition, the directorate contributes to the support of essential research resources, including biological collections and field stations. NSF BIO is also the nation's primary funder of fundamental research on biodiversity, ecology, and environmental biology.

One NSF BIO-supported project that illustrates the broad reach of basic entomological research is focused on fundamental insect physiology. The investigators are testing a hypothesis about the mechanisms insects use to transport blood, nutrients, and gases throughout their bodies.¹ Their research on these transport processes will inform our understanding of insects' success as agricultural pests and disease carriers as well as our ability to mitigate those traits. Additionally, a deeper knowledge of these transport systems will also provide insights into those possessed by other animals and impact the design of new mechanical systems.

NSF BIO also supports the development of technologies that directly impact economic sectors that are highly dependent on entomology. NSF recently awarded funding for a Small Business Innovation Research (SBIR) Phase I project aimed at ensuring healthier honeybee populations through data analysis and modeling.² Specifically, the project seeks to build newer and more robust algorithms capable of autonomously analyzing data generated by networked sensors placed in beehives. The information derived from the resultant data sets could then be used to develop models capable of predicting the infiltration of pests and disease in hives before it actually occurs. Ultimately, the successful commercialization of this technology could revolutionize an entire agricultural sector that has suffered significantly because of honeybee colony collapse.

In addition to funding research, NSF BIO plays a critical role in the curation, maintenance, and enhancement of physical biological collections. These collections and their associated data sets serve a variety of purposes, and while they are particularly important to the field of entomology, their value to the broader scientific enterprise cannot be overstated. In particular, physical collections enable the rapid identification and mitigation of costly invasive pests that affect agriculture, forestry, and human and animal health. This is only achievable because such collections are continuously being updated to reflect environmental changes, evolutionary developments, and shifting migratory patterns of invasive species around the world.

¹ Socha, John; Harrison, Jon; Miller, Laura; and Pendar, Hodjat. A New Hypothesis for Cardio-respiratory Mechanics in Insects. Award Number: 1558052

² Symes, Ellie. SBIR Phase I: Data Analytics on Honeybee Hives Using IoT Sensor Data. Award Number: 1746862

Accordingly, NSF is funding a series of workshops designed to provide hands-on training in collections curation and management, with a particular emphasis on students and early-career researchers.³ This first-of-its-kind program will help ensure the long-term availability of a workforce capable of maintaining these vital collections well into the future.

While collections-focused awards like that mentioned above are encouraging, ESA is concerned by the overall downward trend of federal funding for biological collections. Recent advancements in imaging, digitization, and data collection and storage technologies have caused some to question the necessity of continued support for existing biological collections. This uncertainty has previously prompted the suspension of the NSF Collections in Support of Biological Research (CSBR), which supports scientifically valuable collections that contribute to domestic homeland security, public health, agricultural sector and food security, and environmental sustainability. ESA recognizes that technological development is spurring substantive discussion about the future of biological collections, but given their continuing relevance and broad application, ESA firmly supports continued federal investment in these collections.

Given NSF's critical role in supporting fundamental research and education across science and engineering disciplines, ESA supports an overall FY 2019 NSF budget of \$8.45 billion. ESA requests robust support for the NSF BIO Directorate, which funds important research studies and biological collections, enabling discoveries in the entomological sciences to contribute to understanding environmental and evolutionary biology, physiological and developmental systems, and molecular and cellular mechanisms.

ESA, headquartered in Annapolis, Maryland, is the largest organization in the world serving the professional and scientific needs of entomologists and individuals in related disciplines. As the largest and one of the oldest insect science organizations in the world, ESA has over 7,000 members affiliated with educational institutions, health agencies, private industry, and government. Members are researchers, teachers, extension service personnel, administrators, marketing representatives, research technicians, consultants, students, pest management professionals, and hobbyists.

Thank you for the opportunity to offer the Entomological Society of America's support for NSF research programs. For more information about the Entomological Society of America, please see <http://www.entsoc.org/>.

³ Song, Hojun and Shockley, Floyd. Towards a Sustainable Management of Insect Collections in the U.S. through the Entomological Collections Management Workshop. Award Number: 1640919

Statement of Paula Skedsvold, Executive Director, Federation of Associations in Behavioral and Brain Sciences on the

FY 2019 Appropriations for the National Science Foundation

submitted for the record to the

**United States House of Representatives
Committee on Appropriations
Subcommittee on Commerce, Justice, Science and Related Agencies**

Honorable John Culberson, Chairman

April 27, 2018

Chairman Culberson, Ranking Member Serrano, and Members of the Subcommittee:

The Federation of Associations in Behavioral and Brain Sciences (FABBS) appreciates the opportunity to submit testimony for the record in support of the National Science Foundation in the FY 2019 budget. FABBS represents twenty-one scientific societies and numerous university departments whose scientific members share an interest in advancing knowledge through the sciences of mind, brain, and behavior. Understanding the human element of our most pressing challenges through research in these sciences will improve the welfare of our nation, our society, and its people. Fundamental research funded by NSF helps to create a body of knowledge and build future generations of scientists whose work will be essential in keeping this country at the forefront of discovery. **FABBS joins the broader scientific community in urging Congress to fund NSF at \$8.45 billion or more for FY 2019.**¹

We sincerely thank the CJS Appropriations Subcommittee for its diligent work on the FY 2018 CJS and omnibus bills, and especially for providing NSF a \$300 million increase in FY 2018. As you know, every dollar is needed to ensure that the U.S. is able to maintain its leadership status in science and technology in an increasingly competitive global economy. When adjusted for inflation, NSF funding has dropped 4.2 percent since 2015 (not including FY 2018 funding), while other major research agencies experienced substantial increases during the same time period. Furthermore, funding for NSF has remained stagnant at a time period when we are seeing rapid growth in federal investment in R&D from our global competitors. Increasing federal support for NSF is vital in order to ensure the health, security and economic well-being of our nation.

Sustained Support for All Areas of Science

For years, the Subcommittee Chairman and Ranking Members have recognized the importance of funding fundamental research across all areas of science, and have ensured that the Research and Related Activities (R&RA) line in the NSF account is used to support the most promising scientific research, as identified through scientific advisors, merit review, and scientific opportunity. We are sincerely appreciative of your leadership in doing so. **For FY**

¹[Coalition for National Science Funding - FY 2019 Appropriations Request Letter](#)

2019, we urge you to not only provide increased, sustainable funding to NSF, but to also continue increased support for R&RA, while emphasizing that funding decisions should not be guided by politics, but rather by scientific need, merit, and the national interest.

With the encouragement of the CJS Appropriations Subcommittee Chairman, the National Science Foundation recently requested that the National Academies of Sciences, Engineering, and Medicine (the National Academies) convene an expert committee to study whether it is in the national interest for the federal government to fund fundamental SBE research. In their report published in 2017, the expert committee concluded that the SBE sciences “produce a better understanding of the human aspects of the natural world, contributing knowledge, methods, and tools that further the mission of the National Science Foundation to advance health, prosperity and welfare, national defense, and progress in science.”² Furthermore, the National Academies report concluded that the knowledge, tools and methods produced by the SBE sciences plays a critical role in advancing the mission of other federal agencies such as the Department of Defense, Department of Homeland Security, and the National Institutes of Health. The NAS committee also described how the SBE sciences contribute to the growth of businesses, industries, and the general U.S. economy.

Despite the importance and uniqueness of SBE research to addressing national challenges, the SBE Directorate has historically been — and remains — the smallest research directorate at NSF. As recently as FY 17, the SBE Directorate comprised 3.6% of the total NSF budget and 4.5% of the R&RA line. And yet, the SBE Directorate provides approximately 68% of federal funding for fundamental research in SBE sciences at academic institutions across the country.

Following are just a few examples of the numerous ways in which discoveries in the SBE sciences have benefitted our nation:

- Social network analysis has been used to predict hacker behavior and identify vulnerabilities in the nation’s cyber-networks.
- Research on non-verbal communication has helped the army improve the way it trains its soldiers and reduce the potential for cross-cultural conflict.
- Research on the underlying mechanisms enabling self-control has been used to help identify youth at high risk for poor academic, social, and health outcomes and improve interventions focused on positive youth development.
- Cognitive science and education research has been used to increase understanding of differences in learning and improve STEM education techniques, ultimately helping to broaden participation in STEM fields.
- Research on risk perception and communication has been used to improve understanding of how the public perceives and responds to warnings about natural hazards and disasters.

² [National Academies of Sciences, Engineering, and Medicine. \(2017\). The Value of Social, Behavioral, and Economic Sciences to National Priorities: A Report for the National Science Foundation.](#)

- Cognitive neuroscience research on brain plasticity has been used to improve early detection and treatment of brain disorders such as dyslexia, autism, and Alzheimer's disease.

All of NSF's fundamental research programs, including those in the SBE sciences, need sustained, predictable funding levels that allow scientists to investigate research questions over a period of time and attract the next generation to build upon that knowledge. Doing otherwise slows the growth of discovery, shrinks the community of experts, and undermines the very research that this country needs to address its priorities in national security, defense, health, education, economics, and more.

Core Discipline Research is Critical for the Success of Interdisciplinary Initiatives

We applaud NSF for encouraging interdisciplinary collaboration and innovation through the launch of its Big Ideas and Convergence Accelerators. However, it is crucial that funding for these new initiatives **does not come at the expense of continued funding for core discipline research** in any of the research directorates, including the SBE Directorate.

The discoveries fueled by fundamental SBE research provide a foundational understanding of human thought, feeling and behavior that is critical for making advances in several of NSF's Big Ideas — including harnessing the data revolution, the future of work at the human-technology frontier, and building an inclusive community of STEM learners. Furthermore, funding fundamental research through the NSF SBE directorate ultimately allows us to address a wide range of national challenges and spur innovation in multiple areas. For example, the underpinnings of game theory have been used to improve donor-recipient matches for kidney transplants, improve business models for tech giants such as Google and Facebook, and inform the development of counterterrorism policies. **In order for interdisciplinary research to be successful, the core research upon which it draws must be strong. An increase in NSF's 2019 budget would allow the agency to continue funding core disciplinary research, as well as invest in the Big Ideas.**

Increasing federal investment in fundamental scientific research across all sciences is critical to ensuring the security and prosperity of our nation and its people. Thus, **we urge you to provide the National Science Foundation with at least \$8.45 billion for FY 2019. Furthermore, we recommend that an increase in funding be used to supplement and not supplant fundamental research in all of the research directorates.** Along with the broader scientific community, we believe that increased funding for fundamental scientific research would help set NSF on a solid path with potentially transformative benefits to the country.

Thank you for considering this request.

FABBS Member Societies:

American Educational Research Association, American Psychological Association, Association for Applied Psychophysiology and Biofeedback, Association for Behavior Analysis, International Behavior Genetics Association, Cognitive Science Society, International Society for Developmental Psychobiology, Massachusetts Neuropsychological Society, National Academy of Neuropsychology, The Psychonomic Society, Society for Behavioral Neuroendocrinology, Society for Computers in Psychology Society for Judgement and Decision Making, Society for Mathematical Psychology Society for Psychophysiological Research, Society for Research in Psychopathology, Society for the Scientific Study of Reading, Society for Text & Discourse, Society of Experimental Social Psychology, Society of Multivariate Experimental Psychology, Vision Sciences Society

FABBS Affiliates:

APA Division 1: The Society for General Psychology; APA Division 3: Experimental Psychology; APA Division 28: Psychopharmacology and Substance Abuse; Arizona State University; Boston College- Psychology; Boston University- Psychology; California State University at Fullerton- Psychological and Brain Sciences; Cornell University- Psychology; Duke University- Human Development; Florida State University- Psychology & Neuroscience; Georgetown University- Psychology; Harvard University- Psychology; Indiana University Bloomington- Psychology; Indiana University Purdue University Indianapolis- Psychology; Johns Hopkins University- Psychological and Brain Sciences; Kent State University- Psychological Sciences; Lehigh University- Psychology; New York University- Psychology; Northeastern University- Psychology; Pennsylvania State University- Psychology; Princeton University- Psychology; Purdue University- Psychological Sciences; Rice University- Psychology; Southern Methodist University- Psychology; Stanford University- Psychology; Temple University- Psychology; University of California at Berkeley- Psychology; University of California at San Diego- Psychology; University of Cincinnati- Psychology; University of Delaware- Psychological & Brain Sciences; University of Houston- Psychology; University of Illinois at Urbana-Champaign- Psychology; University of Iowa- Psychological and Brain Sciences; University of Maryland at College Park- Psychology; University of Massachusetts at Amherst- Psychological and Brain Sciences; University of Michigan- Psychology; University of Minnesota- Psychology; University of North Carolina at Greensboro- Psychology; University of Pennsylvania- Psychology University of Pittsburgh- Psychology; University of Texas at Austin- Psychology; University of Texas at Dallas- School of Behavioral and Brain Sciences; University of Virginia- Psychology; Vanderbilt University- Psychological Sciences; Virginia Tech- Psychology; Wake Forest University- Psychology

Consortium for Ocean Leadership
 National Association of
 Marine Laboratories
 Lamont-Doherty Earth Observatory,
 Columbia University
 University Corporation for Atmospheric
 Research
 Woods Hole Oceanographic Institution
 Scripps Institution of Oceanography
 Stanford University
 Incorporated Research Institutions for
 Seismology
 UNAVCO
 University of Oregon
 Oregon Institute of Marine Biology
 George Mason University
 University of Pittsburgh
 Institute for Global Environmental
 Strategies
 Florida State University
 Annis Water Resources Institute –
 Grand Valley State University
 Bermuda Institute of Ocean Sciences
 (Bermuda and New York)
 Friday Harbor Laboratories, College of
 the Environment, University of
 Washington
 Global Science Associates
 NC State University, Center for Marine
 Sciences & Technology
 Moss Landing Marine Laboratories
 California State University Council on
 Ocean Affairs, Science & Technology
 School of Ocean and Earth Science and
 Technology, University of Hawaii at
 Manoa
 American Society of Agronomy
 Crop Science Society of America
 Soil Science Society of America
 Institute at Brown for Environment and
 Society, Brown University
 American Association of Geographers
 Penn State University
 Department of Earth & Planetary
 Sciences, The Johns Hopkins
 University
 Southeastern Universities Research
 Association
 University of North Carolina
 Wilmington
 Dauphin Island Sea Lab
 Metropolitan State University of
 Denver
 Cleantech San Diego
 CODAR Ocean Sensors
 Del Mar Oceanographic
 Kinematics
 Ocean Aero, Inc.
 Rowe Technologies Inc.
 SeaView Systems, Inc.
 Guam-EPSCoR, University of Guam
 Michigan Technological University
 University of Delaware
 International Ocean Science &
 Technology Industry Association

Testimony for the Record
 In Support of the National Science Foundation
 and Its Investment
 In Geoscience Research, Infrastructure, and Education
 Before the
 Subcommittee on Commerce, Justice, and Science
 Committee on Appropriations
 House of Representatives
 April 27, 2018

The institutions listed in the margin of this statement are pleased to submit to the Subcommittee this statement in which we collectively argue that the investment in research and education made via the National Science Foundation (NSF) is essential to the long-term security of the Nation. In particular the support provided by NSF for geoscience research, infrastructure, and education is vital if our Nation is to address critical security issues related to national defense, economic competitiveness, and public health and safety. **The entities lending their name to this statement recommend that the Congress provide NSF with an appropriation of \$8.45 billion for FY 2019.** This is consistent with recommendations contained in the Dear Colleague Letters led by Rep. G.K. Butterfield and Rep. David B. McKinley in the House and Senator Markey and others in the Senate, along with the Coalition for National Science Funding, the Association of American Universities, and the Association of Public and Land-grant Universities. Funding at this level will start to reverse the trend of the last 20 years that has left the United States on the verge of falling behind our international competitors.

Growth in the annual investment in American science by NSF is critical to support innovation, which is critical for national security, economic competitiveness, improvements in living standards, and support for public and societal well-being. Research and development (R&D) is a major driver of innovation, and R&D expenditures reflect a nation's commitment to expanding capabilities in Science & Engineering (S&E), which in turn drives innovation. On January 18, the National Science Board released the biennial [*Science and Engineering Indicators 2018*](#). The report finds that the world's nations are continuing to accelerate the growth of their technology-intensive economies. It documents how the S&E landscape — historically concentrated in the U.S., Europe, and Japan — is rapidly shifting as China and other countries continue to increase their R&D investments. It makes clear that while the U.S. remains the global leader by many S&E measures, China has continued its rapid rise in the rankings.

Investments in research and education are essential for maintaining technological innovations and advancements that will help our society and a global population survive in a rapidly changing world. Investing in research returns economic prosperity many times over. If the U.S. is to meet the

Florida Atlantic University - Harbor Branch
 Oceanographic Institute
 University of Wisconsin – Madison
 Department of Ocean, Earth &
 Atmospheric Sciences, Old Dominion
 University
 University of Massachusetts Dartmouth
 Stony Brook University
 Gulf of Mexico University Research
 Collaborative
 Office of Research, Rutgers University
 American Anthropological Association
 Hatfield Marine Science Center, Oregon
 State University
 National Ground Water Association
 Belle W. Baruch Institute for Marine and
 Coastal Sciences
 Florida Atlantic University – Geosciences
 Department.
 University of South Florida - College of
 Marine Science
 University of New Hampshire
 Skidaway Institute of Oceanography,
 University of Georgia
 Research/America
 The Weather Coalition
 University of Hawaii
 Geological Society of America
 University of California System
 Great Lakes WATER Institute, University of
 Wisconsin-Milwaukee
 Louisiana State University
 Virginia Commonwealth University
 Association of Public & Land-grant
 Universities
 American Geosciences Institute
 University of California, Davis
 University of Kansas
 University of Florida
 Coastal and Estuarine Research Federation
 North Carolina Agricultural and Technical
 University
 University of California San Diego
 American Geophysical Union
 College of Earth, Ocean & Atmospheric
 Sciences, Oregon State University
 University of Colorado Boulder
 American Astronomical Society
 University of Iowa
 University of California, Los Angeles
 Virginia Institute of Marine Science
 Council on Undergraduate Research,
 Geosciences Division
 Marine Science Research Institute,
 Jacksonville University
 Colorado School of Mines
 BMT
 Delawarde Inc.
 Grassy Bar Oyster Company, Inc.
 Sea-Bird Scientific
 Gnostech, Inc
 Assure Controls, Inc.
 Catalina Offshore Products

environmental and economic challenges facing this country, we must make the necessary investments in our research and education enterprise.

Research and National Security

In response to questions for the record from the Senate Armed Services Committee in early 2017, U.S. Secretary of Defense James Mattis said, "... climate change is a challenge that requires a broader, whole-of-government response. If confirmed, I will ensure that the Department of Defense plays its appropriate role within such a response by addressing national security aspects." In making that statement, Secretary Mattis joined a long list of defense, national security, and intelligence leaders that have recognized the significant and unprecedented national and homeland security risks posed by the climate issue such as sea level rise and increased storm surges, which could inundate coastal military and civilian infrastructure. Drastic changes in food, water, and energy availability also increase the likelihood of instability and state failure across the globe. The gravity of these risks has been affirmed by a number of senior defense and intelligence leaders in the current Administration, in addition to Secretary of Defense Mattis. This list includes Vice Chairman of the Joint Chiefs of Staff, General Paul Selva; Secretary of the Navy, Richard Spencer; Assistant Secretary of Defense for Energy, Installations and Environment, Lucian Niemeyer; Chief of the National Guard Bureau, General Joseph Lengyel; Assistant Secretary of the Army for Civil Works, R. D. James; and Director of National Intelligence, Dan Coats. This issue was most recently addressed at the April 12, 2018 hearing before the House Appropriations Subcommittee on Military Construction and Veterans Affairs in an exchange between Subcommittee members and Assistant Secretary for Defense (Energy, Installations, and Environment) Lucian Niemeyer.

In summer 2017, the first ship to traverse the Arctic Northern Sea Route without assistance from ice-breaking vessels completed its journey. That transformational moment drives home both the opportunity and the imperative for the United States, a Nation with an important Arctic presence, to ready itself for the new Arctic. The Arctic is warming at twice the rate of the rest of the Earth with far-reaching consequences for Arctic residents. Arctic change will fundamentally alter climate, weather and ecosystems globally in ways that we do not yet understand but that will have profound impacts on the world's economy and security. Rapid loss of Arctic sea ice and other changes will also bring new access to the Arctic's natural resources such as fossil fuels, minerals, and new fisheries, and this new access is already attracting international attention from industry and nations seeking new resources. NSF proposes, via its "Big Ideas" initiative called Navigating the New Arctic (NAA), to establish an observing network of mobile and fixed platforms and tools across the Arctic to document these rapid biological, physical, chemical and social changes, leveraging participation by other federal agencies. Current Arctic observations are sparse and inadequate for enabling discovery or simulation of the processes underlying Arctic system change or to assess their environmental and economic impacts on the broader Earth

National Council for Science and the Environment
 Sanibel-Captiva Conservation Foundation
 Marine Laboratory
 University of Washington
 Sitka Sound Science Center
 Kewalo Marine Laboratory, University of Hawaii at Manoa
 Institute of Water and Environment, Florida International University
 University of Denver
 University of California, Irvine
 University of Maryland, Baltimore County
 Aquaai Corporation
 FlyWire Cameras

system. Among federal agencies, NSF is unique in its ability to fund bottom-up research driven by the U.S. academic research community across the physical, biological, social, engineering and computational sciences. Arctic research also offers greater opportunity for the next generation of Arctic researchers.

NSF has issued a Dear Colleague Letter in FY 2018 inviting research proposals related to the NNA focusing on: establishment of observational research sites, observational platforms, or networks of sites to document key aspects of the changing Arctic; studies to understand and forecast changes in biogeochemical, geophysical, ecological and social processes occurring in the new Arctic; studies of feedbacks between the design and engineering of urban and rural civil infrastructure and changes in natural ecosystems such as thawing permafrost and sea ice retreat and social systems such as increasing marine commerce; and studies that advance STEM education through Arctic research activities.

Geoscience Research – Vital for Economic Security and Public Safety

A series of articles that appeared in *Pacific Standard* identify other ramifications stemming from changes to our environment. Potential health risks are estimated to rise significantly because of higher temperatures and complications from natural disasters. An additional 250,000 people are projected to die every year between 2030 and 2050 as a result of these health risks, according to the World Health Organization. Malnutrition could affect nearly half a million adults globally by 2050 as a result of food and nutrition scarcity. The economies of the states in the South, Midwest, and mid-Atlantic are expected to suffer from predicted gross domestic product losses of up to 28 percent because of the effects of greenhouse-gas emissions on field production. Marine fisheries globally, which have been estimated to support the livelihoods of 10 to 12 percent of the world's population, are projected to show decreased yields and profits. Islands, inhabited by hundreds of residents, such as the Tangier Islands in the Chesapeake Bay, could be entirely consumed by rising sea levels by 2050, or sooner.

The Federal Government has a responsibility to meet these future challenges. To fulfill this responsibility, one important step the Nation should take is to enhance its investment in basic research and related infrastructure through NSF, with a particular focus on the geosciences and related areas. This investment will help to create the new knowledge and technological capabilities – along with the educated and trained workforce to use these new tools – to address these challenges and seize the strategic opportunities presented by such efforts. Investing in basic research related to the geosciences will not just support national security efforts, it will also contribute to the development of new knowledge and technologies that will contribute to the nation's economic competitiveness and public safety.

In minerals development, NSF-funded research on magma systems in Antarctica led to a genetic ore deposit model that was vital to the discovery of the significant Nokomis copper-nickel-platinum group element deposit in northern Minnesota. The Nokomis deposit contains estimated metal resources of approximately 10 billion pounds of copper, 3.1 billion pounds of nickel, 165 million pounds of cobalt, 4 million ounces of platinum, 9 million ounces of palladium, and 2 million ounces of gold. Meanwhile, geoscientists have created large, high-quality synthetic diamonds and determined how to manipulate their toughness, hardness, and color. Synthetic diamonds are significantly harder than real diamonds, making them suitable for industrial applications, such as the production of cutting tools and faster

computer processors. They are also 30 percent cheaper than natural diamonds, which can cost upwards of \$2,000 per carat.

Researchers have shown that geodetic networks can help to provide earthquake and tsunami early warnings that can save lives and limit damage. NSF/GEO operates and maintains the largest geodetic network for research in the United States and supports extended networks in the Americas and Caribbean. Besides understanding earth processes in the crust, ice, snow and atmosphere, these observing networks are critical for hurricane, severe weather, space weather, fire, floods, earthquakes, volcanoes, landslides and tsunamis monitoring. With the growth of other GPS-like constellations, the Global Navigation Satellite System (GNSS) ensures that these ground-based geodetic networks will gather more data from more satellites and will improve/enhance surveying, engineering, navigation (especially self-driving cars and the like), precision agriculture and timing (e.g. for financial markets).

Along the U.S. coast, storm surge is often the greatest threat to life and property from a hurricane. NSF-funded researchers are quantifying how future tropical storm surges may impact U.S. coastal properties, using past patterns of coastal sea-level change. From 1990 to 2008, population density increased by 32% in Gulf coastal counties, 17% in Atlantic coastal counties, and 16% in Hawaii, according to the U.S. Census Bureau. In 2011, 45% of our nation's GDP was generated in the Coastal Shoreline Counties along the oceans and Great Lakes. A storm surge of 23 feet has the ability to inundate 67% of interstate highways, 57% of arterial roads, almost half of rail miles, 29 airports, and virtually all ports in the Gulf Coast area. Information on coastal property risk is vital to owners, insurers, and government.

Rare violent storms on the Sun – the source of space weather – have the potential to knock out the entire electrical power grid, possibly for months, resulting in trillions of dollars of damage and bringing chaos to much of the country. NSF's investment in understanding, modeling, and observing space weather systems are developing predictive models to forecast and mitigate this catastrophic possibility.

Concluding Thoughts

Each day NSF-supported advancements such as those highlighted above make our lives better and safer. NSF provides financial support for our nation's brightest minds to aid them in their endeavors to address challenging problems. Funding for the NSF results in investments that lead to the development of a competitive and resourceful workforce that will ensure our national security and enable our country to maintain and strengthen its leadership in science and technology. Therefore, we respectfully request your support to ensure that NSF receives at least \$8.45 billion for Fiscal Year 2019. This level of funding will help ensure that future generations of Americans are prepared to help our nation remain a world economic leader.

Thank you for the opportunity to offer these recommendations.



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Statement for the Record from

The National Association of Marine Laboratories
The IOOS Association
The National Estuarine Research Reserve Association
The Coastal States Organization
The Sea Grant Association
The National Marine Sanctuary Foundation

for the
 Subcommittee on Commerce, Justice, Science, and Related Agencies
 Committee on Appropriations
 House of Representatives
 March 19, 2018

In support of FY 2019 Appropriations for the Nation's Ocean, Coastal, and Great Lakes Research, Education, Conservation, and Resource Management Enterprise

Mr. Chairman and Members of the Subcommittee, this joint statement is submitted on behalf of the non-profit organizations listed above who share a **deep and overriding concern for and frequently partner together to strengthen the health of the Nation's oceans, coasts, and Great Lakes**. We refer to ourselves as an ad hoc *Coastal Roundtable* and meet periodically to share mutual concerns, discuss and undertake joint programmatic initiatives, and exchange information and best practices.

This Subcommittee is uniquely responsible for the health of the ocean, coastal, and Great Lakes enterprise through your oversight and resource decision-making responsibilities related to NOAA, NSF, NASA, and other agencies. That enterprise is a critical part of the security of the Nation as it relates to economic, environmental, national, homeland, energy, conservation resources, and food security issues. In FY 2019 the Administration has proposed the elimination of most of the funding for this Subcommittee's extramural support for ocean, coastal, and Great Lakes research, conservation, observing, and education programs. We urge the Subcommittee to strengthen the support for ocean and coastal programs consistent with the new spending levels in the Bipartisan Budget Act of 2018.

For centuries, our oceans and coasts have sustained lives and livelihoods, divulged ancient and unforeseen treasures, stirred our dreams of remarkable new discoveries, and thrilled us to discover and observe the extraordinary marine life below the surface. But never in history have we had the immense opportunities now heaving from the sea. On the horizon is a new ocean/coastal economy, an exciting frontier that offers great promise for making our nation safer, healthier, and more prosperous. This new economy is a knowledge-based economy, looking to the ocean and coastal enterprise not for extraction of material goods but for data, observations, and information to address societal challenges and inspire their solutions. This economy is entrepreneurial and environmentally responsible, collaborative, and competitive.

A recent report from the Center for the Blue Economy reported that the ocean economy generated a larger share of U.S. economic activity than farming, food products, oil and gas extraction, and forest products. Employment supported by this part of the economy is almost as large as the employment of all of these industries combined. The Great Lakes alone generated nearly \$5 trillion in economic activity or about 30% of combined U.S. and Canadian economic output. Finally, the U.S. marine transportation system is an essential driver of the U.S. economy and its impact is felt well beyond the coast and reaches into the



heartland of the nation. America's seaports are crucial generators of economic development and well-paying jobs, both regionally and nationally, that is felt throughout all supply chains that use the ports.

The ocean and our coasts are invaluable for humanitarian, environmental, and health reasons. The oceans are a primary source of food for over one billion people, a globally significant regulator of the earth's climate, the basic source of water for the hydrologic cycle, a cleaning agent that absorbs carbon dioxide and generates oxygen, and home to thousands of flora and fauna. The ocean has been a source of new drugs to treat certain cancers. Blue-green algae, commonly found in Caribbean mangroves, are used to treat small-cell lung cancer and certain sponges produce chemical substances that can be used to treat cancer and manage pain. A wide gulf often separates science from the people who need research results to protect and support them. However, the new ocean economy puts science and predictive capabilities to work in a way that can fill critical, fast-rising needs across sectors. All of the organizations that have lent their names to this statement stand in strong support for the ocean, coastal and Great Lakes research, conservation, observing, and education programs managed by NOAA's National Ocean Service and Office of Oceanic and Atmospheric Research. Specifically, we are referring to:

- The National Sea Grant College Program and Marine Aquaculture;
- The Ocean, Coastal, and Great Lakes Cooperative Institutes;
- The Integrated Ocean Observing System;
- The National Estuarine Research Reserve System;
- The National Marine Sanctuary System;
- Coastal Zone Management and Services;
- Coastal Management Grants;
- The Digital Coast Program;
- Coastal Resilience;
- Coastal Science and Assessment; and
- NOAA Education.

Sea Grant is a unique program within NOAA that sends 95% of its appropriated funds to coastal states through a competitive process to address issues that are identified as critical by public and private sector constituents and coastal communities throughout the United States. Sea Grant fosters cost-effective partnerships among state universities, state and local governments, NOAA, and coastal communities and businesses, leveraging nearly \$3 for every \$1 appropriated by Congress. In 2016, the Sea Grant program helped generate an estimated \$611 million in economic impacts, created or sustained over 7,000 jobs, provided 33 state-level programs with funding that assisted 494 communities with technical assistance on sustainable development practices, worked with about 1,300 industry and private sector, local, state and regional partners, and supported the education and training of over 2,300 undergraduate and graduate students.

America's estuaries sustain coastal businesses, protect communities from flooding, keep water clean, preserve commercial fisheries, support wildlife, and provide opportunities for recreation. The National Estuarine Research Reserve System (NERRS) maintains 280 stations that track local water quality, pollution, and weather around the country. Every 15 minutes, these platforms collect data – 42 million data points each year – that track hazardous spills, shellfish industry operations, storm damage and more. Reserves engage more than 36,000 volunteers and community members. Nearly 95% of Reserves allow for recreational fishing; 85% allow for hunting. Reserve programs help sustain more than 10,000 jobs, provide training to more than 13,400 people, and assist more than 2,000 decision makers and 570 businesses. Reserve programs reach more than 3,000 educators and 81,000 K–12 students receive STEM education in the outdoors. More than 100 universities and research institutions partner with Reserves on science and monitoring. These collaborations have supported approximately 350 graduate research



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fellows. Similar to Sea Grant, approximately 98% of federal NERRS funding goes to the communities in which the Reserves are located. NERRS funding also leverages State matching funds raising \$6 million annually to supplement the federal funding.

Coastal observing systems are used to gather real time information and turn it into useful products that support human populations, coastal economies and a healthy, sustainable environment. They provide timely, actionable information developed from reliable and user-driven science to provide insight into present and future conditions. The need for data and information about our coasts and Great Lakes to help protect lives, economies and the environment has never been greater. Flood protection, safe and efficient marine operations, fisheries, aquaculture, water quality and safe recreation require an expanded network of observing systems and enhanced analysis that will improve predictive and forecasting capabilities for all users. The Integrated Ocean Observing System (IOOS) is a federal partnership with regional organizations that is improving our understanding of the diverse characteristics of the nation's regions. IOOS generates and delivers quality information about the nation's oceans, coasts and Great Lakes. IOOS increases economic efficiency and minimizes redundancy by leveraging non-federal investments; in fact, over fifty percent of the marine data now assembled and disseminated by NOAA's National Data Buoy Center is from non-federal sources. IOOS provides a cost-effective approach to providing the nation with reliable information to enhance maritime commerce; improve weather and flooding forecasting; supporting fisheries, ecosystems and water quality; and enhances our ability to plan for and respond to unforeseen hazards.

The National Coastal Zone Management Program (CZM Program) is a state-federal partnership supports the effective management, beneficial use, protection, and development of the coastal zone. Healthy coastal resources support business and conservation and long-term planning is essential for coastal areas to remain the economic drivers they are today. In FY 2017, states and territories matched over \$56.9 million in investment in the CZM Program. The CZM program helps ensure that our nation's coastal communities are able to plan for an uncertain future and help protect lives and investments on the coast. This state-federal partnership ensures the responsible use of coastal resources by balancing the needs of economic development and conservation of natural resources while also planning for potential impacts to a state's coastal zone.

America's National Marine Sanctuary System consists of 13 national marine sanctuaries and two marine national monuments encompassing over 620,000 square miles of marine and Great Lakes waters. Sanctuaries are home to millions of species, preserve our nation's maritime heritage, and promote public access for exploration and world-class outdoor recreation and enjoyment for future generations. They generate \$8 billion annually in local economies and support numerous jobs and businesses in the fishing, tourism, recreation, and scientific research sectors. Because of strong ties to the local communities, businesses, and organizations, every dollar of public investment in sanctuaries stimulates a greater return on investment for our communities by heavily leverage private funds and partner contributions. Sanctuary visitor centers, vessels, and facilities are key assets for communities; stimulate public-private partnerships on emerging technologies, cutting edge science, and hands on education; and attract millions of visitors to the coasts each year.

The Digital Coast Program was developed to meet the unique information needs of the coastal management community. It provides access not just to a growing body of coastal data, but also the tools, training, and information needed to make over 5 trillion points of LIDAR, 37 terabytes of imagery, and 800,000 square miles of land cover, collected from both federal and non-federal sources, useful for coastal managers, planners, and decision makers charged with managing the Nation's coastal resources.



The products and services provided by the Digital Coast include data, information, and training for more than 4,000 coastal communities.

We urge the Subcommittee to continue to support its portfolio of ocean and coastal programs and we offer the following specific programmatic recommendations:

- National Sea Grant College Program, \$85 million for research, education, extension, and outreach activities, including Marine Aquaculture, STEM education, and Sea Grant fellowship programs within the NOAA Operations, Research, and Facilities (ORF) account within the Office of Oceanic and Atmospheric Research;
- National Estuarine Research Reserve System, \$27 million in NOAA's Operations, Research and Facilities account within the National Ocean Service;
- National Estuarine Research Reserve System, \$1.7 million for the Procurement, Acquisition and Construction account within the National Ocean Service;
- Sanctuaries and Marine Protected Areas, \$57 million within the National Oceanic and Atmospheric Administration's (NOAA) Operations, Research, and Facilities (ORF) account in the National Ocean Service;
- Marine Sanctuaries Construction, \$8.5 million within NOAA's Procurement, Acquisition, and Construction (PAC) account in the National Ocean Service;
- Coastal Zone Management Grants, \$75 million within NOAA's Operations, Research, and Facilities (ORF) account, National Ocean Service (under Coastal Management Grants line);
- Coastal Resilience Grants, \$15 million within NOAA's Operations, Research, and Facilities account, National Ocean Service (under Coastal Management Grants line);
- Regional Integrated Ocean Observing System (IOOS), \$37.7 million within NOAA's Operations, Research, and Facilities account, National Ocean Service; and
- Digital Coast Program, \$5 million within NOAA's Operations, Research, and Facilities account, National Ocean Service.

We appreciate the funding constraints and the many worthy competing claims the Subcommittee must confront. Our coasts are home to 40 percent of the nation's population. Annually our coastal counties produce more than \$7.6 trillion in goods and services, employ 53.6 million people, and pay \$3 trillion in wages. Coastal wetlands conservation measures prevented an estimated \$625 million in property damages during Hurricane Sandy. Ocean, coastal, and Great Lakes research, education, conservation, and resource management practices funded by this Subcommittee are investments in the future health and well-being of our coastal communities' economies which will result in returns of improved quality of life, environment and economic resilience many times over the federal investment.

Thank you for the opportunity to provide this unified message.

Testimony of the **Friends of NOAA Coalition**
Prepared by Carissa Bunge, Senior Specialist

Prepared on 27 April 2018 for the
U.S. House Committee on Appropriations
Subcommittee on Commerce, Justice, Science, and Related Agencies

As supporters, stakeholders, employees, and partners of the National Oceanic and Atmospheric Administration (NOAA), **Friends of NOAA would like to thank you for your work in completing the FY18 appropriations process and providing a three percent funding increase for NOAA.** Thank you for recognizing the world-class economic, safety, and public health benefits NOAA contributes to our country and its citizens. We look forward to working with you in supporting and championing the agency through fiscal year 2019 (FY19) and beyond.

As such, Friends of NOAA strongly supports funding the agency at \$6.2 billion in FY19. As recommended by groups such as the [Innovation Imperative](#), NOAA should receive at least a four percent annual funding increase to maintain strong and competitive science and innovation. Robust and predictable science funding is critical for our nation to remain a world leader in atmospheric and oceanic science, research, and technology.

From the heartland to the coasts, NOAA provides services that millions of Americans rely on every day. More than half of all Americans live along our coasts, one out of every 45 jobs are in ocean-dependent industries, and the insured value of coastal property now exceeds \$13 trillion. These jobs, properties, and communities rely on NOAA data to maintain a healthy coast.

Moreover, one third of the U.S. economy - or about \$3 trillion - is sensitive to weather and climate, and the Department of Commerce estimates the annual value of daily weather forecasts at \$31.5 billion. When planning for drought, flood, tornadoes, blizzards, hurricanes, and beyond, NOAA is responsible for improving accuracy, monitoring, and warning time to save lives and money.

NOAA is the United States' oldest scientific agency, and its mission is rooted in a history of science, service, and stewardship. From the depths of the ocean to the reaches of space, NOAA supports our nation's economy, security, public health, and innovation. The following items are just a few examples of the countless benefits NOAA provides to the nation and its citizens.

Timely and Accurate National Weather Service Forecasts and Warnings

Weather, water, and climate events are responsible for an average of approximately 650 deaths, \$15 billion in damage, and 90 percent of presidentially-declared disasters each year. Additionally, the U.S. GDP fluctuates 3-6% each year due to weather variability, which means that millions of people, businesses, and communities rely on National Weather Service (NWS) products every day. Sufficient funding for NWS will support building a "Weather Ready Nation" and the National

Water Center, which help to build community resilience in the face of growing vulnerability to extreme weather events by increasing warning times, improving forecast communication, and providing decision support to emergency managers.

More specifically, strong support for NOAA will allow the agency to continue developing the next generation of flooding and drought forecasts. Continued funding is also required for NOAA to maintain its NEXRAD Weather Radars and Automated Surface Observing Systems, which are essential for critical tornado and severe weather warnings and in avoiding data gaps. Finally, strong funding for NOAA will be necessary to implement the *Weather Research and Forecast Innovation Act of 2017* and to carry out the initiatives, goals, and policies outlined in the law.

Environmental Data to Reduce Risk

NOAA provides the essential data and information that people need to understand and prepare for climate variability and change. Long-term environmental data is essential to reducing risks and liabilities for our nation's households, industries, and ecosystems. Drought forecasts alone are worth up to \$8 billion per year to the farming, transportation, tourism, and energy sectors. Environmental risk also poses a national security issue. Studies have shown that a three-foot sea level rise would threaten 128 U.S. military bases, which would be forced to invest significant sums simply to remain operational.

Strong investments in NOAA are critical to support the long-term environmental monitoring and analysis that public and private stakeholders use to save time, money, and lives. Furthermore, robust funding is essential for updating NOAA's computing capacity and will also allow the agency to expand forecast outlooks to three to four weeks, which do not currently exist.

Maintenance and Sustainability of Healthy Oceans and Coasts

NOAA's work in understanding our oceans and coasts is essential to our economic, ecological, and public health. A healthy ocean has drawn almost half of all Americans to live on the coasts – and coastal counties alone contribute nearly \$7.9 trillion annually to the GDP. Sustained ocean research and observations are critical for managing harmful algal blooms, understanding how ocean acidification is already impacting shellfish and other marine industries, and responding to coastal emergencies like the Deepwater Horizon oil spill. As these types of issues continue to affect local economies, NOAA and other federal agencies play a key role in supporting state and regional partnerships such as those underway in the Northeast and Mid-Atlantic to improve ocean management.

NOAA requires strong federal funding to continue to ensure the existence of clean beaches, healthy oceans, and sustainable coastal communities. With consistent support, NOAA can close critical gaps in ocean science to spur economic growth and support informed public and private sector decision-making that is essential to our economy and environment. For example, establishment and funding of programs like the National Ocean and Coastal Security Fund present an important opportunity build on past efforts in enhancing regional resilience to ocean challenges.

Informed and Productive Fishery Management

Fishery stock assessments and data collection are essential for providing managers the information they need to sustain fishing opportunities while preventing overfishing. NOAA has rebuilt 41 stocks since 2000, resulting in overfishing numbers dropping to an all-time low in 2014. Rebuilding all overfished stocks and harvesting them at their maximum sustainable yields will generate \$31 billion in sales impacts and support 500,000 jobs.

Investment in NOAA is vital to the implementation of catch limits that maintain productive fisheries, secure fishing opportunities, and support the economic vitality of coastal communities. Strong funding will allow the agency to combat global and domestic illegal, unreported, unregulated fishing; monitor endangered marine species; and provide crucial disaster assistance to fisheries.

Innovative and Cutting-edge Geostationary and Polar Satellite Systems

All levels of government, public, industry, and military rely on NOAA satellites for weather forecasting, storm tracking, and long-term Earth observations that protect lives and infrastructure. Strong support for the agency will allow NOAA to maintain current launch and development schedules of the GOES-R Satellite Series, JPSS, and Polar Follow On to ensure continuity of data and the ability to forecast 3-5 days out.

Robust funding for NOAA also translates into the continuation of exploring the potential of commercial data use in NOAA's modeling and forecasting, completing the development of COSMIC-2A ground stations, and enhancing NOAA's capabilities in space weather forecasting and imaging as DSCOVR reaches the end of its projected mission life in 2022. Stable funding is essential for efficient data retrieval, for minimizing total cost to taxpayers, and for ensuring that launch dates are not delayed, which would leave millions of Americans without detailed severe weather information they rely on every day.

World Class Research and Development

NOAA research has led to new technologies and scientific advances that have increased our understanding of the planet and improved our lives. NOAA research also engages students – the next generation's scientists - from around the country, helping to expand the agency's capacity and prepare for the future. Continuing this cutting-edge work, will require a vibrant extramural research, observing, outreach, and education component as well as the comprehensive modernization of all of NOAA's observation and monitoring operational systems, including its oceanographic fleet of vessels, fleet of aircraft, suite of in-situ ocean and coastal sensors, and remote capabilities.

Without adequate investment, for example, the NOAA fleet will decline by 50 percent, with half of its vessels set to retire in the next 10-12 years. In addition, strong funding for NOAA will allow the agency to more efficiently transition the most promising research into operations,

applications, and commercialization, as well as expand regional research to help manage climate risks and support climate assessment efforts.

Friends of NOAA urges Congress to support a robust budget for NOAA. Our weather, climate, and ocean systems don't work independently of one another, and our understanding of these systems can't either. From satellites and weather operations, to fisheries and coastal management, every facet of NOAA serves a purpose essential to the nation. **Therefore, we strongly encourage you to continue to support NOAA, and continue to recognize the agency's role in our economy, national security, and environmental resiliency by funding NOAA at \$6.2 billion in FY19.**

Thank you for your consideration of this request.

Sincerely,

The Friends of NOAA Coalition



**HOUSE COMMITTEE ON APPROPRIATIONS SUBCOMMITTEE ON
COMMERCE, JUSTICE, SCIENCE AND RELATED AGENCIES
“FY2019 APPROPRIATIONS TESTIMONY
FOR DEPARTMENTS OF JUSTICE AND COMMERCE**

**Friday, April 27, 2018
Written Testimony of
THE HONORABLE W. RON ALLEN, TRIBAL CHAIRMAN/CEO
JAMESTOWN S'KLALLAM TRIBE**

On behalf of the Jamestown S'Klallam Tribe, I am pleased to submit this written testimony on our funding priorities and requests for the Fiscal Year 2019 Department of Justice and Department of Commerce Budgets. Our Budget Request endorses the requests and recommendations of the Northwest Indian Fisheries Commission and the National Congress of American Indians. The provision of public safety and justice is a core element of any government and critical for a well-functioning market economy. Public Safety is an integral part of the strength of our Tribal Governments and well-being of our Indian communities. Strong Tribal Justice Systems also benefit states and surrounding communities and is essential for conducting business on Indian lands.

TRIBAL SPECIFIC – DEPARTMENT OF JUSTICE /DEPARTMENT OF COMMERCE

1. Provide Recurring Base Funding for Tribal Justice Programs
2. Hold Indian Country Harmless from Budgetary Reductions, Rescissions, and Sequestration
3. Data Collection to Support Funding Requests

REGIONAL REQUESTS AND RECOMMENDATIONS – DEPARTMENT OF COMMERCE (Support the FY 2019 request of the Pacific Salmon Commission)

1. Provide \$110 million for the Pacific Coastal Salmon Recovery Fund (NOAA/NMFS)
2. Provide \$18.3 million for the Pacific Salmon treaty, including the additional \$5.5 million for the 2008 Chinook Salmon Agreement (NOAA/NMFS)
3. Provide \$20.3 million for the Mitchell Act Hatchery Program (NOAA/NMFS)

NATIONAL REQUESTS AND RECOMMENDATIONS - DEPARTMENT OF JUSTICE

1. Fully Fund the Tribal Law and Order Act (TLOA)
2. Fully Fund Violence Against Women Act (VAWA)
3. Office of Justice Programs (OJP) – Create a Ten Percent (10%) Tribal Set-Aside for Tribes
4. Victims of Crime Act Funding – Provide a five percent (5%) set aside
5. Fund COPS Program - \$52 million

TRIBAL SPECIFIC REQUESTS

1. Provide Recurring Base Funding for Tribal Justice Programs

Stable funding at sufficient levels is essential for viable and effective Tribal justice institutions. Grant funding is, at best, a short term investment that is used to support the ongoing and critical Tribal justice needs. Although we appreciate the intent of the Department in developing the

CTAS to streamline the grant process and provide Tribes a tool for quick access and reference to funding that is specifically available to Tribes, competitive grants do not work well as the main funding source. The time limitation leads to instability, the administrative burden on Tribes remains excessive, the lack of flexibility creates challenges to addressing justice needs, funding is insufficient, and the CTAS application process is highly competitive, tedious, and complex and there are many restrictions imposed on how Tribes may use the funds. Base funding coupled with more flexibility would allow for more effective and efficient use of the federal dollar and stronger Tribal justice systems.

2. Hold Indian Country Programs Harmless from Budgetary Reductions, Rescissions and Sequestration

Decades of unfulfilled Federal obligations has devastated Tribal communities who continue to face persistent shortfalls and overwhelming unfulfilled federal obligations. Sequestration, reductions and rescissions further exasperate an already precarious budget situation undermining the Tribes ability to maximize program operations and their ability to provide basic services to our citizens. In addition, many of these reductions are permanent rescissions and the cumulative effect over the years has critically impacted Tribal communities. Until Tribes attain exclusive taxing jurisdiction within their Tribal lands, Federal support remains critical to ensure the delivery of essential governmental services to our Tribal citizens. The Federal trust obligation must be honored and vital programs and services for Tribes must be sustained and held harmless in any budgetary deal enacted to reduce the national deficit.

3. Improve Data Collection to Support Tribal Funding Requests

Data is critical to support Tribal policy goals, implementation of programs and services, managing impacts of the federal investment and community planning for program success. Accurate data can capture the community needs and guide Tribal investments resulting in efficient and effective use of resources and strong Tribal economies. However, there is a lack of available data and data gathering throughout the Federal agencies. OMB and the Agencies should work together with Tribes to develop uniform measures that track federal spending for Native American programs and services and that capture the unfulfilled federal obligations.

REGIONAL REQUESTS AND RECOMMENDATIONS

1. \$110 million for the Pacific Coastal Salmon Recovery Fund (NOAA/NMFS) - The FY17 appropriations provided a total of \$65.0 million. These funds have decreased from the peak of \$110.0 million in FY02. The Tribes' overall goal in the PCSRF program is to restore wild salmon populations while the key objective is to protect and restore important habitat in Puget Sound and along the Washington coast. These funds support policy and technical capacities within Tribal resources management to plan, implement, and monitor recovery activities.

2. \$18.3 million for the Pacific Salmon Treaty - The U.S. Section estimates that this funding is needed to implement national commitments created by the Treaty (NOAA/NMFS) - The Pacific Salmon Commission (PSC) establishes fishery regimes, develops management recommendations, assesses each country's performance and compliance with the treaty, and is the forum for all entities to work towards reaching an agreement on mutual fisheries issues

3. \$20.3 million for the Mitchell Act Hatchery Program (NOAA/NMFS) – Funding is provided for the operation and maintenance of hatcheries that release between 50 and 60 million juvenile salmon and steelhead in Oregon and Washington. This program has historically provided fish production for Tribal treaty and non-Tribal commercial and recreational fisheries in the Columbia River, and also contributes to ocean fisheries from Northern California to Southeast Alaska.

NATIONAL REQUESTS AND RECOMMENDATIONS DEPARTMENT OF JUSTICE

1. Fully Fund the Tribal Law and Order Act (TLOA)

The Tribal Law and Order Act was an important step in empowering Tribes to better address the unique public safety challenges and reduce the prevalence of violent crime in Indian country. However, effective implementation of TLOA is contingent upon adequate Federal funding. Funding is needed to implement the comprehensive and improved measures that were enacted to address the public safety crisis in Tribal communities. The entire Tribal justice system is dependent on this funding to carry out law enforcement, court, and detention functions, and to provide rehabilitation and preventive services. Tribal justice systems are the cornerstone that paves the way for economic development and Tribal self-sufficiency.

2. Fully Fund Violence Against Women Act (VAWA) Including \$5 million for VAWA Special Domestic Violence Criminal Jurisdiction

The Office on Violence Against Women provides funding for Tribes to assist victims of domestic violence. Funding for Tribal governments is derived from other OVW Programs and combined into a single source called the “Grants to Tribal Governments Program”. Therefore, it is imperative to Tribes that these other programs receive full funding so the Tribal grant program will, in turn, receive full funding. The root cause of these high rates of violence was a justice system that forced Tribal governments to rely on distant Federal, and in some cases, state officials to investigate and prosecute incidences of domestic violence committed by non-Natives against Native women. The statistics on violence against Native women show that outside law enforcement has proven ineffective in addressing these crimes of violence. Between 2005 and 2007, U.S. Attorneys declined to prosecute nearly 52 percent of violent crimes that occurred in Indian country; and 67 percent of cases declined were sexual abuse related cases. It is unconscionable to force Tribes to submit to a system of justice that declines to prosecute over half the criminal cases brought before it and leaves our Native women without judicial recourse. On some reservations, Native women are murdered at a rate that is 10 times the national average. The bill authorized \$5 million for Tribes to implement VAWA and, in 2016; \$2.5 million was appropriated for Tribes to implement the new provisions.

3. Office of Justice Programs (OJP) – Provide a 10% Tribal Set-Aside for all (OJP) Programs and Allow for Greater Flexibility

The Office of Justice Program (OJP) provides funding to Tribes to address public safety and criminal justice needs in Indian communities. We are advocating for a 10% Tribal set-aside to allow for a more flexible grant structure for Tribes to complement the Coordinated Tribal Assistance Solicitation (CTAS) grant. Although Congress and the Administration have taken steps in recent years to try and address some of these concerns through the passage of the Tribal Law and Order Act (TLOA) of 2010 and the Reauthorization of the Violence Against Women Act (VAWA) of 2013, significant funding is needed in order to implement these new authorities

to address the crisis level need in Indian country and elevate the safety and wellness of our Tribal citizens and communities. Tribal court systems are evolving to meet the increasing demands of Tribal communities and ensure that Tribal citizens are provided with adequate legal representation and protection. Under TLOA and VAWA Tribal courts are required to expand judicial services and meet certain costly thresholds, including, providing public defenders, recording criminal proceedings, and retaining legally trained and licensed Tribal judges. Without adequate funding for Tribal court systems, decisions to arrest, prosecute and detain will be based on financial restraints rather than in the best interest of public safety. Stable funding for Tribal courts is a prerequisite to ensure a safe, healthy and thriving Tribal community.

4. Increase the Funding Caps and Create a Permanent Five Percent (5%) Tribal Set-Aside for Victims of Crime Act Funding

We commend Congress for providing a 3% set aside for Tribes in the Victim of Crimes Fund in the FY2018 Budget and request that a similar Tribal set aside is included in the FY2019 appropriations. Congress created the Crime Victims Fund in 1984 with the idea that money collected from those who commit crimes should be used to assist those that have been victimized. Each year, the fund is financed by the collection of funds, penalties and bond forfeitures from defendants convicted of Federal crimes. It is important to note that the fund receives no tax payer dollars. DOJ disburses funds to states and other entities. Crime victimization rates on Tribal lands have been estimated as much as 250% higher than the national rate and the rate of murder of American Indian/Alaska Native women on some reservations are 1000% higher than the national average. Tribal governments, like state governments, are responsible for addressing the needs of victims in their communities. Despite the devastating rates of victimization in Tribal communities, Indian Tribes have largely been left out of the fund. Indian Tribes are only able to access these dollars through state pass through grants or very limited short term competitive DOJ grants. However, many states do not provide funds to Tribes for victim services and the vast majority of Tribes are unable to access these funds at all. Tribes are again requesting a Tribal set-aside of 5% of the VOCA funds.

5. Fund the COPS Program - \$52 million

The COPS Office provides funding to Tribes for law enforcement officers. The funding can also be used for training, equipment, vehicle, and technology. There is a great need for additional law enforcement officers throughout Indian country but limited resources has led to inadequate funding for justice systems, specifically, in the area of hiring, retention and training of law enforcement officers. It is imperative for the safety of Tribal citizens and surrounding communities that a significant increase in funding is allocated for Tribal law enforcement officers and programs.

I would like to extend my thanks to the Subcommittee for an opportunity to submit testimony on the FY2019 Appropriations for DOJ and DOC.

**institute of makers of explosives**

The safety and security institute of the commercial explosives industry since 1913

Statement of the Institute of Makers of Explosives
Submitted by: John Boling, Vice President of Government Affairs
For the Subcommittee on Commerce, Justice, and Science and Related Agencies
United States House of Representatives
April 24, 2018

FY 2019 DOJ Congressional Budget Submission for the Bureau of Alcohol, Tobacco, Firearms
and Explosives

Interest of the IME

The Institute of Makers of Explosives (IME) is a nonprofit association founded over a century ago to provide accurate information and comprehensive recommendations concerning the safety and security of commercial explosive materials. Our mission is to safeguard employees, users, the public and the environment, and to encourage the adoption of uniform safety and security rules and regulations in the manufacture, transportation, storage, handling, use and disposal of the explosive materials used in blasting, oil and gas extraction, and other essential operations. IME represents U.S. manufacturers, distributors and transporters of commercial explosive materials and oxidizers as well as other companies that provide related services. The majority of IME members are “small businesses” as determined by the U.S. Small Business Administration.

Millions of metric tons of high explosives, blasting agents, and oxidizers are consumed annually in the United States. These materials are essential to the U.S. economy. Energy production, construction, mining, quarrying, demolition, and other specialized applications begin with the use of commercial explosives. IME member companies and their affiliates produce nearly all of the explosives used in these industries. Commercial explosives are used in every state and are distributed worldwide. The ability to manufacture, distribute, and use these products safely and securely is critical to our industry.

Commercial explosives are pervasively regulated by a myriad of Federal and state agencies. The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) plays a predominant role in ensuring that explosives are manufactured, identified, tracked, and stored in a safe and secure manner and received only by authorized persons. IME shares ATF’s focus on safety and security, and it is from that perspective that we offer the following comments.

IMESAFR and Regulation Modernization

Current ATF explosive storage regulations as well as U.S. Coast Guard permitting factors for explosives cargoes are not based on modern explosives, modern storage and cargo systems, current science, and the operational practices that have evolved over the past century. Instead they are based on outdated quantity distance tables, and specifically, ATF applies the American Table of Distances (ATD) which was developed by IME from a review of accidents at the turn of the nineteenth century. The ATD does not minimize risks to the public, it simply sets a distance

where the public survived accidents in the late 19th century. While it has served the nation well, in today's environment, explosives are less sensitive and land, necessary to meet the over-conservative standards of the ATD, is more scarce. Therefore, the United States should use available technology and develop a quantitative risk methodology that is grounded in research and testing which can minimize the risk to the public, remove unrealistic conservatism, and establish a consistent methodology for industry and government.

Recognizing the opportunity, IME spent over a decade developing a scientifically-based computer model for assessing the risk from a variety of commercial explosives activities called the Institute of Makers of Explosives Safety Analysis for Risk (IMESAFR).¹ This quantitative risk assessment program allows establishment of a tolerable risk standard that will provide a definitive level of risk that industry and other federal entities will be able to understand and be able to use as a bright-line when developing projects. In plain language, IMESAFR will help minimize risk to employees and the public in today's environment.

IME is committed to ensuring that regulators and users of IMESAFR have the highest level of confidence that the program is designed to the necessary specifications and performs as such. To this end, the National Center for Explosives Training and Research (NCETR) has partnered with IME on efforts to further validate IMESAFR data and ensure transparency of the scientific process by participating in testing and supporting an independent IMESAFR Science Panel. With a goal of transparency for governments, the IMESAFR Science Panel is composed of representatives from ATF, Department of Homeland Security, the Canadian Explosives Research Laboratory, academia, consultants, and industry. The IMESAFR Science Panel has the ability to "look under the hood" of the program so regulators can be confident that the science is accurate and validated by testing and studies.

As we reported last year, ATF approved the first variance from the American Table of Distances (ATD) based on risk assessment using IMESAFR in 2015. Since that time the Bureau is becoming more confident with the program and have issued a half dozen more variances. Similarly, the U.S. Coast Guard has policies that allow use of quantitative risk assessment at ports and have issued at least one waiver based on IMESAFR.

For the reasons stated above, IME urges the Subcommittee to provide additional resources to ATF to allow them to conduct further validation and testing in order to develop or reaffirm policies that allow the use of such models to meet regulatory mandates. Additional resources are required to produce the testing, data collection, analysis, review, and regulatory framework necessary to validate the program to ensure wide acceptance and confidence. ATF would then have the capability to test and evaluate energetic materials, explosives, and storage systems and develop new technologies. Ultimately, this capability would serve to reduce risk to the public while reducing regulatory burden and increasing industry investment in U.S. production and explosives export – all of which will benefit the nation.

¹ IMESAFR was built on the Department of Defense Explosives Safety Board's software model, SAFER. The DDESB currently uses SAFER and table-of-distances methods to approve or disapprove Department of Defense explosives activities. Not only can IMESAFR determine the amount of risk presented, but it can also determine what factors drive the overall risk and what actions would lower risk, if necessary. The probability of events for the activities were based on the last 20 years of experience in the U.S. and Canada and can be adjusted to account for different explosive sensitivities, additional security threats, and other factors that increase or decrease the base value.

ATF's Explosives Regulatory Program

IME understands the difficult decisions that ATF and the Federal government face when allocating scarce resources. We also understand the other important work and responsibilities that ATF is assigned. Nevertheless, the members of IME, their employees and customers rely on a properly funded and staffed regulatory program. The success of ATF's explosives programs in preventing the misappropriation of commercial explosives should not be seen as an opportunity to reallocate funding, but, rather, as confirmation that a base level of funding is necessary for ATF to fulfill its mission. ATF must retain a cadre of trained personnel to perform these vital services. The commerce of explosives is so closely regulated that failure to provide adequate personnel and resources can be detrimental to our industry, our customers, our employees, and the industrial sector of the U.S. economy.

ATF is the primary Federal law enforcement agency that regulates the explosives industry - licensing and permitting businesses and individuals to engage in manufacturing, importing, or dealing in explosives, or receiving or transporting explosives materials.² By law, ATF must inspect an estimated 10,000 explosives licensees and permittees at least once every three years. ATF's workload also involves ensuring the completion of background checks for employee possessors of explosives and responsible persons.

We would be remiss, however, if we did not take this opportunity to implore ATF to recognize its regulatory responsibility to "answer the mail" and provide timely responses to requests for variances, classifications, determinations and policy interpretations which are vital to the safety and security of the industry. Due to the Bureau's role as the primary regulator of explosives in the United States, IME further requests that ATF continue to participate in relevant industry and government forums that impact the industry, including both relevant U.S. and international conferences and meetings. For example, IME is disappointed ATF chose not to participate in the International Group of Experts on the Explosion Risks of Unstable Substances (IGUS), subcommittee on Explosives, Propellants and Pyrotechnics (EPP) meeting that occurred this month because they deemed it not mission critical despite the lengthy agenda of commercial explosives regulatory topics.

In regard to vetting, IME has previously recommended that ATF harmonize its vetting and clearance procedures with those used by other Federal programs. Doing so would allow ATF's vetting program to be reciprocally recognized by these programs and save time and resources of the agency and the individuals being vetted. In 2015, the Department of Homeland Security moved to accept ATF's vetting program, but that was due to Congressional action, not necessarily DHS confidence with the vetting process. Nevertheless, since concerns remain we encourage the Committee to require ATF to determine what resources or changes in procedure it would take to harmonize ATF's vetting standards and procedures with those used by other agencies and to improve the timeliness of vetting programs.

ATF-Industry Partnership

United States Bomb Data Center

² FY 2019 ATF Congressional Budget Submission, page 23.

The U.S. Bomb Data Center (USBDC) is responsible for collecting and storing explosives-related incident data, to include information on thousands of explosives incidents investigated by ATF and other Federal, state, and local law enforcement agencies. While this data helps government entities to share investigative leads, perform trend analysis, and compare incidents for similarities and crime methodologies, USBDC data also helps the industry in efforts to identify any potential weaknesses or reaffirm the effectiveness of safety and security practices, and to update industry standards accordingly.

As we stated in prior years, IME appreciates USBDC reinstating the issuance of the Explosives Incident Report (EIR) and including more detailed information. The data helps confirm the success of industry best practices and the effectiveness of ATF regulations. Recently, IME reviewed 20 years of *available* ATF EIRs, and the use of commercial explosives used in domestic criminal events has remained around or below 2% throughout that time period. In 2015, that number was .7%. In 2015, thefts of commercial explosives dipped to a historic low of 8 total reported thefts. To put this in context, in the same year, over 5 billion pounds of commercial explosives were consumed in the United States. This is clearly evidence of the success of IME safety and security best practices coupled with ATF's sound regulatory structure.

National Center for Explosives Training and Research

IME would like to commend ATF for its work at the National Center for Explosives Training and Research (NCETR), including training, testing and research, which is critically important for the safety and security of explosive materials. As stated above, IME should allocate the necessary funding to NCETR to allow them to conduct further validation and testing in order to develop or reaffirm policies that modernize ATF's regulatory program.

Industry Standards

IME holds in high regard the statutory obligation that ATF take into account industry's standards of safety and security when issuing rules and requirements. We continue to fulfill this obligation through our development of industry best practices for safety and security, membership in relevant standard-setting organizations, and active participation in industry and government forums. IME is nearly finished compiling a series of recommendations that will align the regulations with the industry best practices which we believe will enhance safety and security which will be formally presented to ATF for review and incorporation into regulations. We hope that ATF will cooperate in this exercise to modernize regulations.

Conclusion

ATF plays a critical role in helping the explosives industry achieve and maintain a strong safety and security record. Even though explosives may be dangerous materials when in the wrong hands, the manufacture and distribution of explosives is accomplished with a remarkable degree of safety and security. The use of explosives is essential to sustain the economy, and the explosives industry and the general public are dependent on ATF. The Bureau must have adequate resources to fulfill its mission and keep the American public safe.



CONSORTIUM of SOCIAL SCIENCE ASSOCIATIONS

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Testimony in Support of Fiscal Year 2019 Funding for the
National Science Foundation, Census Bureau, National Institute of Justice,
and Bureau of Justice Statistics

Prepared for the Subcommittee on Commerce, Justice, Science and Related Agencies
Committee on Appropriations, United States House of Representatives
Submitted by Wendy A. Naus, Executive Director
Consortium of Social Science Associations
April 27, 2018

On behalf of the Consortium of Social Science Associations (COSSA), I offer this written testimony for inclusion in the official committee record. For fiscal year (FY) 2019, COSSA urges the Committee to appropriate **\$8.45 billion for the National Science Foundation (NSF), \$4.735 billion for the Census Bureau, \$42 million for the National Institute of Justice (NIJ), and \$48 million for the Bureau of Justice Statistics (BJS).**

First, I wish to thank the Subcommittee for its longstanding support for federal science agencies. Despite tough, ongoing fiscal challenges, the Subcommittee has continued to maintain funding for basic research as a top priority. Thank you.

COSSA serves as a united voice for a broad, diverse network of organizations, institutions, communities, and stakeholders who care about a successful and vibrant social science research enterprise. We represent the collective interests of all STEM disciplines engaged in the rigorous study of why and how humans behave as they do as individuals, groups and within institutions, organizations, and society. *Social and behavioral science* often refers to the disciplines of and fields within anthropology, communication, demography, economics, geography, history, law, linguistics, political science, psychology, sociology, and statistics, as well as countless multidisciplinary subfields.

Social and behavioral science research is supported across the federal government, including at the National Science Foundation and the Department of Justice. Further, federal statistics collected by the Census Bureau and other federal statistical agencies provide important data needed to conduct social science research that informs policy decisions. Taken together, federal social and behavioral science and statistical data help to provide us with answers to complex, human-centered questions such as:

AMERICAN ANTHROPOLOGICAL ASSOCIATION • AMERICAN ASSOCIATION FOR PUBLIC OPINION RESEARCH • AMERICAN ECONOMIC ASSOCIATION • AMERICAN EDUCATIONAL RESEARCH ASSOCIATION • AMERICAN POLITICAL SCIENCE ASSOCIATION • AMERICAN PSYCHOLOGICAL ASSOCIATION • AMERICAN SOCIETY OF CRIMINOLOGY • AMERICAN SOCIOLOGICAL ASSOCIATION • AMERICAN STATISTICAL ASSOCIATION • ASSOCIATION OF AMERICAN LAW SCHOOLS • LAW AND SOCIETY ASSOCIATION • LINGUISTIC SOCIETY OF AMERICA • MIDWEST POLITICAL SCIENCE ASSOCIATION • NATIONAL COMMUNICATION ASSOCIATION • POPULATION ASSOCIATION OF AMERICA • SOCIETY FOR PERSONALITY AND SOCIAL PSYCHOLOGY • SOCIETY FOR RESEARCH IN CHILD DEVELOPMENT

- How to convince a community in a path of a tornado to heed warnings;
- Ways to slow and hopefully eradicate the opioid epidemic; and
- How to support counter-terrorism efforts and prevent conflict.

In addition, new findings across the social sciences continue to increase the efficiency of our industries, improve the quality of K-12 education, help us understand crime patterns and evaluate prevention strategies, help manage our natural resources, keep our troops safe, help us to be informed as consumers, and allow paralyzed individuals to communicate. Among the countless innovations enabled by federal support for basic social science research are telecommunications spectrum auctions, life-saving kidney exchanges, and warning systems to protect lives and property from extreme weather events, to name a few.

In short, knowledge derived from social and behavioral science research has made our population healthier, our democracy fairer, our nation safer, and our economy stronger. Without these sciences, policy-making on major national issues would not be based on evidence, and billions of dollars would be wasted.

National Science Foundation

COSSA joins the broader scientific community and the 161 Members of the House of Representatives who signed the March 16, 2018 bipartisan letter in support of \$8.45 billion for the National Science Foundation (NSF) in FY 2019. This amount would put NSF back on a growth trajectory and would allow the agency to recover some of the purchasing power lost in recent years due to sequestration and caps on discretionary spending.

Recognizing the centrality of scientific research to America’s broader economic, social, and security interests, more than 500 organizations representing top U.S. industries (including Boeing, John Deere, Microsoft, National Association of Manufacturers, and Northrop Grumman), higher education, and scientific and engineering societies endorsed the statement, *Innovation: An American Imperative* in 2015. The statement calls for at least 4 percent annual growth for federal basic science research agencies, such as NSF. The \$8.45 billion request for NSF would put the agency on track for this necessary increase. The U.S. scientific enterprise requires stability, predictability, and sustainable funding growth, and federal policies that are patient and can tolerate a reasonable amount of risk to achieve the greatest payoff.

NSF funds basic scientific discovery, workforce training, and state-of-the-art facilities that keep the U.S. ahead of our global scientific competitors. It is the only U.S. federal agency tasked with **supporting scientific research across all fields of science.** NSF supports about a quarter of all federally-funded basic scientific research conducted at colleges and universities nationwide and serves as the largest single funder of university-based basic social and behavioral science research. Though the Social, Behavioral, and Economic Sciences Directorate (SBE)—one of seven research directorates at NSF—represents less than 5 percent of the entire NSF research budget,

it supports around two-thirds of total federal funding for academic *basic research* in the social and behavioral sciences (excluding psychology). **Unfortunately, the President’s budget request proposes a disproportionate cut to the SBE Directorate, redirecting funds to other sciences. We strongly urge the committee to reject such a move, which would put in place an arbitrary process for allocating NSF resources.**

Instead, experts at NSF, the outcomes of the merit-review process, and the vast network of scholars around the country who provide technical and content expertise to the NSF leadership should be trusted to advise the agency on the most promising science worthy of support. NSF, through its gold-standard merit review process, allows the demands of scientific discovery to dictate how best to spend basic research dollars, leaving politics and individual ideologies at the door. It is important that Congress maintain NSF’s authority over the distribution of its precious research dollars and not set arbitrary funding levels for NSF’s individual directorates, keeping with current practice. **The House CJS Appropriations Bill should maintain current practice of appropriating funds to the Research & Related Activities account, leaving NSF with the flexibility to fund the most promising science across all fields.**

Census Bureau, U.S. Department of Commerce

COSSA urges the Committee to appropriate \$4.735 billion for the U.S. Census Bureau in FY 2019 to keep the agency on track to execute an innovative and cost-effective 2020 Decennial Census and maintain support for its other crucial economic and demographic surveys. With the 2020 Census less than two years away, the Census Bureau is entering its peak phase of decennial operations. The Bureau is putting years of research, testing, evaluation, and development into practice in service of the nation’s largest peacetime mobilization. In FY 2019, the Bureau will finalize its operational plan for 2020, building on the lessons learned during the 2018 End-to-End Census Test, the “dress rehearsal” for the real count. The Bureau will begin hiring tens of thousands of census workers, launch the first phase of its public information campaign to educate communities about the Census, mobilize thousands of partner organizations to enhance its reach in hard-to-count communities, and finalize IT systems to ensure the security of Americans’ personal information.

With time before Census Day running out, robust and stable funding is essential in order for the Bureau to complete the necessary preparations and ensure a fair and accurate Census. The Census Bureau is obligated by the U.S. Constitution to count every person in the country, regardless of expense. Interfering with the careful preparations undertaken by the Census Bureau—by inadequately funding operations during the lead-up years or by adding last-minute untested questions to the form—will only add to costs down the road.

In addition, **COSSA calls on Congress to fully fund the American Community Survey (ACS) and maintain its status as a mandatory federal survey.** The ACS is the only source of comparable, consistent, timely, and high quality demographic and socio-economic data for all communities in the U.S. As a component of the Constitutionally-mandated Decennial Census, the ACS is a “mandatory” national survey. The accuracy of the data collected by the ACS relies on this

mandatory status. Targeted cuts and changes to make the survey voluntary would significantly undermine the ability to collect usable data on all U.S. counties, particularly in less populous, rural areas of the country.

National Institute of Justice and Bureau of Justice Statistics, U.S. Department of Justice

COSSA urges the Committee to appropriate \$42 million for the National Institute of Justice (NIJ) and \$48 million for the Bureau of Justice Statistics (BJS) within the U.S. Department of Justice (DOJ). NIJ serves as the research arm of the Department of Justice, filling an important role in helping the agency to understand and implement science-based strategies for crime prevention and control. It supports rigorous social science research that can be disseminated to criminal justice professionals to keep communities safe and prevent and reduce crime.

The Bureau of Justice Statistics (BJS) is one of 13 principal federal statistical agencies. BJS produces data that provides statistical evidence needed by researchers and criminal justice policy decision makers. Taken together with NIJ, these modest annual investments represent the only dedicated sources of federal research support committed to enhancing our understanding of crime and the criminal justice system, including around topics like victimization, law enforcement, recidivism and reentry, drugs and crime, and tribal justice.

Numerous pressing criminal justice and law enforcement issues are at the fore of public consciousness today, including **understanding the mental health needs** of people who become involved in the justice system, the **drivers of domestic radicalization**, **effective solutions to opioid addiction**, and **ways to improve police officer safety and community relations**. By working with jurisdictions at all levels to compile data and support research, DOJ—through NIJ and BJS investments—provides key insights that improve public safety. Making the results of this research available to state and local officials and the public allows justice and law enforcement professionals to learn what works, adopt best practices, and improve public safety by leveraging the best research and data to protect the public, reduce recidivism, and support law enforcement and communities. While objective research is needed now more than ever, federal funding in support of such research has been largely stagnant. **Congress must prioritize federal data collection and research if we are to provide local, state, and federal officials with the information they need** to develop strategies to improve public safety in our communities.

Thank you for the opportunity to present this testimony on behalf of the social and behavioral science research community. Please do not hesitate to contact me should you require additional information.



BRADLEY D. TRUITT Chair

DAVID J. ROBERTS Executive Director

Testimony of: David J. Roberts, Executive Director, SEARCH, The National Consortium for Justice Information and Statistics

Prepared for: The House Subcommittee on Commerce, Justice, Science and Related Agencies

In re: U.S. Department of Justice, NCHIP and NARIP

Date: April 24, 2018

Introduction

Thank you, Mr. Chairman and members of the Subcommittee, for the opportunity to submit testimony on the Department of Justice (DOJ) funding to be provided for in the FY 2019 Commerce, Justice, Science, and Related Agencies appropriations bill. SEARCH recommends an appropriation of at least \$75 million for the National Criminal History Improvement Program (NCHIP) and the National Instant Criminal Background Check System (NICS) Act Record Improvement Program (NARIP), which is the amount that was included in the 2018 Consolidated Appropriations Act.

SEARCH, The National Consortium for Justice Information and Statistics (SEARCH), is a nonprofit membership organization created by and for the states. SEARCH's Governor-appointed, dues-paying Members from the states and territories have the responsibility, among other things, to oversee both NCHIP and NARIP within their states.

Over the years, states have made great strides in meeting their criminal history record improvement goals under both programs. Robust funding for these programs in prior years, as reflected in the FY 2017 and FY 2018 Commerce, Justice, Science and Related Agencies appropriations was welcomed by the states who use the funding to modernize and enhance operations and technology, and to more effectively share data for critical criminal justice and public safety decisions. NCHIP funding has helped states vastly improve the quality and completeness of criminal history records, and to make this information immediately available and broadly accessible nationwide. NARIP funding has significantly improved information for firearms eligibility determinations via the NICS system, including increasing mental health records availability to NICS by nearly 1600%.¹

There is still work to be done to realize a truly complete and accurate national criminal history background check system. That system not only informs a variety of justice and public safety decisions, but also and increasingly critical *noncriminal justice decisions*, such as those regarding applicants for employment and licensing; volunteers who work with children, elderly

¹ <https://www.ncjrs.gov/pdffiles1/bjs/grants/249793.pdf>

and other vulnerable populations; and individuals purchasing firearms. It is important to recognize that information stored in state criminal history record repositories throughout the nation and used for criminal justice decisionmaking (such as at arrest, prosecution, sentencing, and community supervision), is precisely the same information that is required for other public safety and noncriminal justice decisions (such as employment and licensing decisions and for firearms eligibility determinations).

The states are leveraging prior Congressional funding to engage in broad-scale initiatives and partnerships with other state agencies to improve and enhance criminal history record information collection and sharing. These partnerships between the criminal history repositories and state courts, corrections, prosecution and mental health agencies – among others – have been stimulated through these substantive grant funding streams, which enable the development of enterprise solutions to address universal interagency information sharing challenges. Continued progress and substantive advances rely in no small measure on new funding in FY 2019.

SEARCH appreciates the Subcommittee’s recognition that while both NCHIP and NARIP focus on improvements to the efficiency, effectiveness, timeliness, and accuracy of criminal history record and associated data for decisionmaking purposes, each program emphasizes specific and distinct goals.

NCHIP allows states to focus on a broad range of criminal history improvement activities that are unique and specific to each state. States have identified and prioritized the improvements needed in their systems to support critical decisionmaking at the state and national level for both criminal and civil decisions. Some of those priorities include improving arrest records, increasing disposition reporting, expanding conviction record availability in the federal systems, and enhancing positive identification capabilities.

Maine, for example, has used NCHIP funding to locate missing criminal history record dispositions or fingerprint-supported records, specifically focusing on improving felony, sex offender and domestic violence records. Connecticut has used NCHIP funding to migrate paper criminal history record dispositions into a searchable electronic format to improve the overall efficiency in searching disposition records and reducing the disposition backlog. South Carolina has used NCHIP funding to hire individuals to conduct training to ensure that records conform to FBI standards, add thousands of dispositions to the state’s criminal history records repository, and process thousands of expungements.

The flexibility of NCHIP funding allows states to enhance enterprise information sharing and data used to support a myriad of key decisions in the justice arena each and every day. For example, the lack of positive, biometric identification associated with criminal history records is often a major challenge. Kentucky used FY 2015 funding to develop a Court Fingerprint Notification application within its E-Warrants system. When an offender appears before a judge, the judge will be automatically notified if the offender’s fingerprints are not on file, enabling the judge to order that fingerprints be taken, thereby supporting efforts to establish and verify identity with biometric precision. Michigan used NCHIP funding to create an instructional training video to provide local agencies with easily accessible information regarding the proper submission of fingerprints and criminal history record data.

In contrast to NCHIP grant funding, NARIP funding focuses specifically on improving information sharing with NICS for firearms purchases. There are 10 categories established in federal law that disqualify an individual from purchasing firearms. They include disqualifiers such as felony conviction information, fugitive from justice, domestic violence protection order, involuntary commitment to mental health institution, etc.

Nearly 90% of the records used to make these disqualifying decisions are based on the information that states provide to NICS.² That information comes from three key sources: the Interstate Identification Index (III - the national system for exchanging criminal record information), the National Crime Information Center (NCIC – an automated, nationally accessible database of crime data, criminal justice and justice-related records, including wanted persons and protection orders) and the NICS Indices (created for presale background checks of firearms purchase). Any efforts states undertake to improve the information contribution to any of these databases enhance the effectiveness of firearms eligibility decisionmaking.

NARIP grants allow states to improve information made available to NICS, such as increasing the number of disqualifying mental health records into the NICS Indices and domestic violence orders of protection into the NCIC. Such targeted funding assists states in meeting the challenges specifically associated with getting information to the system. As valuable as the program is, however, NARIP funds are only available to 31 states at this point, since not all states qualify for the funding.³

States that do qualify for NARIP funding can target information sharing efforts to improve their contributions to NICS. For example, NARIP grant funds have significantly improved the records that New York State makes available to the NICS Indices. New York State can now efficiently transmit records of mental health involuntary admissions and civil guardianships to NICS. New York State also collects and reports Misdemeanor Crimes of Domestic Violence (MCDV) convictions to NICS so that vulnerable spouses, children and intimate partners are further protected. Nebraska has utilized NARIP funding to develop a Protection Order Portal that enables local law enforcement to efficiently enter protection orders into NCIC, making them available for NICS checks.

SEARCH makes three key recommendations regarding NCHIP and NARIP funding:

1. Support NCHIP funding for improvements to state criminal history record information to robustly support criminal and civil decisionmaking nationwide.

The NCHIP program has been successful in helping states improve the accuracy, reliability and completeness of their automated criminal history record systems. Meaningful NCHIP funding will more broadly improve the nation’s criminal justice information sharing backbone. Moreover, the federal investment can be leveraged many times over by contributing to the ability of state and local criminal justice agencies to provide timely, accurate and compatible

² FBI Criminal Justice Information Services III Statistics, February 1, 2013

³ NARIP has two main requirements: States must 1) establish a process where those adjudicated as “mentally defective” can seek to reinstate their right to purchase a firearm, and 2) comply with a process to estimate the number of NICS disqualifying records they maintain. Only 31 states have met requirement #1.

information to federal programs, such as the III. And, importantly, all states qualify for funding under NCHIP.

NCHIP funding since FY 2014 has reinvigorated an important and timely program. Because state criminal history records are the principal source for the FBI's III database, any constraints on the states weakens the ability of many state and federal programs to identify threats and keep our nation safe.

2. Continue to invest in improving background screening for firearms purchases.

We urge Congress to continue the investment in the federal-state criminal background screening partnership that comprises NICS. NICS is a critical tool in the fight against gun violence, and the states and FBI rely on NICS every day for informed decisionmaking on firearms transactions.

There are still many opportunities for improving the timeliness and availability of information to NICS. Millions of records related to felony convictions, cases under indictment or information, fugitives from justice and drug abusers—all NICS disqualifying categories—remain open and unavailable to NICS. While states have made significant strides in making mental health records available to NICS, many states need continued support to target information sharing in the other prohibitor categories to further improve their information sharing to NICS.

3. Provide an appropriation of \$75 million for NCHIP and NARIP.

Providing at least level funding for NCHIP and NARIP in FY 2019 will allow states to utilize these programs to improve their criminal history records in support of general criminal justice and civil decisionmaking, as well as improvements to background screening for firearms purchases.

Conclusion

SEARCH thanks the Chairman and members of the Subcommittee for their steadfast support of these programs in the face of daunting budget challenges. Given the critical importance of criminal history record information for a broad spectrum of decisions that keep our citizens safe from predators, terrorists and other criminals, it is a worthwhile and needed investment. The accuracy, completeness and reliability of the nation's criminal history record system is more important than ever before, for criminal investigations, officer safety, sentencing and other criminal justice purposes; for expungement and other reentry strategies; for homeland security and anti-terrorism purposes; for public noncriminal justice purposes, such as licensing and employment suitability and firearms purchases; and for research that provides critical guidance in shaping law and policy.

SEARCH encourages Congress to allow states to tailor their use of NARIP and NCHIP funding to address the specific challenges each state faces, as the examples discussed earlier clearly illustrate, in making more records available to the national system.

On behalf of SEARCH's Governor-appointees, and the thousands of criminal justice officials who benefit from SEARCH's efforts, I thank you for your consideration.



NATIONAL CONGRESS OF AMERICAN INDIANS

Testimony to the House Appropriations Committee - Subcommittee on Commerce, Justice, Science and Related Agencies

April 27, 2018

On behalf of the National Congress of American Indians (NCAI), this testimony addresses important tribal programs serving American Indians and Alaska Natives in the Department of Justice and Department of Commerce.

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Department of Justice

The public safety problems that continue to plague tribal communities are the result of decades of gross underfunding of tribal criminal justice systems; a uniquely complex jurisdictional scheme; and the historic, abject failure of the federal government to fulfill its public safety obligations on American Indian and Alaska Native lands. Crime rates in tribal communities are among the highest in the nation and American Indians and Alaska Natives experience rates of violent crime that are 2.5 times the national average. Residents and visitors on tribal lands deserve the safety and security that is taken for granted outside of Indian Country.

Congress has taken historic steps in recent years with the passage of the Tribal Law and Order Act in 2010 and the Violence Against Women Reauthorization Act of 2013 (VAWA 2013), both of which begin to address some of the structural barriers to ensuring public safety in tribal communities. For the promise of these laws to be fully realized, however, these laws must be fully implemented, which requires adequate resources for tribal justice systems. Increased and streamlined funding in the following program areas constitute a major advancement on this front, and will have a huge impact on safety in tribal communities for tribal citizens, residents, and visitors to tribal lands.

Include tribal governments in disbursements from the Crime Victims Fund (a mandatory account): The Crime Victims Fund (CVF) is the federal government's primary funding source for providing services to victims of crime. NCAI expresses our sincere gratitude to appropriators for providing a direct funding stream for tribal governments from the CVF for the first time in FY 18. Unlike state and territorial governments, who receive an annual formula distribution from the CVF, until this year Indian tribes have only been able to access CVF funds via pass-through grants at the discretion of the states or by competing for very limited resources administered by the Department of Justice. This system left a significant unmet need in most tribal communities—communities where crime victimization rates far exceed the national average. The funding provided in FY 18 will enable tribal governments to begin to address deficits in crime victim services infrastructure so that tribal victims can access the healing and justice they deserve. But for this funding to achieve its ultimate purpose, it needs to be recurring funds that tribal governments can use as a foundation for long-term programmatic stability and planning, ensuring that victims can access the services they need over the long haul. We urge appropriators to keep disbursements from the CVF at the increased level and to direct an amount equal to 5% of overall CVF disbursements to tribal governments.

Create a streamlined tribal allocation across Office of Justice Programs (OJP) programs: For several years, the Administration has proposed bill language that would consolidate OJP tribal programs by allocating 7 percent from all discretionary OJP programs to address Indian Country public safety and tribal criminal justice needs. In past years, both the House and Senate CJS Subcommittees have supported this request, but it has never been enacted. One of the biggest shortcomings of DOJ tribal public safety funding is that it is administered as competitive funding. In order to obtain this funding, tribes – on behalf of their tribal justice systems – must compete against each other under priorities and guidelines established by DOJ. As a result, tribes are forced to develop projects that align with changing DOJ priorities and cannot count on funding continuing beyond the current grant period. Indian Country has too many stories of successful programs disappearing at the end of a two- or three-year grant cycle. A streamlined OJP tribal allocation would significantly improve the efficiency and effectiveness of the federal funding process by which tribes receive resources to establish tribal courts, assist in developing detention facilities, provide legal assistance, develop and maintain juvenile delinquency prevention programs, and provide substance abuse prevention programs. Further, the tribal allocation would give tribes the flexibility to develop strategic approaches about how best to spend those resources.

If Congress declines to adopt the flexible allocation across OJP programs, it should at a minimum restore FY 2010 levels of \$25 million in funding for the Tribal Youth Program under the Juvenile Accountability Block Grants program: Although Native children comprise only 2.2 percent of the overall youth population, they are arrested at a rate of more than 2-3 times that of other ethnic groups. According to a recent DOJ report, “[s]ubstance abuse, depression, and gang involvement fuel a vast majority of the offenses for which American Indian juveniles are disproportionately confined.” Funding for the Tribal Youth Program has decreased significantly in recent years and should be restored to its FY 2010 level of \$25 million.

Fund the Tribal Civil and Criminal Legal Assistance, Training and Technical Assistance (TCCLA) grant program at a level of \$2 million: The Indian Tribal Justice Technical and Legal Assistance Act of 2000 (Public Law 106-559) authorized DOJ to award grants to non-profit entities, such as the 25 Indian Legal Services programs connected with the Legal Services Corporation (LSC), to provide civil and criminal legal assistance to both tribal governments and their justice systems and to individual indigent tribal citizens. In addition to individual representation, Indian Legal Services programs are currently assisting more than 160 tribes and/or tribal judicial systems.

Increase funding of tribal law enforcement programs under DOJ’s Community Oriented Policing Services (COPS) Grants to \$52 million: Since the creation of the COPS Office, more than 2,000 grants totaling more than \$400 million have been awarded to tribal nations to hire more than 1,700 new or redeployed law enforcement officers. It also has helped tribes to obtain necessary law enforcement training, equipment, vehicles, and technology. Through its Tribal Resources Grant Program and Tribal Methamphetamine Program as well as historical programs and funding initiatives such as the Tribal Hiring Renewal Grant Program (THRGP), Tribal Mental Health and Community Safety Initiative, and the Tribal Court Pilot Program, the COPS Office has taken a proactive approach to addressing the needs of tribes and has become one of the primary resources available to tribal law enforcement agencies attempting to develop and maintain a fundamental policing infrastructure and upgrade outdated equipment.

Yet there is still a tremendous unmet need within tribal justice systems for more COPS funding. The COPS Office has acknowledged that due to limited resources, it has not been able to adequately fund tribal justice systems, particularly in the area of hiring/retaining tribal law enforcement officers. In a report released in December 2010, the COPS Office described its practice of intermittent funding as

“problematic,” especially “when referring to hiring of officers.” Indian Country urges Congress to significantly increase funding for tribal law enforcement programs under the COPS program.

Fully fund the programs authorized in the Violence Against Women Act (VAWA), including the funds authorized for tribes’ implementation of the VAWA special domestic violence criminal jurisdiction: It is estimated over 85% of American Indian and Alaska Native women will experience violent victimization in their lifetimes. No area of need is more pressing or compelling than the plight of American Indian and Alaska Native women and children fleeing physical and sexual violence. OVW provides funding to tribal governments to address violence against women in their communities. OVW’s largest source of funding for tribal governments is the Grants to Tribal Governments Program, which is funded via statutory allocations from other OVW programs. Fully-funding these OVW programs results in full funding for the Grants to Tribal Governments Program.

The Violence Against Women Reauthorization Act of 2013 (VAWA 2013) recognized and affirmed the inherent sovereign authority of Indian tribes to exercise Special Domestic Violence Criminal Jurisdiction (SDVCJ) over all persons—Indian and non-Indian—who commit crimes of dating violence, domestic violence, and violations of protection orders within Indian Country. The bill authorized \$5 million per year for five years for tribes to implement the new VAWA provisions and otherwise strengthen tribal justice systems. In FY 18, \$4 million was appropriated for this program. The tribes who have been exercising the jurisdiction report that the costs of implementing the new law have been higher than expected. We urge Congress to appropriate the full amount authorized for VAWA implementation purposes so that more tribes are able to take advantage of this life-saving law.

U.S. Commission on Civil Rights

NCIAI requests support for the U.S. Commission on Civil Rights funding of \$9.7 million in FY 2019. The Commission plays an important role in protecting and advancing the civil rights of American Indians and all people throughout the United States. This funding will enable the Commission to conduct investigations, hold hearings, and execute its responsibilities to the best of its abilities.

Department of Commerce

Provide \$40 million for the Minority Business Development Agency (MBDA): Established by Executive Order in 1971, the Minority Business Development Agency (MBDA) was created to support minority business development centers to provide business consulting and financing services. Initial funding for the MBDA was set at \$63 million, but this budget has since decreased. Funding the MBDA at \$40 million will assist tribes in obtaining vital business consulting, financing services, and procurement of technical assistance. Furthermore, Congress and the MBDA should establish a set-aside sufficient to reestablish Native American Business Enterprise Centers (NABECs) at each of its MBDA Business Centers (MBCs). These funds are critically important due to the service gap created by the elimination NABECs in 2011, which consolidated its cooperative assistance grants to MBCs. MBDA must be able to sustain and expand support for Native American businesses to develop stronger private sector capabilities and contribute to the national economy. MBDA should also continue to support efforts to pursue federal contracts, direct efforts to track minority business data, and collaborate with the Office of Native American Business Development.

Fund the Office of Native American Business Development at a minimum of \$1.25 million as part of the Commerce Department Management Budget. The establishment of the Office of Native American Business Development (ONABD) was codified by the enactment of the Native American Business Development, Trade Promotion and Tourism Act of 2000, Public Law 106-464 (the 2000 Act).

However since its establishment, ONABD has relied on base resources from the Minority Business Development Agency (MBDA) to coordinate federal programs for financial and technical assistance to increase business, expand trade, and support economic development on tribal lands. In its FY 2016 budget request submitted to Congress, MBDA noted the absence of appropriations to support ONABD since it was created by the 2000 Act, and also the lack of appropriation to implement other aspects of PL 106-464 and the Indian Tribal Regulatory Reform and Business Development Act of 2000. In order to carry out its mission, ONABD must receive adequate and sustained support to implement Indian policy initiatives and expand Native American business development initiatives both domestically and internationally. Funding made available through Commerce's Departmental Management budget would help ONABD's efforts, particularly given the reduced focus of MBDA on targeted assistance for Native American businesses. Supported ONABD functions would include serving as the economic development lead on Native American programs within the Department; coordination with other cabinet departments and agencies; conducting outreach to tribes, tribal enterprises and Native businesses; and business and financial management training.

Census Bureau

NCAI requests \$4.735 billion for the Census Bureau in FY 2019 —\$933.50 million above the Administration's request for the agency, and \$912.5 million above the President's request of \$3.015 billion for the 2020 Census. Despite recent support from Congress in FY 2018, funding for the Census Bureau, and especially Census 2020 preparations, remains below necessary levels, including the Commerce Department's own revised decennial census cost projection for FY 2019. Funding shortfalls and delays throughout the decade have adversely affected Census 2020 planning, causing the Bureau to cancel two of three originally planned 2018 End-to-End Census Test sites, cancel all site tests in 2017 (including on two American Indian reservations, which is of major concern to NCAI), and delay development of the Integrated Partnership and Communications Campaign. This funding recommendation would allow the Bureau to increase the number of partnership staff from 1,000 to 2,000; expand targeted advertising and promotion to hard-to-count communities as part of the Communications Campaign; and broaden its 'field footprint' through more local census offices and questionnaire assistance centers, thus ensuring a greater presence in every region of the country in light of a lower projected self-response rate. Fiscal Year 2019 is critical for the Decennial Census.

Conclusion

Thank you for your consideration of this testimony. For more information, please contact Virginia Davis, Senior Policy Advisor, at vdavis@ncai.org, or Amber Ebarb, NCAI Budget and Policy Analyst, at aebarb@ncai.org.

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**W. Ron Allen, Chair
 US Section Budget Committee of the PACIFIC SALMON COMMISSION
 BEFORE THE HOUSE COMMITTEE ON APPROPRIATIONS
 SUBCOMMITTEE ON COMMERCE, JUSTICE, SCIENCE AND RELATED AGENCIES
 on the FY 2019 Budget for the National Marine Fisheries Service
 April 27, 2018**

Mr. Chairman, and Honorable Members of the Committee, I am W. Ron Allen, the Alternate Tribal Commissioner and Chair for the US Section Budget Committee of the Pacific Salmon Commission (PSC). I am also the Tribal Chairman/CEO of the Jamestown S'Klallam Tribe located on the northern Olympic Peninsula of Washington State. The US Section prepares annual budgets for the implementation of the Pacific Salmon Treaty.

Department of Commerce funding in support of implementing the Pacific Salmon Treaty is part of the Salmon Management Activities account in the National Marine Fisheries Service (NMFS) budget. Funding in the Department of Commerce budget intended for the programs to fulfill national commitments created by the Treaty was \$13,113,113 in the 2017 budget. **The US Section estimates that a budget of \$30,000,000 for FY 2019 is needed to implement national commitments created by the Treaty.**

The implementation of the Treaty is funded through the Departments of Commerce, Interior and State. The Department of Commerce principally funds programs conducted by the States of Washington, Oregon, Idaho and Alaska and the National Marine Fisheries Service. The cost of programs conducted by the States to fulfill national commitments created by the Treaty are substantially greater than the funding provided in the NMFS budget in past years. Consequently the States have supplemented the Federal Treaty appropriations from other sources, including State general funds. Many of those funding sources are limited or no longer available.

The Pacific Salmon Treaty line item in the Salmon Management Activities section of the National Marine Fisheries Service budget is funded at \$5,727,858 for FY 2017 to provide base support for the States of Alaska, Washington, Oregon, and Idaho. The National Marine Fisheries Service is funded at \$2,680,245 to conduct salmon stock assessments and fishery management programs required to implement the Treaty's conservation and allocation provisions for Coho, Sockeye, Chinook, Chum, and Pink

salmon fisheries. Effective, science-based implementation of negotiated salmon fishing arrangements and abundance-based management approaches for Chinook, southern Coho, and Northern Boundary and Transboundary River salmon fisheries includes efforts such as increased annual tagging and tag recovery operations, harvest monitoring, genetic stock identification and other emerging stock identification techniques. The US Section identified a need of \$18,300,000 for FY 2019 to fully carry out these activities.

The Chinook Salmon Agreement line item in the Salmon Management Activities was funded at \$1,440,947 in FY 2017 representing a reduction from previous years. The US Section recommends restoring the funding to the original level of \$1,800,000. This funding supports research and stock assessments necessary to acquire and analyze the technical information needed to fully implement the abundance-based Chinook salmon management program provided for by the Treaty. The States of Alaska, Washington, Oregon, and Idaho, and the twenty-five Treaty Tribes conduct projects selected in a rigorous competitive process.

The International Fisheries Commissions line, under Regional Councils and Fisheries Commissions in the NMFS budget was funded at \$365,657 and provides the US contribution to bilateral cooperative salmon enhancement on the transboundary river systems, which rise in Canada and flow to the sea through Southeast Alaska. This project was established in 1988 to meet US obligations specified in the Treaty and had been previously funded at \$400,000 annually.

The 2008 Agreement line supports improvements to the Coded Wire Tag program and to Puget Sound critical Chinook stocks, both necessary to reach agreement on revised fishery provisions between the US and Canada. The amount appropriated for FY 2017 was \$2,898,406. Increased funding of these programs in the FY 2019 Federal budget at \$5,500,000 is necessary to address Chinook salmon conservation needs and to meet existing Treaty commitments. The US Section recommends adding \$4,000,000 to fund critical salmon escapement indicator stock programs.

The core Treaty implementation projects included in the Pacific Salmon Treaty line, and the US Chinook Agreement line under Salmon Management Activities, as well as the International Fisheries Commission line under Regional Councils and Fisheries Commissions consist of a wide range of stock assessment, fishery monitoring, and technical support activities for all five species of Pacific salmon in the fisheries and rivers between Cape Suckling in Alaska to Cape Falcon in Oregon. The States of Alaska, Washington, Oregon, Idaho, and the National Marine Fisheries Service conduct a wide range of programs for salmon stock abundance assessment, escapement enumeration, stock distribution, and fishery catch and effort information. The information is used to establish fishing seasons, harvest levels, and accountability to the provisions of Treaty

fishing regimes.

Like many other programs, funding to implement the Pacific Salmon Treaty decreased in recent years. Prior to that, the base annual Treaty implementation funding remained essentially flat since the inception of the Treaty in 1985. In order to continue to fulfill the Federal commitments created by the Treaty, as costs and complexity increased over time, the States had to augment Federal funding with other Federal and State resources. However, alternative sources of funding have seen reductions or, in some cases, have been eliminated.

The provisions of five annex chapters to the Treaty will expire on December 31, 2018. These chapters contain the specifics for implementing the Treaty for each species in each geographic area. An agreement in principle has been reached for the Transboundary, Coho, and Chum chapters. Agreements for the Northern Boundary and Chinook chapters should be reached in the near future. The revised chapters represent the combined efforts of the participants to ensure healthy salmon populations for the next ten years. They also require commitments to increase efforts to improve upon current management strategies for numerous salmon populations.

Finally, you should consider the fact that the value of the commercial harvest of salmon subject to the Treaty and managed at productive levels under the Treaty, supports the infrastructure of many coastal and inland communities. The value of the commercial and recreational fisheries, and the economic diversity they provide for local communities throughout the Pacific Northwest and Alaska, is immense. The Pacific Salmon Commission recently funded an economic study of these fisheries and determined that this resource creates thousands of jobs and is a multi-billion dollar industry. The value of these fish to the twenty-five Treaty Tribes in Washington, Oregon, Idaho and Alaska goes far beyond their monetary value, to the cultural and religious lives of Indian people. A significant monetary investment is focused on salmon due to the listings of Pacific Northwest salmon populations under the Endangered Species Act.

Given these resources, we can continue to utilize the Pacific Salmon Commission to develop recommendations that help with the development and implementation of solutions to minimizing impacts on listed stocks. We continue to work towards the true intent of the Treaty, and with your support, we will manage this shared resource for mutual enhancements and benefits.

This concludes the statement of the US Section of the Pacific Salmon Commission submitted for consideration by your Committee. We wish to thank the Committee for the support given to us in the past. Please let us know if we can supply additional information or respond to any questions the Committee Members may have.

Thank you



Statement for the Record from
The National Association of Marine Laboratories
for the
Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Appropriations
House of Representatives
April 27, 2018

In support of FY 2019 Appropriations for the Nation's Ocean, Coastal, and Great Lakes Research, Education, Conservation, and Resource Management Enterprise

Mr. Chairman and Members of the Subcommittee, this Subcommittee is uniquely responsible for the health of the ocean, coastal, and Great Lakes enterprise through your oversight and resource decision-making responsibilities related to NOAA, NSF, NASA, and other agencies. That enterprise is a critical part of the security of the Nation as it relates to economic, environmental, national, homeland, energy, conservation resources, and food security issues. **In FY 2019 the Administration has proposed the elimination of most of the funding for this Subcommittee's extramural ocean, coastal, and Great Lakes research, conservation, observing, and education programs. We urge the Subcommittee to restore funding and strengthen these programs consistent with the new spending levels in the Bipartisan Budget Act of 2018.**

U.S. leadership in science and technology is being challenged by our international competitors. Investing in science and technology that relates to our oceans, coasts, and Great Lakes will help sustain U.S. leadership and contribute significantly to national security, economic security, food and energy security, and the security of our natural resources. In the R&D Chapter of the FY 2019 Budget Request, the Administration acknowledged that "Innovation in science and technology has been a cornerstone of America's economic progress since the founding of this nation". The National Association of Marine Laboratories (NAML) strongly urges the Nation's decision makers to significantly strengthen the Federal Government's investment in extramural, merit-based, competitive research, infrastructure, and education programs at NSF, NOAA, NASA, and other ocean, coastal, and Great Lakes related agencies to develop the knowledge, the diverse workforce, and the technological innovations needed to power the nation's economy, create jobs, improve health, and strengthen national security.

NAML recommends expanded support for Federal agencies and programs that fund research, infrastructure, and education activities focused on:

- U.S.-based aquaculture to reduce the ever-increasing demand for foreign imports, to advance seafood security and opportunities for economic growth.
- Oceanographic and geochemical exploration and associated technology development to advance national security, commerce and domestic energy independence.
- Data collection and adaptive management strategies to increase productivity and sustainability of marine fisheries and social-economic productivity of U.S. exclusive economic zones.
- Comprehensive understanding of ecosystems which support fisheries and other social-economic drivers.
- Defining the impacts and causative factors for shifting environmental regimes to inform risk management of critical defense, transportation, civic and business infrastructure along U.S. coastlines.



- Discovery and innovation in biological, chemical, geological and physical marine sciences to support advancement of human and environment health and social-economic objectives.

**The Importance of Oceans, Coasts, and Great Lakes to
National, Economic, and Environmental Security**

The security of the U.S. is in large part dependent on our ocean, coastal, and Great Lakes resources:

- Fourteen percent of U.S. coastal counties produce 45% of the nation's gross domestic product (GDP), with close to one in 45 jobs directly dependent on the resources of the oceans and Great Lakes;
- In 2014, the ocean economy's 149,000 business establishments employed about 3.1 million people, paid \$123 billion in wages, and produced \$352 billion in goods and services. This accounted for about 2.3 percent of the nation's employment and 2.0 percent of its gross domestic product;
- Offshore mineral extraction represents 43%, and tourism and recreation account for 31% of the ocean economy contributions to GDP. Tourism and recreation account for 72% of the ocean economy jobs; and
- In summer 2017, the first ship to traverse the Arctic Northern Sea Route without assistance from ice-breaking vessels completed its journey. That transformational moment drives home both the opportunity and the imperative for the United States, a Nation with an important Arctic presence, to ready itself for the new Arctic.

The oceans are a primary source of food for over one billion people; a globally significant regulator of the earth's weather and climate; the basic source of water for the hydrologic cycle; a cleaning agent that absorbs carbon dioxide and generates oxygen; and home to thousands of flora and fauna, many with pharmaceutical value. A wide gulf often separates science from the people who need it to protect and support their well-being.

In 2014, the ocean economy employed more people in the U.S. than the telecommunications, crop production, and building construction industries combined. Additionally, if the nation's coastal counties were considered an individual country, they would rank number three in global GDP, behind only the U.S. and China. The Great Lakes alone generated nearly \$5 trillion in economic output or about 30% of combined U.S. and Canadian economic production.

The United States is the leading global importer of fish and fishery products, with 91% of the seafood we eat originating abroad – half of which is from aquaculture. Driven by imports, the U.S. seafood trade deficit grew to over \$14 billion in 2016. NAML laboratories are leaders in developing and supporting innovative methods that will improve and encourage sustainable U.S. aquaculture products that complement, not compete with, existing US commercial fisheries.

The U.S. marine transportation system is a major driver of the U.S. economy and its impact reaches into the heartland of the nation. America's seaports are crucial generators of economic development and well-paying jobs, regionally and nationally, throughout all supply chains that use the ports. Long-term sustainability of such critical ocean-front infrastructure in the wake of shifting - and dynamic - environmental conditions is a significant concern addressed by marine laboratories, which typically share the same geographic proximity to the water.

All the issues identified above – and more – can be addressed, in part, through a vibrant ocean science and technology enterprise. Such an enterprise is fueled by the support provided by NAML laboratories.



The Role of Marine and Great Lakes Laboratories in America's Research and Education Enterprise

NAML advocates for the importance of marine and freshwater science and education to America's health, security and productivity. NAML seeks to: champion the national value of marine and Great Lakes research, infrastructure, monitoring and observing, education, and outreach; advocate for robust merit-based federal funding programs to address societal needs; enhance the capabilities and networking of Marine and Great Lakes laboratories to serve the Nation's coastal information needs; and contribute to the education and training of a diverse workforce for the future.

The national network of Marine and Great Lakes science laboratories are place-based national assets. Their geographic reach includes estuaries, the coastal zone, the Great Lakes and inland watersheds, all the oceans of the world including polar regions, and the sea floor. They connect scientists, students, public and civic leaders with leading edge science, environmental intelligence, and professional training that contributes to the management and stewardship of our oceans, coastal zones and Great Lakes. NAML laboratories share common mission elements and broad expertise:

- To produce and assimilate knowledge of world oceans, coastal zones, Great Lakes and watersheds;
- To train future generations of marine and freshwater scientists, resource managers, and civic leaders;
- To inspire public and civic understanding and stewardship of marine and freshwater resources; and
- To inform preservation, restoration, management and utilization of marine and freshwater resources.

The intersection of ocean, coastal zone and Great Lakes natural resources and U.S. economic activity is complex and highly interdependent. The U.S. depends on healthy marine and freshwater resources, yet many economic activities have the potential to damage these resources, putting jobs, wages and gross domestic product (as well as human health and well-being) at risk. Marine Laboratories operate at this interface of human socioeconomics and the natural aquatic world. They provide access to the full spectrum of marine and Great Lakes habitats. Often affiliated with universities, marine laboratories are research, monitoring and placed-based teaching platforms that support faculty scientists, graduate and undergraduate students, and public/civic outreach activities to promote stewardship and informed environmental and business management practices. Programs such as NSF's ocean, earth, polar, and biological research programs, NOAA's ocean and coastal programs, Sea Grant, EPA's Wetlands, Oceans and Watersheds, and other mission agency programs rely on marine and Great Lakes laboratories to contribute access, knowledge, data, and technologies to help improve management of these natural assets and sustain their development as socioeconomic drivers.

Marine and Great Lakes science laboratories play a vital role in the decadal science priority themes identified in *Sea Change: 2013-2025 Decadal Survey of Ocean Sciences*. The report indicates that Marine and Great Lake science laboratories are **critical or important** for several of the priority questions, including studies of coastal food webs, ecosystem biodiversity, and human impacts on coastal environments. NSF support of field stations and marine laboratories provides much-needed infrastructure and capital improvements that enhance the quality of scientific research and engagement with the public. Recent efforts by NSF to promote networking and data sharing among field laboratories will provide further opportunities for research and education. *Sea Change identifies marine and Great Lakes laboratories as having a high degree of relevance towards priority research questions with lower costs than other marine infrastructure.*



We urge the Subcommittee to continue to support its portfolio of ocean and coastal programs and we offer the following specific programmatic recommendations:

- National Sea Grant College Program, \$85 million for research, education, extension, and outreach activities, including Marine Aquaculture, STEM education, and Sea Grant fellowship programs within the NOAA Operations, Research, and Facilities (ORF) account within the Office of Oceanic and Atmospheric Research;
- National Estuarine Research Reserve System, \$27 million in NOAA's Operations, Research and Facilities account within the National Ocean Service;
- National Estuarine Research Reserve System, \$1.7 million for the Procurement, Acquisition and Construction account within the National Ocean Service;
- Sanctuaries and Marine Protected Areas, \$57 million within the National Oceanic and Atmospheric Administration's (NOAA) Operations, Research, and Facilities (ORF) account in the National Ocean Service;
- Marine Sanctuaries Construction, \$8.5 million within NOAA's Procurement, Acquisition, and Construction (PAC) account in the National Ocean Service;
- Coastal Zone Management Grants, \$75 million within NOAA's Operations, Research, and Facilities (ORF) account, National Ocean Service (under Coastal Management Grants line);
- Coastal Resilience Grants, \$15 million within NOAA's Operations, Research, and Facilities account, National Ocean Service (under Coastal Management Grants line);
- Regional Integrated Ocean Observing System (IOOS), \$37.7 million within NOAA's Operations, Research, and Facilities account, National Ocean Service; and
- Digital Coast Program, \$5 million within NOAA's Operations, Research, and Facilities account, National Ocean Service.

We appreciate the funding constraints and the many worthy competing claims the Subcommittee must confront. Our coasts are home to 40 percent of the nation's population. Annually our coastal counties produce more than \$7.6 trillion in goods and services, employ 53.6 million people, and pay \$3 trillion in wages. Coastal wetlands conservation measures prevented an estimated \$625 million in property damages during Hurricane Sandy. Ocean, coastal, and Great Lakes research, education, conservation, and resource management practices funded by this Subcommittee are investments in the future health and well-being of our coastal communities' economies which will result in returns of improved quality of life, environment and economic resilience many times over the federal investment.

Thank you for the opportunity to submit these recommendations.

**Jeff Watters, Director, Government Relations, Ocean Conservancy
Testimony for the Subcommittee on Commerce, Justice, Science and Related Agencies
FY 2019 Appropriations for the National Oceanic and Atmospheric Administration**

Thank you for this opportunity to provide Ocean Conservancy's recommendations for FY 2019 funding for NOAA. Ocean Conservancy has worked for over 40 years to address threats to the ocean through science-based, practical policies that protect our ocean and improve our lives. To learn more about Ocean Conservancy's support for a strong ocean budget at NOAA, see www.TheMoreYouNOAA.org.

We greatly appreciate the Subcommittee's efforts to ensure a positive outcome for NOAA in the FY 2018 omnibus, which made important investments in NOAA ocean programs, including Integrated Ocean Acidification.

We reject the Trump administration's proposed budget for NOAA in FY 2019, which would cut more than \$1 billion in funding, including cuts to almost every single NOAA ocean program. As described in this testimony, we support funding for NOAA ocean programs at or above FY 2018 funding levels.

NOAA's mission to understand, protect, restore, and manage our ocean, coasts, and Great Lakes is vitally important to sustain these resources and our economy. The U.S. ocean and coastal economy contributes \$320 billion annually to the nation's GDP and supports more than 3 million jobs. There is a good reason that NOAA is in the Department of Commerce, and adequate funding is vital to support a healthy and resilient ocean that can maintain and grow our coastal economies and communities. For example, our nation's fisheries and seafood sector generates \$207.6 billion in sales impacts and supports 1.6 million jobs. Fishermen rely on information from NOAA to make the most informed decisions on where to fish, how to fish and when to fish. Coastal wetland buffer zones in the U.S. are estimated to provide \$23.2 billion per year in storm protection, and NOAA works to build resilient coasts that are more storm-ready and prepared for threats like sea level rise and ocean acidification.

Much of the U.S. ocean is under federal jurisdiction, and yet many of NOAA's programs focus on pushing resources and decision-making power out to regions, states and communities. From region-by-region fishery management, to region-specific programs in places like the Arctic, to extramural funding that supports state agencies and universities, to place-based conservation in our estuaries and oceans, NOAA is providing leverage for hardworking people on the coast and on the water who are fighting for a stronger economy and a healthier ocean.

We ask that you also consider the balance between NOAA's oceanic and atmospheric missions, and the nexus between the two. Americans should not have to choose between weather satellites and ocean and coastal resources like coral reefs and marine mammals. We need both. NOAA's ocean programs support many other federal agencies and missions that will also suffer if NOAA funding is cut. For example, ocean observations and monitoring provide critical information for severe storm tracking and weather forecasting. Ocean programs also facilitate homeland security and national defense functions, including U.S. Navy operations and U.S. Coast Guard search and rescue.

We are alarmed by administration proposals to wholly eliminate vital NOAA programs like Coastal Zone Management Grants, Sea Grant, and the National Estuarine Research Reserve System, among others. We are also alarmed to see new cuts proposed in FY 2019 that had not been proposed by the administration in FY 2018, including new proposed cuts to IOOS and Habitat Conservation & Restoration. We reject these cuts and ask that you fund NOAA ocean programs at or above FY 2018 levels. **We also offer additional testimony and recommend funding increases for the following NOAA programs.**

Account, Program or Activity	FY 2018 enacted	FY 2019 recommended increases
Operations Research and Facilities		
<i>National Ocean Service</i>		
Coastal Science, Assessment, Response and Restoration: Marine Debris	\$6.5 m	\$10 m
Coastal Zone Management Grants	\$75 m	
<i>National Ocean and Coastal Security Fund</i>	\$30 m	\$40 m
<i>National Marine Fisheries Service</i>		
Marine Mammals, Sea Turtles, & Other Species	\$113.342 m	
Fisheries Data Collections, Surveys and Assessments	\$164.749 m	
<i>Office of Oceanic and Atmospheric Research</i>		
Integrated Ocean Acidification	\$11 m	\$21.775 m
<i>Office of Marine and Aviation Operations</i>		
Marine Operations & Maintenance	\$191.129 m	

Marine Debris: \$10 million

Marine debris, particularly plastic waste pollution, has become one of the most widespread pollution problems facing the world's oceans and waterways. An estimated 150 million metric tons of plastic waste are in the ocean today, and every year an estimated 8 million metric tons more are being added. With oil prices at an all-time low, coupled with growing population levels and economic prosperity, plastic production and consumption are predicted to double over the coming decade. Without immediate intervention, 250 million metric tons of plastic waste could be in the ocean in fewer than 10 years. Marine debris has serious effects on the marine environment and the economy. It causes impacts on wildlife through entanglement, ingestion and ghost fishing gear and also impacts on marine transportation causing navigational hazards and vessel damage.

The program is authorized at \$10 million, but received only \$6.5 million in Fiscal Year 2017. Given the magnitude of the problem, there is an urgent need for the NOAA Marine Debris Program to do more to counter the growing threat to ocean health. Fundamental knowledge gaps

exist in four critical areas: the sources of plastic waste in the ocean, how the waste distributes within the marine environment, the fates of those materials, as well as their impacts. More scientific research into these key areas will support data-driven policy solutions to prevent plastic from entering the environment and impacting ocean health. Additional funding will enable NOAA MDP to support this additional research.

Coastal Zone Management Grants

Coastal Zone Management Grants achieve multiple goals for coastal communities including economic development, enhancement of public access and recreation, and protection of coastal resources. The CZM program provides federal support for these state programs to ensure that as a nation, all coastal states and territories can enable their coastal communities to achieve both state and national priorities. This state-federal partnership also enables states to leverage federal funds to improve permitting processes, provide grants to communities, and ensure federal actions are consistent with state laws. Moreover, the CZMA requires a dollar-for-dollar state match for almost all federal funding, with states matching over \$59 million FY2016.

National Ocean and Coastal Security Fund: \$40 million

Regional Coastal Resilience Grants have produced on-the-ground results through regional ocean partnerships, with grants going out to every region of the country in recent years. The FY18 Omnibus spending bill shifted funding from RCRG to the National Ocean and Coastal Security Fund (“Ocean Fund”) and directed the Ocean Fund to achieve the goals of RCRG. We see those goals as improved regional collaboration, accessible ocean data, stakeholder engagement to increase maritime domain awareness, enhanced ocean and coastal management, adaptive management in response to changing ocean conditions, and further improved national security and resilience.

We support funding the Ocean Fund at \$40 million in Fiscal Year 2019 in anticipation that this fund will support the priorities we have laid out. This increase is supported by the high demand for RCRG in recent years, which had exceeded \$150 million in applications in a single year.

Marine Mammals, Sea Turtles and Other Species

NOAA’s work to protect living marine resources is important nationwide, but is especially critical in the Gulf of Mexico region. We are glad to see a small increase for Marine Mammals in FY 2018 and encourage you to continue that trend, in particular because increased funds support increased capacity for restoration efforts in the Gulf of Mexico region. We support continued funding at or above FY 2018 funding levels, including for the John H. Prescott Marine Mammal Rescue Assistance Grant Program, which funds the first responders for sick or dying marine mammals.

Fisheries Data Collections, Surveys and Assessments

We support funding for programs that implement the *Magnuson-Stevens Fishery Conservation and Management Act*. As we review the Act for reauthorization, it is important to note that the Act is working – NOAA has made great strides towards ending overfishing and continued investments in these programs are needed.

This recently consolidated budget line supports a host of activities critical to MSA implementation. For example, it provides resources for fisheries managers to assess priority fish stocks, implement the requirement for annual catch limits (ACLs), and ensure the successful recovery of overfished populations. Stock assessments give fishery managers greater confidence that their ACLs will avoid overfishing while providing optimal fishing opportunities. We also support funding for the **Marine Recreational Information Program**. Despite their often sizeable economic and biological impacts, much less data are collected from recreational saltwater fisheries than commercial fisheries due to the sheer number of participants and limited sampling of anglers' catches. The low level of data collection and lack of timely reporting of data in these fisheries is a large source of uncertainty and has become a flashpoint for controversy in regions where catch restrictions have been adopted to rebuild overfished stocks, particularly in the Southeast. By all accounts, improved sampling and timelier reporting of catch data are needed for successful management of marine recreational fisheries.

We support funding for **electronic monitoring and reporting** for nationwide efforts. In particular we support funding that goes to the Gulf of Mexico region, where managers need electronic monitoring to keep track of catch and prevent overruns in the red snapper fishery. Given the unique management challenges that exist in the Gulf of Mexico, there is a significant need for additional funding. Based on the findings of the November 2014 "Technical Subcommittee Report to the South Atlantic and Gulf of Mexico Fishery Management Councils: Recommendations for Electronic Logbook Reporting" NOAA's requested increases are only a portion of what is needed to support effective electronic monitoring. The Gulf of Mexico region alone will require more than \$5 million annually to support electronic monitoring.

Integrated Ocean Acidification: increase to \$21.775 million

The Integrated Ocean Acidification line item funds NOAA's ocean acidification program (OAP), which was established and mandated by the Federal Ocean Acidification Research and Monitoring (FOARAM) Act of 2009. Under FOARAM, OAP is directed to "provide grants for critical research projects that explore the effects of ocean acidification on ecosystems and the socioeconomic impacts of increased ocean acidification," establish long-term monitoring, identify adaptation strategies, and conduct public outreach.

Ocean acidification (OA) is the rise in acidity of the earth's ocean caused by uptake of CO₂ from the atmosphere. This rising acidity makes it harder for shell-forming species such as oysters and crabs to grow, and fundamentally alters many other processes (e.g., reproduction, risk avoidance) necessary for healthy ecosystems and the coastal industries that depend on them. Prior federal investments in OAP, such as FOARAM, have greatly expanded our knowledge of OA and its risks to coastal communities and industries, but current funding levels are not at the scale needed to understand this global problem and its full impacts.

We recommend a funding level of at least \$21.775 million for this program.

Marine Operations and Maintenance

Marine Operations and Maintenance should be funded at or above the FY 2018 level. Days at sea funded by this line are functionally tied to fishery stock assessments, and the two programs must be viewed together.

**Written Testimony of William Harris
Chief, Catawba Indian Nation, South Carolina**

“Outside Witness Testimony: FY 2019 Appropriations”

**Senate Commerce, Justice, Science, and Related Agencies Appropriations Subcommittee
April 27, 2018**

Recommendations:

1. DOJ BJA – \$5 million to support new tribal court planning grants and development.
2. DOJ – Reform the appropriations process to allocate funds based on demonstrated need.

Introduction. Thank you Chairman Moran, Ranking Member Shaheen, and Members of the Subcommittee for the opportunity to testify on critical funding needs for Department of Justice programs serving Indian Country. On behalf of the Catawba Indian Nation, we thank you for your hard work in promoting public safety and justice in Indian Country. My name is William Harris and I am the Chief of the Catawba Indian Nation, the only federally recognized tribe in the state of South Carolina. Like our traditional pottery, the Catawba have been created from southern soil, to be shaped and fired over time by unimaginable hardship, and now stand tall as a living testament to our ancestors and to the land we call home. To advance the well-being of my Nation and other Native communities, I offer the following budget recommendations for fiscal year 2019.

1. Provide Dedicated Funding for the Establishment of New Tribal Courts in Indian Country. As a sovereign nation and industrious people, we are committed to providing our members with governmental services designed to address their myriad socioeconomic, educational, spiritual, and other needs. Missing from this panoply is a robust tribal justice department. We are working to fill this critical gap through the development of a tribal court, Healing to Wellness alternative drug court, law enforcement agency, and related justice services. In delving into these projects, however, we became acutely aware of the limited to non-existent federal resources available to tribal nations that have no established law enforcement agencies or tribal court. This is particularly true in the DOJ where such programs are necessary to qualify for both strategic planning and competitive grants.

For the Catawba Indian Nation, the situation presents a disturbing Catch-22. On the one hand, we need DOJ support and technical assistance to establish tribal justice services; on the other, we need tribal justice services to access DOJ support and technical assistance. We do not have the financial resources to break this cycle and cover the start-up costs associated with hiring personnel, obtaining equipment, and investing in the necessary infrastructure. Our dedicated and innovative attempts to build our tribal economy are too often stymied by the terms of our 1993 Settlement Act with the State. It is, thus, a long, complicated, and costly process for our Nation to meet its members' needs. Nonetheless, building the internal infrastructure to address these needs is a fundamental aspect of our tribal sovereignty and one that we are dedicated to fulfilling.

We strongly urge this Subcommittee to allocate an initial amount of \$5 million within the DOJ Bureau of Justice Assistance that would be dedicated to assisting tribal nations in the establishment and development of new tribal courts and justice services, including law enforcement departments.

2. Reform the DOJ Appropriations Process to More Effectively Distribute Federal Funds. We also encourage this Subcommittee to work toward reforming the appropriations process so that Department of Justice funds are distributed based on demonstrated need rather than competitive grants. Administering programs pursuant to grants is an arduous task. Not only does it pit tribal nations against other entities – including other tribal nations – to compete for funds from a limited pot of funding, but it also contributes to program instability and difficulty in long-term planning as funds are not guaranteed from year to year. Further, smaller and non-gaming tribal nations are often placed at an unfair advantage when we must compete with professional grant writers employed by more economically well-off tribal nations.

Needs-based funding would more efficiently and effectively distribute federal funds to areas where they can make the greatest difference. It also respects the diversity stages of internal development that exist across the 573 distinct tribal governments operating in Indian Country. **We, therefore, recommend that the Subcommittee implement needs-based funding allocations to the greatest extent possible in developing the FY 2019 budget.**

Thank you for the opportunity to submit written testimony on these important considerations for the FY 2019 budget. We look forward to working with you, and we hope to have the opportunity to show you first-hand the success of our future tribal court and justice services in the near future.



**Testimony of Dr. James Hurley
President, Sea Grant Association and
Director, Wisconsin Sea Grant
to the
Subcommittee on Commerce, Justice, and Science
Committee on Appropriations
House of Representatives
Washington, D.C.
April 27, 2018**

The National Sea Grant College Program (Sea Grant) is a joint federal-state investment that supports the health and resilience of the nation's coastal communities (including the Great Lakes, Gulf of Mexico, and communities on the Atlantic and Pacific coasts), yielding quantifiable economic, social, and environmental benefits at the national, regional, state, and local levels. It is a program of the National Oceanic and Atmospheric Administration, Department of Commerce.

The Sea Grant Association recommends that the National Sea Grant College Program, including the Knauss Fellowship Program and Sea Grant STEM education activities, be funded at \$85 million for FY 2019, an amount consistent with the total amount proposed for authorization in H.R. 4306 and S. 129 (which passed the Senate unanimously).

RATIONALE FOR THE SGA RECOMMENDATION

According to the most recent completed census (2010), 39 percent of all Americans live in coastal and Great Lakes counties, and projections suggest that this will increase by another 8 percent by 2020. Our coastal communities generate 58 percent (\$8.3 trillion) of the nation's gross domestic product. In 2016, Americans, on average, ate 15 pounds of fish and shellfish per person – 4.8 billion pounds altogether – making the U.S. second in the world in total seafood consumption. The United States is the leading global importer of fish and fishery products, with 91 percent of the seafood we eat originating abroad – half of which is from aquaculture. Driven by imports, the U.S. seafood trade deficit has grown to over \$14 billion annually. Sea Grant's integration of research, outreach, and education is vital in creating and applying aquaculture products, tools, and services to foster the expansion of a sustainable U.S. marine and Great Lakes aquaculture industry.

Tourism is a major economic driver in coastal states contributing over 2.2 million jobs and generating over \$51 billion in wages. Sea Grant is at the forefront of research, education, and training programs to enhance the economic and environmental benefits of the tourism industry.

The U.S. has jurisdiction over 3.4 million square miles of coastal ocean – an expanse greater than the land area of all 50 states combined. This is a dynamic area, with biologically diverse offshore habitats that provide a wealth of natural resources and economic opportunities, while at the same time exposing human and biological communities to coastal hazards such as storms and



hurricanes, shifting shorelines, outbreaks of harmful algal blooms, and water-borne disease. Sea Grant researchers and educators address all of these issues.

Sea Grant's response to the 2010 Gulf of Mexico Deepwater Horizon oil spill; Superstorm Sandy in 2012; Toledo, Ohio's, drinking water crisis in 2014; and this past year's Hurricanes Harvey, Irma, and Maria provide further evidence that, in addition to proactively addressing issues, Sea Grant is nimble and can quickly contribute to rebuilding coastal communities and businesses after disasters.

Indeed, Sea Grant is a key partner in developing robust capabilities to sustain ocean-based economies; assisting the seafood sector of local economies; diversifying our energy sources; protecting critical ocean and coastal infrastructure and related natural resources; and training the next generation of scientists, managers, and stakeholders – all necessary components of a more resilient ocean, coastal, and Great Lakes enterprise.

SEA GRANT CONTRIBUTES QUANTIFIABLE BENEFITS AND SERVES THE NATIONAL INTEREST

The National Sea Grant College Program (Sea Grant) is authorized in P.L. 89-688, the National Sea Grant College Program Act of 1966, as amended (33 USC § 1121 et seq. Sea Grant). The Sea Grant College Program Act authorizes the awarding of grants and contracts to initiate and support programs at Sea Grant colleges and other institutions for research, education, and advisory services in any field related to the conservation and development of marine resources. A joint federal, state, and local investment, Sea Grant provides solutions for the issues affecting our nation's coastal communities (including the Great Lakes, Gulf of Mexico, and communities on the Atlantic and Pacific coasts), yielding quantifiable economic, social, and environmental benefits. Sea Grant embodies Administration priorities that emphasize economic security, public-private partnerships, and workforce development.

Sea Grant distributes 95 percent of its appropriated funds to coastal states through a competitive, merit-based process designed to address issues identified as critical by public and private sector constituents and coastal communities throughout the United States. Sea Grant fosters cost-effective partnerships among state universities, state and local governments, Federal agencies, and coastal communities and businesses, leveraging nearly \$3 in cost sharing for every \$1 appropriated to Sea Grant by Congress.

In 2016, the Sea Grant program helped generate an estimated **\$611 million** in economic impacts; created or sustained over **7,000 jobs**; provided **33 state-level programs** with funding that assisted **494 communities** with technical assistance on sustainable development practices; worked with about **1,300 industry and private sector, local, state, and regional partners**; and supported the education and training of over **2,300 undergraduate and graduate students**. The Sea Grant program achieved this with a Congressional appropriation in FY 2016 of \$73 million, which is leveraged with matching funds provided by states, universities, and other sources.



For over 50 years, Sea Grant has been at the forefront of creating economic opportunities, enhancing food and water security, and reducing risks from natural hazards and extreme events facing coastal communities through research and outreach efforts. Sea Grant is user-driven and university-based, and fully engaged with regional, state, and local organizations.

Sea Grant represents the eyes and ears of NOAA in coastal communities, linking NOAA resources and expertise to the university enterprise to meet local needs and providing timely responses. The program addresses issues across NOAA line office jurisdictions, including weather, fisheries, climate, and coasts. Sea Grant helps connect local stakeholders with NOAA resources. The Sea Grant program is rigorously reviewed and evaluated using well-defined performance measures. The evaluation process highlights superior performance associated with high expectations and significant returns on the federal investment.

Funding Sea Grant results in support for sustainable fisheries and aquaculture, resilient communities and economies, healthy coastal ecosystems, environmental literacy, the Sea Grant Knauss Fellows and other fellowship programs, and workforce development. In its 50 plus-year history, National Sea Grant College Program successes can be attributed to its ability to respond to the changing needs of our coastal communities. Sea Grant's 33 programs are integrated into both the National Sea Grant and NOAA's national strategic plans. Each tailored and therefore maximally effective state program executes the following objectives:

- **Sea Grant has capacity, breadth, and depth.** Sea Grant brings the expertise of its vast network of universities, research institutions, faculty, students, staff, and facilities, with on-the-ground and in-the-field knowledge. This knowledge, bolstered by established ties and credibility with communities and community leaders, results in the conversion of science and technology into practical use and informed decision making.
- **Sea Grant facilitates opportunities.** Sea Grant engages partners, stakeholders, and constituents through its nimbleness, capacity for rapid response, and multifaceted ability to address critical issues and needs facing the nation.
- **Sea Grant is proactive.** Sea Grant has engaged in planning, resilience, hazard preparedness and recovery, and participated in the overall "Blue Economy" before the terms were popularized in national programs. In 2016, the Sea Grant network developed a 10-year aquaculture vision that outlines the most pressing needs and opportunities to foster sustainable aquaculture development across the country.
- **Sea Grant is there for its stakeholders.** The needs and desires of the nation's taxpayers who live, work, and play in coastal America for products and services that Sea Grant provides are rapidly increasing. This is because Sea Grant is recognized and trusted for its ability to work with local constituents to better understand their needs and deliver relevant information and services.



CONCLUSION

Population density in coastal communities is increasing as people are attracted to the beauty, economic opportunities, and recreational activities offered by these localities. According to the most recent completed census (2010), 39 percent of all Americans live in coastal and Great Lakes counties, and projections suggest that this will increase by another 8 percent by 2020. In 2014, coastal and Great Lakes states comprised 57 percent of U.S. land area, but more than 82 percent of the population and economy. Sea Grant is helping coastal communities cope with the strain that population expansion places on local resources and the increased need for hazard preparedness planning. In recent years, coastal communities have experienced an increased risk to lives and property from storms and natural disasters. Weather events like hurricanes, tornadoes, and snowstorms have increased in number and intensity, posing threats to people, animals, livelihoods, and ecosystems. In cost-effective ways, Sea Grant is assisting states, regions, and local communities to improve both their preparedness for, and resilience to, challenges due to increased extremes and variability in weather and other natural disasters.

The United States imports about 90 percent of its seafood, creating an annual seafood trade deficit exceeding \$14 billion. With worldwide fish consumption projected to increase by 21 percent in the next decade, this our seafood deficit will continue to grow if sustained action is not taken. Through its research and extension activities, Sea Grant makes vital contributions towards the development of a U.S. aquaculture industry helping to make it competitive in the global marketplace while increasing food security.

Local, state, regional, and national partnerships are critical to addressing these and other issues central to the survival of our coastal communities, economies, and ecosystems. Coastal and Great Lakes communities need to be informed, engaged, and prepared to respond to these threats and to turn these adversities into opportunities. This is precisely what Sea Grant does.

For over 50 years, Sea Grant has been at the forefront of creating economic opportunities, enhancing food and water security, and reducing risks from natural hazards and extreme events facing coastal communities through research and outreach efforts. Sea Grant is user-driven and university-based, and fully engaged with regional, state, and local organizations.

With \$85 million in federal funding, Sea Grant will leverage significant state and local support, continue to increase the economic development and resiliency of coastal communities, and help sustain the health and productivity of the ecosystems on which they depend.



**RESTORE
AMERICA'S
ESTUARIES**

**OFFICIAL TESTIMONY OF
JEFFREY R. BENOIT
PRESIDENT AND CEO, RESTORE AMERICA'S ESTUARIES**

PREPARED FOR

**COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON COMMERCE, JUSTICE, SCIENCE
AND RELATED AGENCIES
UNITED STATES HOUSE OF REPRESENTATIVES**

ON

**FISCAL YEAR 2018 APPROPRIATIONS FOR THE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**

April 27, 2018

Restore America's Estuaries is a nonpartisan, nonprofit organization that has been working since 1995 to restore our nation's greatest estuaries. Our mission is to restore and protect estuaries as essential resources for our nation. Restore America's Estuaries is an alliance of community-based coastal conservation organizations across the nation that protect and restore coastal and estuarine habitat. Our member organizations include: American Littoral Society, Chesapeake Bay Foundation, Coalition to Restore Coastal Louisiana, Save the Sound—a program of the Connecticut Fund for the Environment, Galveston Bay Foundation, North Carolina Coastal Federation, EarthCorps, Save The Bay—San Francisco, Save the Bay—Narragansett Bay, and Tampa Bay Watch. Collectively, we represent over 250,000 members nationwide.

As you develop the Fiscal Year 2019 Commerce, Justice, Science and Related Agencies appropriations bill, Restore America's Estuaries encourages you to provide the funding levels below within the Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) for core programs which significantly support coastal community and ecosystem resilience and local economies:

- **\$68.4 million for Habitat Conservation and Restoration**
(NOAA: ORF: NMFS: Habitat Conservation and Restoration)
 - **\$21.1 million for the Community-based Restoration Program**
- **\$54 million for Coastal Zone Management and Services**
(NOAA: ORF: NOS: Ocean and Coastal Management and Services: Coastal Zone Management and Services)

- **\$100 million for Coastal Management Grants**
(NOAA: ORF: NOS: *Ocean and Coastal Management Services: Coastal Management Grants*)
 - **\$40 million for Regional Coastal Resilience Grants**
(NOAA: ORF: NOS: *Title IX Fund*)
- **\$27 million for National Estuarine Research Reserve System**
(NOAA: ORF: NOS: *Ocean and Coastal Management and Services: National Estuarine Research Reserve System*)

These investments strengthen and revitalize America's coastal communities by protecting and restoring habitat, improving local water quality, and enhancing resilience. Healthy coastlines protect communities from flood damage and extreme weather, improve commercial fisheries, safeguard vital infrastructure, and support tourism and recreational opportunities.

NOAA HABITAT CONSERVATION AND RESTORATION

(NOAA: ORF: NMFS: *Habitat Conservation and Restoration*)

NOAA's Office of Habitat Conservation (OHC) protects, restores, and promotes stewardship of coastal and marine habitat to support our nation's fisheries and improves the resilience of coastal communities through financial support and the provision of restoration expertise and services. Funding for the Office of Habitat Conservation through the Habitat Conservation and Restoration PPA supports the **Community-based Restoration Program** and staff capacity to efficiently execute and facilitate habitat restoration nationwide.

NOAA's **Community-based Restoration Program** (CBRP), funds on-the-ground projects to restore the nation's coastal, marine, and migratory fish habitat while creating jobs and benefiting local economies. Habitat restoration is critical to sustaining and rebuilding fish populations needed to support sportfishing opportunities and the commercial fishing industry in the coming years. Furthermore, healthier habitats resulting from restoration increase community resilience by buffering against storms, protecting vital infrastructure, and providing new recreational opportunities. The CBRP provides scientific expertise, funding, and technical support to national, regional, and local conservation partners to restore coastal and marine habitat. This non-regulatory tool has helped build collaborations with more than 2,500 organizations, from industry to nonprofits to local governments, and funded more than 2,000 projects that have restored over 81,000 coastal acres. The program has engaged more than 258,000 project volunteers and *generated more than \$150 million in non-federal match and in-kind contributions from project partners.*

We strongly urge the Committee to provide \$68.4 million for Habitat Conservation and Restoration, including no less than \$21.1 million for the Community-based Restoration Program. Funding at this level reflects an increase over FY18 Omnibus level of funding due to increased demand and need for restoration activities to recover from last year's disastrous hurricane season and to improve the resiliency of our coasts as we face increasingly intense and frequent extreme weather.

NOAA COASTAL ZONE MANAGEMENT AND SERVICES

(NOAA: ORF: NOS: Ocean and Coastal Management and Services: Coastal Zone Management and Services)

The National Ocean Service **Coastal Zone Management and Services** line supports the Office for Coastal Management (OCM) and implementation of the Coastal Zone Management Program. The Coastal Zone Management Program comprehensively addresses the issues and challenges facing our nation's coastlines through a *voluntary* partnership between state and federal partners; 34 of the 35 eligible coastal states have elected to participate in the CZM Program. This funding provides states with access to resources to help preserve natural features that provide storm protection (dunes, barrier islands), protect wetlands and natural shorelines, provide opportunities for public access to the coast, and manage and curb nonpoint source pollution entering our waterways and coastal waters.

We urge the Committee to provide \$54 million for NOAA's Coastal Zone Management and Services line. This will allow the Coastal Zone Management Program to continue to effectively and efficiently protect, restore, and conserve our shorelines and coastal waters.

NOAA COASTAL MANAGEMENT GRANTS

(NOAA: ORF: NOS: Ocean and Coastal Management and Services: Coastal Management Grants)

The National Ocean Service's **Coastal Management Grants** provide critical funding for states to implement their coastal management programs. State Coastal Zone Management Programs, among other things, help to: plan and coordinate coastal restoration projects, mitigate coastal hazards like storms, flooding and erosion, conduct comprehensive ocean planning efforts, promote smart coastal community development, enhance public access to the coast, and coordinate stakeholder engagement to encourage better decision-making results. Additionally, there is significant state and local support for this program; in FY 2016, the federal funding was matched by more than \$57.1 million from state and local governments, and others.

Within the larger Coastal Management Grant program, we are particularly supportive of the **Regional Coastal Resilience Grants**, now located in the Title IX Ocean Fund. These funds help interested communities improve resilience to extreme weather events, climate hazards, and changing ocean conditions by supporting collaborative partnerships that develop and use science-based solutions to address coastal hazards. These diverse efforts, including risk assessment, development of strategic resilience plans, and implementation of comprehensive adaptation strategies will help ensure that coastal communities are prepared for and more easily recover from coastal hazards. In FY16, NOAA received more than 130 proposals from coastal communities requesting more than \$151 million for coastal resilience projects, demonstrating an unmet need for resilience planning and tools and project implementation nationwide. We request that the same priorities of the Regional Coastal Resiliency Grants be reflected in the priorities for the Title IX Ocean Fund monies.

Restore America's Estuaries urges the Committee to provide no less than \$100 million for NOAA's Coastal Management Grants and no less than \$40 million for the Title IX Ocean Fund. We request an increase of \$10 million for the Title IX Ocean Fund to work towards

meeting the demand for these grant monies. We greatly appreciate the Subcommittee's past strong support for habitat restoration and, in particular, the Coastal Ecosystem Resiliency Grants program, and respectfully request robust support in the FY 2019 cycle.

NOAA NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

(NOAA: ORF: NOS: Ocean and Coastal Management and Services; National Estuarine Research Reserve System)

The **National Estuarine Research Reserve System** (NERRS) is comprised of 29 protected reserves that support long-term research, education, training, and monitoring. Through an effective partnership between NOAA and coastal states, NERRS plays a critical role in sustaining resilient coasts and coastal communities. The states have been entrusted to operate and manage NOAA's program in 24 states and Puerto Rico, where over 1.3 million acres of land and water are protected in perpetuity. Through scientific research and science-based management, NERRS provides numerous benefits to communities that result in improved water quality, increased upland flood and erosion control, and improved habitat quality that support local fisheries and provide storm protection to coastal communities. NERRS assists our coastal communities, industries and resource managers to enhance coastal resiliency in a changing environment. Through NERRS, NOAA can tailor science and management practices to enable local planners to use estuarine habitat as a tool for resiliency and adaptation.

Restore America's Estuaries respectfully requests \$27 million for NERRS operations in Fiscal Year 2019. This funding level will allow NERRS to continue to deliver comprehensive environmental intelligence data and services to support coastal communities.

CONCLUSION

Restore America's Estuaries greatly appreciates the support this Subcommittee has provided in the past for these important programs. These programs help to accomplish on-the-ground restoration work which results in major benefits:

- **Jobs** – Coastal habitat restoration projects create between 17-33 jobs per \$1 million invested, more than twice as many jobs as the oil and gas sector and road construction industries combined.
- **More fish** – Traditional fisheries management tools alone are inadequate. Fish need healthy and abundant habitat for sustainable commercial and recreational fisheries.
- **Resiliency** – Restoring coastal wetlands knocks down storm waves and reduces devastating storm surges before they reach the shore, protecting lives, property, and vital infrastructure for the nearly 40% of Americans that live in coastal communities
- **Leverage** – Community-based restoration projects leverage 3-5 times the federal investment through private matching funds, amplifying the federal investment and impact.

Thank you for taking our requests into consideration as you move forward in the Fiscal Year 2019 appropriations process. We stand ready to work with you and your staff to ensure the health of our nation's estuaries and coasts.

Submitter: Whit Fosburgh, President & CEO, Theodore Roosevelt Conservation Partnership

April 27, 2018

The Honorable John Culberson
Chairman
House Commerce Appropriations
Subcommittee
H-310 Capitol
Washington, DC 20515

The Honorable José Serrano
Ranking Member
House Commerce Appropriations
Subcommittee
1016 Longworth House Office Building
Washington, DC 20515

Dear Chairman Culberson and Ranking Member Serrano,

The Theodore Roosevelt Conservation Partnership is a national coalition of sportsmen, conservation, and outdoor industry organizations that seeks to ensure all Americans have access to quality places to hunt and fish. We partner with 56 hunting, fishing, and conservation organizations to unite and amplify the voices of America's more-than 40 million sportsmen and women whose activities help sustain the \$887-billion outdoor recreation economy. We appreciate the opportunity to submit this letter in support of the critical programs and initiatives within the National Marine Fisheries Service (NMFS) that protect aquatic habitat, support nature-based infrastructure solutions, and preserve our nation's recreational fishing heritage.

As your subcommittee drafts Fiscal Year 2019 spending legislation for the NMFS, we ask the subcommittee to consider our recommendations below which we believe would constitute sound stewardship of our country's natural resources and preserve our angling heritage and the economy it supports for the next generation. Specifically, we support the following:

302(b) allocation increase: TRCP is encouraged by the fiscal relief provided by the Bipartisan Budget Act of 2018, which provided a roughly 12-percent increase in non-defense discretionary spending for Fiscal Years 2018 and 2019. In February 2018, TRCP submitted a formal request to full committee leadership for increases to each subcommittee's 302(b) allocation proportional to the overall non-defense increase. Given the nationwide conservation impact that relies on spending crafted in your subcommittee, *we urge the subcommittee to request an increase to its 302(b) allocation proportional to the overall non-defense increase.*

Fisheries Data Collection, Surveys, and Assessments: Inaccurate data collection too often causes season reductions and closures, drastically limiting angler opportunities and harming the coastal communities whose seasonal economies rely heavily on recreational spending. TRCP supports the Commerce Department's recent announcement of a pilot program giving five Gulf states greater control in managing their red snapper fisheries, however uncertainty in the long-term, in other states, and for other recreational species still remains. TRCP and our partners are actively engaging with authorizing committees on an update to the Magnuson-Stevens Act, and two of our top priorities are improvement of federal data collection and better integration of state

data into the Marine Recreation Information Program. While Congress works towards enactment of modern fishery policy, we believe strong funding for the Fisheries Data Collection, Surveys, and Assessments line item will best prepare NMFS for enhanced integration

We request \$184,519,000 for Fisheries Data Collections, Surveys and Assessments.

Habitat Conservation and Restoration: The projects and programs supported by this line item are critical for preparation and response to increased development, natural and man-made disasters, and long-term ecological changes. Moving forward, strong funding is required to ensure healthy aquatic habitats can support the species recreational anglers care most about. Additionally, NOAA projects funded through this line item have shown the multiple benefits provided by nature-based infrastructure solutions, from enhanced public safety, to improved habitat, to cost effectiveness. This program not only enhances long-term ecological benefits for game species in the Gulf of Mexico, such as speckled trout, but also benefits fish and wildlife habitat in important regions like the Chesapeake Bay and Great Lakes.

We request \$59,790,000 for Habitat Conservation and Restoration.

Recreational fishing is a long held tradition for millions of Americans, and their annual spending is an economic engine across the country. According to the U.S. Fish & Wildlife Service, the nation's angling population grew nearly 20 percent from 2006-2016, and those nearly 36 million anglers spent more than \$46 billion in 2016 alone. Reliable fish population assessments and healthy aquatic habitat are both necessary to inform and execute fishery management practices that ensure recreational anglers can pursue their passion, now and in the future.

Thank you for the opportunity to submit this testimony, and we look forward to working with you and your colleagues as FY19 spending legislation progresses through Congress.

Thank you for your consideration.

Sincerely,

Whit Fosburgh
President & CEO
Theodore Roosevelt Conservation Partnership

Native American Rights Fund

EXECUTIVE DIRECTOR

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TESTIMONY FOR THE RECORD ON THE FY 2019 BUDGET REQUEST FOR THE DEPARTMENT OF JUSTICE AND THE LEGAL SERVICES CORPORATION

Submitted to the
Subcommittee on Commerce, Justice, Science and Related Agencies,
House Committee on Appropriations
By Steven C. Moore, Senior Staff Attorney
Native American Rights Fund

April 27, 2018

Summary of the Request: The Native American Rights Fund (NARF)¹ submits this written statement regarding the FY 2019 budget request for the Department of Justice (DOJ) and the Legal Services Corporation (LSC), for the record. We respectfully request this Subcommittee's consideration as you develop the FY 2019 Commerce, Justice, Science and Related Agencies (CJS) appropriations bill of the following requests:

- maintaining funding within the Department of Justice, Office of Justice Programs, State and Local Law Enforcement Assistance account at a level similar to that provided in recent years of approximately \$1 to 2 million for the Tribal Civil and Criminal Legal Assistance, Training and Technical Assistance grant program (TCCLA), within either a line item for "assistance to Indian tribes" or within a tribal set-aside percentage of all Office of Justice Programs accounts.
- including bill and/or report language that would direct that DOJ's allocation of FY 2019 funding for "assistance to Indian tribes" or under a tribal set-aside percentage of overall DOJ funding include some funding for the provision of legal assistance to individual tribal citizens

¹ Founded in 1970, the Native American Rights Fund (NARF) is the oldest and largest non-profit law firm dedicated to asserting and defending the rights of Indian tribes, organizations and individuals nationwide. NARF's practice is concentrated in five key areas: the preservation of tribal existence; the protection of tribal natural resources; the promotion of Native American human rights; the accountability of governments to Native Americans; and the development of Indian law and educating the public about Indian rights, laws, and issues.

and to tribal judicial systems pursuant to the Indian Tribal Justice Technical and Legal Assistance Act (Public Law 106-559), and that that legal assistance be both civil and criminal. In recent years, including FY 2018, the House Appropriations Committee's report accompanying the spending bill has helpfully referenced both civil and criminal legal assistance and the authorizing statute.

- continuing bill language which would provide a tribal set-aside from the Crime Victims Fund (CVF) to the Office for Victims of Crime for grants to Indian tribes to improve services for victims of crime. Indian Country was thrilled that, for the first time, the FY 2018 Consolidated Appropriations Act provided a 3% tribal set-aside from the CVF; we support the Administration's proposed 5% tribal set-aside from the CVF for FY 2019. Continuation in FY 2019 of a tribal set-aside will benefit both tribal governments and those of us who work with and support tribal governments in the provision of justice services, and assist tribal citizens in receiving those services.
- maintaining funding for the Legal Services Corporation at a level at least equal to the FY 2018 enacted amount of \$410 million.

Background to the TCCLA Requests: In 2000, Congress enacted the Indian Tribal Justice Technical and Legal Assistance Act (Public Law 106-559). Sections 102 and 103 of that statute specifically authorized the Department of Justice, subject to available appropriations, to provide grants to "non-profit entities . . . which provide legal assistance services for Indian tribes, members of Indian tribes, or tribal justice systems pursuant to Federal poverty guidelines" (emphasis added) for tribal civil and tribal criminal legal assistance, respectively.²

For the past seven years, through FY 2017, a consortium of 24 Indian Legal Services programs connected with the Legal Services Corporation (LSC) and operating in 23 states has been awarded funding under DOJ's Tribal Civil and Criminal Legal Assistance, Training and Technical Assistance (TCCLA) grants program. In addition to the legal representation of American Indian and Alaska Native individuals, Indian Legal Services programs are currently assisting more than 160 tribal governments and/or tribal judicial systems.³

Most recently, in FY 2017, the Bureau of Justice Assistance awarded the Indian Legal Services programs \$600,000 under TCCLA. The FY 2017 Consolidated Appropriations Act included in section 213 bill language, providing a 7% tribal set-aside of funding from select DOJ accounts, specifically for tribal criminal justice assistance. Although House and Senate report language directed that DOJ allocate tribal funding among traditional programs for tribal detention facilities, tribal courts, alcohol and substance abuse reduction assistance programs, and civil and

² The Indian Tribal Justice Technical and Legal Assistance Act also authorized grants to national or regional membership organizations of judicial system personnel to provide training and technical assistance for tribal justice systems. The 2000 Act was reauthorized as section 242 of the Tribal Law and Order Act (Public Law 111-211).

³ NARF is the administrator of recent years' grant awards under DOJ's Tribal Civil and Criminal Legal Assistance, Training and Technical Assistance (TCCLA) program to the consortium of 24 Indian Legal Services programs connected with the Legal Services Corporation (LSC). NARF has distributed these TCCLA grant funds according to a funding formula that the coalition of Indian Legal Services programs has developed among themselves. Of the total 24 Indian Legal Services programs, 24 are receiving BJA funding under awards for Tribal Civil Legal Assistance, and between 17 and 21 programs are receiving awards for Tribal Criminal Legal Assistance.

criminal legal assistance as authorized by Public Law 106–559, DOJ’s Office of General Counsel interpreted the bill language to limit FY 2017 funding for tribal assistance to criminal justice assistance, only. As a result, the FY 2017 funding award to Indian Legal Services is not being used for programs’ assistance in civil work with tribes and tribal citizens. Examples of such tribal civil justice assistance work done under prior years’ TCCLA awards include revisions to civil codes, policies and procedures; representation of individuals in tribal courts in family law, probate, employment, disability benefits claims, public housing, property disputes, debt collection, child welfare and juvenile delinquency matters; and *guardian ad litem* work in high conflict custody, guardianship, and parental termination cases.

We are currently awaiting DOJ’s solicitation announcement of FY 2018 funding under TCCLA.

Since 1968, Indian Legal Services programs have been providing essential capacity-building services to many tribal courts across the country, and have provided representation of Indian individuals in those courts. In many instances, these Indian Legal Services programs have been “on the ground” in tribal communities for decades, an integral part of the legal structure of the reservation communities they serve. The attorneys are well-versed in the uniqueness and complexities of Indian law, and are specialized legal practitioners. The Indian Legal Services programs are assisting tribal governments and their justice systems in being grounded in solid codes and laws – which benefits not only members of the tribal community, but non-Indians who do business, attend school, collaborate with tribal enterprises and live in these tribal communities.

With respect to the work of capacity-building services to tribal governments’ judicial systems, tribes have noted that the lack of attorneys practicing in tribal court is the single biggest barrier to exercising the authorities under the Tribal Law and Order Act of 2010 (TLOA) and the Violence Against Women Reauthorization Act of 2013 (VAWA). A number of Indian Legal Services programs are currently providing capacity-building assistance to tribal governments which is laying the foundation toward those tribes’ implementation of TLOA and VAWA.

This work has included assisting tribes with revisions to their criminal codes for compliance with these statutes, as well as drafting and updating codes, policies and procedures, and drafting of civil and criminal codes, including children’s codes, and rules of procedure; tribal court development, restructuring and improvement; training of judicial, law enforcement and justice systems personnel and tribal court lay advocates and guardians *ad litem*; and negotiation or litigation to address jurisdictional issues with state court systems. Lay advocate and peacemaker trainings have been done with tribal colleges and university law schools. The programs are engaged in TLOA or VAWA implementation assistance for 18 of the 160 tribes they serve, and provide the only public defender service available in at least 46 tribal courts.

In addition, legal representation of American Indian and Alaska Native youth and families is a central focus of many of the individual representation cases handled by Indian Legal Services programs. In affording access to justice for individuals, the programs’ individual legal representation has expanded from traditional legal issues such as employment, disability benefits claims and housing issues to now include domestic violence, *pro se* assistance, family member prisoner visitation and re-entry, and child welfare, guardianship and adoption. This work also includes representation of families in Indian Child Welfare Act cases in state court; addressing the impact on individuals and families from substance abuse and correlated incidents of criminal

activity by reforming tribal sentencing guidelines; representation in divorce, child custody, paternity, child support, guardianship (minor and adult), and children in need of care cases (juvenile dependency); will drafting cases; expungement practices to proactively file for expungement to clear criminal records of tribal members whose lives are adversely impacted by their record; and providing civil legal and public defender services.

We note that the TCCLA grants that Indian Legal Services programs have been awarded are funded separately from DOJ's Consolidated Tribal Assistance Solicitation (CTAS) program.

Background to Request for LSC Funding: As noted above, the Indian Legal Services programs are component programs connected to the Legal Services Corporation. So, we are deeply appreciative that in raising the spending caps between Defense and non-Defense discretionary spending for FY 2018 – and for FY 2019, as well – Congress was able to appropriate a total of \$410 million for the Legal Services Corporation (LSC) for FY 2018. We know members of the House Appropriations Committee advocated strongly for this \$25 million increase, and we owe them our gratitude.

According to LSC's *2016 LSC by the Numbers* report,⁴ which provides a summary of data regarding service delivery by the LSC's 134 grantees in calendar year 2016, in 2016, Congress appropriated \$352 million for LSC basic field programs. Following a statutory formula, LSC designated 2.8% of those funds for 27 Native American service areas.

Since 2011, non-LSC sources of funding have made up an increasing part of all grantees' funding, rising from 56.7% in 2011 to 63.2% in 2016 for all of LSC. An average of non-LSC funding for 17 of the core Indian Legal Services programs in the 2016 report was nearly 50%. Grant funds awarded to these programs under TCCLA, as well as funding from other federal grant programs that Indian Legal Services programs are able to leverage, are an important supplement to funding from LSC.

While the Administration's FY 2019 budget request to Congress includes a proposal of only \$18.2 million toward closure of the LSC, we request that the FY 2019 CJS appropriations bill maintain funding for the Legal Services Corporation at a level at least equal to the FY 2018 enacted level of \$410 million.

In conclusion, in FY 2019, whether Congress provides funding to the DOJ in an overall sum for Indian Country tribal justice and law enforcement programs (such as the \$35 million appropriated in FY 2018 for "assistance for Indian tribes"), or as a 7% tribal set-aside of a percentage of overall DOJ funding, as the Administration requested, we request that funding of \$1 to \$2 million be designated in bill language for the purpose of the provision of both tribal civil and criminal legal assistance to individual tribal citizens and to tribal judicial systems pursuant to the Indian Tribal Justice Technical and Legal Assistance Act, and that funding for the Legal Services Corporation be maintained at a level at least equal to the FY 2018 enacted level of \$410 million. Thank you for your consideration of this request.

⁴ <https://lsc-live.app.box.com/s/5lbcn4ncgqu5bbm31wh9v5xl80kxz0xf>

Testimony submitted by
Karl Anderson, Director of Government Relations
On behalf of

**American Society of Agronomy
Crop Science Society of America
Soil Science Society of America**

Prepared for the House Appropriations Subcommittee on Commerce, Justice, Science, and
Related Agencies
On the Fiscal Year 2019 Appropriations for the National Science Foundation

The American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA) support **\$8.45 billion for the National Science Foundation (NSF)**. Within NSF we request **\$55.8 million for Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS)**.

The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America, represent over 18,000 scientists in academia, industry and government. We support more than 13,300 Certified Crop Advisers (CCA), and over 700 Certified Professional Soil Scientist (CPSS). Our members and certified professionals are dedicated to meeting the demands of a growing world population through the pursuit of agronomic, crop, and soil science knowledge and application.

The Nation's agricultural system must sustainably produce the food and fuel America relies on for national and economic security. Growing global competition is putting America's agricultural economy at risk. The U.S. has lost its spot as the top global funder of public agricultural R&D, falling behind China in 2009. Today, the U.S. trails Western Europe and is outspent nearly 2:1 by China.

We support **\$8.45 billion for the National Science Foundation** for the fiscal year 2019. This funding level will increase the broad base of fundamental knowledge in key disciplines, such as biology, plant science, chemistry, and soil science, which is needed to address agriculture's most intractable challenges. Such research funding will simultaneously support the scientists creating innovations today and the students who will tackle the unforeseen issues of tomorrow.

Within NSF, the Societies are very supportive of the **Innovations at the Nexus of Food, Energy, and Water Systems (\$55.8 million)**. There is a pressing need to understand the interconnectedness of food, energy, and water and to develop new technologies that increase farm productivity while reducing costly energy and water-intensive inputs. The recent droughts in large swaths of the country, and their corresponding impact on agricultural and economic productivity, underscore the need to balance these resources. NSF's INFEWS program uniquely blends perspectives from each of these often-siloed fields. It offers scientific approaches to mitigate the impacts of future droughts, easing the tensions between competing land and natural resource interests, and creating resiliency in food, energy, and water systems.

The research and education programs funded by NSF are essential to ensure an economically competitive America now and into the future. A strong commitment to federally funded

scientific research will boost the Nation's capacity for innovation, agricultural productivity, and economic prosperity.

We appreciate the opportunity to provide written testimony and look forward to working with the Subcommittee as it considers funding for the National Science Foundation. Thank you.



**Testimony of Tara L. Perry, Chief Executive Officer
National Court Appointed Special Advocate Association**

**United States House of Representatives
Committee on Appropriations
Subcommittee on Commerce, Justice, Science, and Related Agencies**

Fiscal Year (FY) 2019 Department of Justice Funding

April 27, 2018

Chairmen Frelinghuysen and Culberson, Ranking Members Lowey and Serrano, and Members of the Commerce, Justice, Science, and Related Agencies Subcommittee, thank you for the opportunity to submit remarks on the Department of Justice (DOJ) FY 2019 budget including full funding of the Court Appointed Special Advocates (CASA) Program through the Office of Juvenile Justice and Delinquency Prevention (OJJDP) at the Congressionally-authorized level of \$12 million.

CASA/Guardian ad Litem (GAL) advocacy is a well-established model strongly associated with improved long-term outcomes for child victims, for which the need continues to be both deeply profound and deeply devastating. With Congressional support at the fully authorized level, the CASA/GAL network in 49 states and the District of Columbia will enhance and advance specialized training, tools, and resources to continue delivering vital one-on-one best-interest advocacy that addresses the complex and ever-evolving needs of traumatized children who have been victimized by one or more primary caregivers.

Emerging issues such as the commercial sexual exploitation of children and our nation's growing opioid epidemic – for which children account for an increasing number of victims – both necessitate a greater specialization within one-on-one advocacy, with a keen and deliberate focus on progressing toward the call within the Victims of Child Abuse Act to serve every child victim. As we enrich CASA/GAL advocacy to encompass evolving direct service needs, our national network will further strengthen its capacity to serve over 280,000 child victims of abuse and neglect.

Child victimization and maltreatment by primary caregivers is distressingly on the rise, and with it, so too rises the impact on the child and society. Traumatized victims of child abuse and neglect face significant and multiple risk factors, most notably, juvenile delinquency, adult criminality, and poor educational performance that affects future employment and stability. These



issues result in a hefty impact on federal, state, and local spending—at least one-quarter of the DOJ budget is dedicated to our nation’s prison system, and at the same time, the Centers for Disease Control and Prevention (CDC) estimates the economic and social costs of child abuse and neglect to total \$124 billion nationwide per annum. Local CASA/GAL programs offer an effective service to child victims of abuse and neglect that improves outcomes, increases the efficient functioning of our court systems, and saves hundreds of millions in federal and state taxpayer dollars annually in the process.

CASA/GAL programs are, at the heart of their operation, a highly effective leveraging of community-based resources to provide dedicated and sustained one-on-one advocacy for child victims and advise the courts of the child’s best interests and needs throughout abuse and neglect proceedings. Research has shown that the presence of a caring, consistent adult in the life of a child victim is associated with improved long-term outcomes. These efforts, which focus on helping the child find a safe, permanent home where they can both heal and thrive, require thorough background screening, specialized training, and resources to promote a nationwide system of programs that adhere to and assure the highest quality of services and care for the child victim.

CASA Program funds through DOJ achieve and uphold national standard setting, assessment, accountability, and evaluation across 938 local, state, and tribal programs to promote improved child outcomes and effective stewardship of public investments in victim advocacy. Evidence-based practices, intensive technical assistance, direct program guidance and partnerships, and national program standards and quality assurance processes all lie at the foundation of effective CASA/GAL program service delivery in communities across the nation.

Given the nature of the CASA/GAL advocates’ intensive work with child victims of abuse and neglect, standards of rigorous screening, training, supervision, and service are implemented nationwide, with Congressional support, to ensure consistent quality for victims who directly benefit from having their needs and rights championed in the courtroom and in the community. Comprehensive pre-service, in-service, and issue-focused training curricula – including training in disproportionality, cultural competency, and working with older youth – ensures a cutting edge approach to victim services centered on the child thriving well into the future as a member of the community. Federal support is foundational to the solid and high-quality functioning of a national child advocacy network for victims of abuse and neglect.

As the needs of child victims of abuse and neglect grow and change, so must the specialization of one-on-one advocacy and services by CASA/GAL programs. Since the Victims of Child Abuse Act was passed, the landscape of victims’ services for children has evolved significantly. Researchers and practitioners know more now than ever about trauma, and its associated impacts on child development, as well as the significant and multiple risk factors and



issues faced by abused and neglected children such as mental health/ post-traumatic stress disorder (PTSD), commercial sex trafficking, overmedication, and the growing effects of substance abuse and the opioid epidemic in particular. Further, we know that youth of color in particular face very significant challenges – in addition to victimization – on their path to a thriving adulthood. CASA/GAL advocates bring one-on-one attention and a dedicated focus to each of the issues that the child victim faces, but additional resources are needed to enhance and build their knowledge base as part of a continuous advocacy development process.

These complex issues warrant adaptive and responsive training, technical assistance, and resources, while continuing on a trajectory of maintaining quality care and services within current CASA/GAL caseloads and also simultaneously building the capacity to take on additional cases when appointed by the court. National CASA Association is committed to continuous improvement of training, technical assistance, and resource delivery to strengthen and support local CASA/GAL programs and state organizations to help advocates remain at the forefront of emerging child welfare issues.

Federal support at the fully authorized level is instrumental to bridging advocacy training and best practice tools into multiple and new emerging issue areas including child sex trafficking, substance abuse and opioid-overuse, and the overmedication of child victims, for example. Advocates need to be well versed in warning signs for these issues, as well as the available services, resources, and coordination of community and court efforts in order to best address the child victim's case.

FY 2019 funding of \$12 million will be targeted to fortifying resources and training for CASA/GAL programs in the area of commercial sexual exploitation based upon existing best practices and models. In addition, this federal funding will be used to target resources to serve over 280,000 child victims of abuse and neglect, and continue efforts toward the development of state CASA/GAL organizations in the states currently without this resource that enhances support of program service delivery in local communities. Additional projects include sustaining development of training on best practices in addressing the needs of children impacted by the opioid epidemic and other forms of substance abuse, child sex trafficking, unaccompanied children and addressing racial disproportionality in child welfare and the need for racially and culturally sensitive recruitment and matching of CASA/GAL advocates.

According to the most recent government data available, the number of child maltreatment cases has increased to nearly 700,000 per annum. This remains a significant population with equally significant and complex issues and risk factors. Without the benefit of a specially trained CASA/GAL advocate that is able to devote dedicated time and attention to the details of the case, the child victim faces a complex and cumbersome court process and foster care system that is overwhelmed, overburdened, and under-resourced. Our ability as a national network to serve every



child victim of abuse and neglect is directly tied to strengthening and expanding a foundational and interwoven program of advocate training, technical assistance, standards, tools, and resources that are funded with DOJ support.

While children who are the victims of maltreatment have suffered deep layers of trauma, these experiences do not have to be their only life story. Juvenile detention and adult incarceration do not have to be the path to their future. Substance abuse, PTSD, homelessness, and joblessness do not have to be the basis of their experiences. We can change their trajectory, together, with Congressional support.

Caring, dedicated, and extensively trained CASA/GAL advocates bring about positive changes in the lives of child victims. Full funding is needed to continue expanding the advocate pipeline, enhance the training, resources, and services provided to and through CASA/GAL programs, and strengthen outcomes for future members of our nation's workforce.

We urge the Subcommittee to fund the Court Appointed Special Advocates Program at our authorized level of \$12 million in FY 2019 to address the overwhelming need for dedicated advocacy on behalf of child victims of abuse and neglect. Thank you for your consideration.



COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

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Testimony of
The Honorable Casey Mitchell, Chairman
Columbia River Inter-Tribal Fish Commission
Regarding NOAA's Fiscal Year 2019 Budget
Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies
United States House of Representatives
April 18, 2018

The Columbia River Inter-Tribal Fish Commission (CRITFC) is pleased to share our views on the Department of Commerce's FY 2019 budget and has identified the following funding needs:

\$56.6 million for Salmon Management Activities of which:

- **\$26.6 million for Columbia River Mitchell Act** programs to implement reforms of which \$6.7 million (or 25% of the enacted amount) is directed to the tribes to enhance supplementation (natural stock recovery) programs;
- **\$30.0 million for the Pacific Salmon Treaty**, of which \$28.2 million is for the implementation of the 2019-2028 Agreement, and previous base programs; and \$1.8 million is for the Chinook Salmon Agreement Implementation;

\$65 million for the Pacific Coastal Salmon Recovery Fund to support on-the-ground salmon restoration activities.

BACKGROUND: The Columbia River Inter-Tribal Fish Commission (CRITFC) was founded in 1977 by the four Columbia River treaty tribes: Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes and Bands of the Yakama Nation, and Nez Perce Tribe. CRITFC provides coordination and technical assistance to the tribes in regional, national and international efforts to protect and restore the fisheries and fish habitat.

In 1855, the United States entered into treaties with the four tribes¹. The tribes' ceded millions of acres of our homelands to the U.S. and the U.S. pledged to honor our ancestral rights, including the right to fish at all usual and accustomed places. Unfortunately, a long history of hydroelectric development, habitat destruction and over-fishing by non-Indians brought the salmon resource to the edge of extinction with 12 salmon and steelhead trout populations in the Columbia River basin listed under the Endangered Species Act (ESA).

Today, the treaties form the bedrock of fisheries management. The CRITFC tribes are among the most successful fishery managers in the country leading restoration efforts and working with state, federal and private entities. CRITFC's comprehensive plan, *Wy-Kan-Ush-Mi Wa-Kish-Wit*, outlines principles and objectives designed to halt the decline of salmon, lamprey and sturgeon

¹ Treaty with the Yakama Tribe, June 6, 1855, 12 Stat. 951; Treaty with the Tribes of Middle Oregon, June 25, 1855, 12 Stat. 963; Treaty with the Umatilla Tribe, June 9, 1855, 12 Stat. 945; Treaty with the Nez Perce Tribe, June 11, 1855, 12 Stat. 9

**Testimony of the Columbia River Inter-Tribal Fish Commission
FY 2019 Budget – Commerce, Justice, Science and Related Agencies**

populations and rebuild the fisheries to levels that support tribal ceremonial, subsistence and commercial harvests. To achieve these objectives, the plan emphasizes strategies that rely on natural production, healthy rivers and collaborative efforts.

Several key regional agreements were completed in 2008. The Columbia Basin Fish Accords set out parameters for management of the Federal Columbia River Power System for fish passage. New agreements in *U.S. v. Oregon* and the Pacific Salmon Commission established fishery management criteria for fisheries ranging from the Columbia River to Southeast Alaska. The *U.S. v. Oregon* agreement also contains provisions for hatchery management in the Columbia River Basin. The terms of all three agreements run through 2018. We have successfully secured other funds to support our efforts to implement these agreements, including funds from the Bonneville Power Administration (BPA), the Department of Interior, and the Southern Fund of the Pacific Salmon Treaty, to name just few. Continued federal funding support is needed to accomplish the management objectives embodied in the agreements.

Columbia River (Mitchell Act) Hatchery Program: Restoring Pacific salmon and providing for sustainable fisheries requires using the Columbia River Mitchell Act hatchery program to supplement naturally spawning stocks and populations. To accomplish this goal, \$26.6 million is requested for the tribal and state co-managers to jointly reform the Mitchell Act hatchery program. Of this amount, \$6.7 million, or 25% of enacted funding, will be made available to the Columbia River Treaty Tribes for supplementation (natural stock recovery) programs. The Mitchell Act program provides regional economic benefits. NOAA Fisheries estimates that the program generates about \$38 million in income and supports 870 jobs.

Since 1982, CRITFC has called for hatchery reform to meet recovery needs and meet mitigation obligations. In 1991, this subcommittee directed that “Mitchell Act hatcheries be operated in a manner so as to implement a program to release fish in the upper Columbia River basin above the Bonneville Dam to assist in the rebuilding of upriver naturally-spawning salmon runs.” Since 1991, we have made progress in increasing the upstream releases of salmon including Mitchell Act fish that have assisted the rebuilding and restoration of naturally-spawning upriver runs of chinook and coho. These efforts need to continue.

We now face the challenges of managing for salmon populations listed for protection under the ESA, while also meeting mitigation obligations. The Final Environmental Impact Statement (FEIS) for operation of Columbia River basin hatcheries released by NOAA in 2016 illustrates the conundrum we face. While the FEIS, which assumes level funding for Mitchell Act hatcheries, it also points out the need for hatchery reform. The implementation scenario for the preferred alternative calls for substantial reductions in hatchery releases of fall chinook. Under the preferred alternative the future is increased regulation under the ESA, resulting in more constrained fisheries along the west coast. The funding for the Mitchell Act program should be increased along with natural stock recovery program reform (supplementation) so that we can make progress towards ESA delisting. This would transition the Mitchell Act program to a much more effective mitigation program.

We support hatchery reform to aid in salmon recovery while meeting mitigation obligations. The CRITFC tribes are leaders in designing and managing hatchery facilities to aid in salmon

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restoration and believe similar practices need to be implemented throughout the basin to reform current hatchery production efforts. Years of inadequate funding have taken a toll resulting in deteriorating facilities that do not serve our objectives.

Evidence to Support Tribal Salmon Restoration Programs under the Mitchell Act: The tribes' approach to salmon recovery is to put fish back in to the rivers and protect the watersheds where fish live. Scientific documentation of tribal supplementation success is available upon request. The evidence is seen by the increasing returns of salmon in the Columbia River Basin. Wild spring chinook salmon are returning in large numbers to the Umatilla, Yakima and Klickitat tributaries. Coho in the Clearwater River are now abundant after Snake River coho was once declared extinct. Fish are returning to the Columbia River Basin and it is built on more than thirty years of tribal projects.

Once considered for listing under the ESA, only 20,000 fall chinook returned to the Hanford Reach on the Columbia River in the early 1980's. This salmon run has been rebuilt through the implementation of the Vernita Bar agreement of the mid-1980s combined with a hatchery program that incorporated biologically appropriate salmon that spawn naturally upon their return to the spawning beds. Today, the Hanford Reach fall chinook run is one of the healthiest runs in the basin supporting fisheries in Alaska, Canada, and the mainstem Columbia River. In 2013, close to 700,000 Fall Chinook destined for the Hanford Reach entered the Columbia River, which was a record since the construction of Bonneville Dam.

In the Snake River Basin, fall chinook has been brought back from the brink of extinction. Listed as threatened under the ESA, the estimated return of naturally-spawning Snake River fall chinook averaged 328 adults from 1986-1992. In 1994, fewer than 2,000 Snake River fall chinook returned to the Columbia River Basin. Thanks to the Nez Perce Tribe's modern supplementation program fall chinook are rebounding and the Snake River fall chinook is well on their way to recovery and ESA delisting. In 2013 about 56,000 fall chinook made it past Lower Granite Dam. Of those, approximately 21,000 were wild, twice the previous record for wild returns since the dam was constructed in 1975.

A Request for Review of Salmon Mass-Marking Programs: CRITFC endeavors to secure a unified hatchery strategy among tribal, federal and state co-managers. To that end, we seek to build hatchery programs using the best available science and supported by adequate, efficient budgets. A Congressional requirement, delivered through prior appropriations language, to visibly mark all salmon produced in federally funded hatcheries should be reconsidered. We have requested that federal mass-marking requirements, and correlated funding, be reviewed for compatibility with our overall objective of ESA delisting and with prevailing laws and agreements: *U.S. v Oregon*, Pacific Salmon Treaty and the Columbia Basin Fish Accords².

Salmon managers should be provided the latitude to make case-by-case decisions whether to mark fish and, if so, in the appropriate percentages.

Pacific Salmon Treaty Program: CRITFC supports the U.S. Section recommendation of

² Letter from Bruce Jim, Chairman, Columbia River Inter-Tribal Fish Commission to U.S. House of Representatives Chairmen Frank Wolf, Mike Simpson and Doc Hastings, July 11, 2011

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\$30.0 million for Pacific Salmon Treaty implementation. Of this amount, \$20.5 million is for the Pacific Salmon Treaty base program with Alaska, Oregon, Idaho, Washington, and NOAA to share as described in the U.S. Section of the Pacific Salmon Commission's Budget Justification. In addition, we support \$1.8 million as first provided in 1997 to carry out necessary research and management activities to implement the abundance based management approach of the Chinook Chapter to the Treaty. Costs of the programs conducted by state agencies to fulfill national commitments created by the treaty are substantially greater than the funding provided in the NOAA budget. State agencies supplement the federal appropriation from other sources including: state and federal grants, and the Pacific Coastal Salmon Recovery Fund, to the extent those sources are available.

Pacific Coastal Salmon Recovery Program (PCSRF): The PCSRF program was developed in 2000 by the State of Alaska, the Pacific Northwest states, and the treaty tribes since the renewal of the Pacific Salmon Treaty in 1995 to fulfill the unmet needs for the conservation and restoration of salmon stocks shared in the tribal, state, and international fisheries. Since that time, the number of entities eligible for receiving funding has grown.

The PCSRF has funded 354 Yakama, Umatilla, Warm Springs, Nez Perce, and CRITFC tribal salmon recovery projects. These projects have contributed greatly to the sustainability of Columbia Basin salmon species and their habitat. Accomplishments include 1,638 stream miles being protected; 408 miles of stream made accessible to salmon; 4,885 acres of riparian area treated; 11,169 acres conserved by acquisition or lease; and 1.2 million salmon fry/smolt released annually. The PCSRF is vital to fulfill the region's goal of full salmon recovery and sustainability of the fishery.

The co-managers have developed an extensive matrix of performance standards to address accountability and performance standards, which includes the use of monitoring protocols to systematically track current and future projects basin-wide. The PCSRF projects implemented are based on the best science, adequately monitored and address the limiting factors affecting salmon restoration. Projects undertaken by the tribes are consistent with CRITFC's salmon restoration plan and the programmatic areas identified by Congress.

We recommend maintaining the current funding level at \$65 million for the PCSRF FY 2019 allocation. Long-term economic benefits can be achieved by making PCSRF investments on-the-ground to rebuild sustainable, harvestable salmon populations into the future.

In summary, the CRITFC and our four member tribes have developed the capacity and infrastructure to become the regional leaders in restoring and rebuilding salmon populations of the Columbia Basin. Our collective efforts protect our treaty reserved fishing rights and provides healthy, harvestable salmon populations for all citizens to enjoy. This is a time when increased effort and participation are demanded of all of us and we ask for your continued support of a coordinated, comprehensive effort to restore the shared salmon resource of the Columbia and Snake River Basins. We will be pleased to provide any additional information that this subcommittee may require.

Contact: Charles Hudson, Director of Government Affairs, 503-731-1275, hudc@critfc.org.

Testimony of

Kasey White

Director for Geoscience Policy
for the

Geological Society of America

Regarding the

National Science Foundation

and

National Aeronautics and Space Administration

FY 2019 Appropriation

to the

U.S. House of Representatives

Committee on Appropriations

Subcommittee on Commerce, Justice, Science, and Related Agencies

April 27, 2018

Summary

The Geological Society of America (GSA) supports strong and sustained investments in geoscience research and education at the National Science Foundation (NSF) and National Aeronautics and Space Administration (NASA). We thank Congress for the investments made in FY 2018 and encourage a path of sustainable growth forward. We encourage Congress to appropriate \$8.45 billion for NSF in FY 2019 and fully support geoscience research at the agency without restriction. We request \$6.5 billion in FY 2019 to fund NASA's Science Mission Directorate with increased funding for the Earth Science and Planetary Science Divisions. Investment in NSF and NASA is necessary to secure America's future economic leadership, both through the discoveries made and the talent developed through their programs. Earth and space science at these two agencies plays a vital role in American prosperity and security through understanding and documenting mineral and energy resources that underpin economic growth; researching and monitoring potential natural hazards that threaten U.S. and international security; and determining and assessing water quality and availability.

The Geological Society of America (GSA) is a global professional society with a growing membership of more than 26,000 individuals in 115 countries. GSA provides access to elements that are essential to the professional growth of earth scientists at all levels of expertise and from all sectors: academic, government, business, and industry. The Society unites thousands of earth scientists from every corner of the globe in a common purpose to study the mysteries of our planet (and beyond) and share scientific findings.

SCIENCE □ STEWARDSHIP □ SERVICE

National Science Foundation

The Geological Society of America (GSA) appreciates the increase to the National Science Foundation (NSF) budget in the FY 2018 omnibus and thanks the Committee for recognizing the important role that the agency plays in our country's global competitiveness. We urge Congress to provide NSF at least \$8.45 billion in fiscal year 2019.

Sustained increases beyond inflation are necessary to regain America's science and technology leadership and to enable the discoveries that lead to future innovations and industries. According to the *2018 Science and Engineering Indicators Report*, the U.S. investment in R&D of \$497 billion was closely followed by China at \$409 billion. If current trends continue, the National Science Board expects China to surpass the U.S. in R&D investments by the end of this year. Increases in funding will allow NSF to continue to fund its core basic research in addition to growing investments in its Ten Big Ideas. These ideas are designed to identify areas of future investment and position the U.S. on the cutting edge of global science and engineering leadership.

Geoscience research is a critical component of the overall science and technology enterprise and should be funded without restriction. NSF's Directorate for Geosciences is the largest federal supporter of basic geoscience research at universities. NSF's programs in geoscience research and graduate and undergraduate student support contribute significantly to the education and training of the workforce. A recent report by the American Geosciences Institute, *Status of Recent Geoscience Graduates 2017*, illustrates the diversity of careers supported by geoscience research. For example, the report found that the majority of master's degree graduates found jobs in the oil and gas industry and government, while environmental services, such as environmental consulting and remediation of water and soil, hired the highest percentage of bachelor's degree graduates. Other industries hiring geoscientists include manufacturing, trade, construction, information technology services, mining, and agriculture.

Increased investments in NSF's geoscience portfolio are necessary to address such issues as natural hazards, energy and minerals, water resources, and education; geoscience is a key contributor to groundbreaking research across disciplines at NSF. Specific needs include:

- On December 20, 2017, President Trump signed an executive order entitled *A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals*, that finds,

“The United States is heavily reliant on imports of certain mineral commodities that are vital to the Nation's security and economic prosperity. This dependency of the United States on foreign sources creates a strategic vulnerability for both its economy and military to adverse foreign government action, natural disaster, and other events that can disrupt supply of these key minerals.”

NSF's Division of Earth Sciences supports research on the structure, composition, and evolution of the Earth and the processes that govern the formation and behavior of the Earth's materials. This research contributes to a better understanding of the natural

distribution of mineral and energy resources.

- The quality and quantity of surface water and groundwater have a direct impact on the wellbeing of societies and ecosystems, as evidenced by flooding and drought impacts experienced across the US during the past year. NSF’s research addresses major gaps in our understanding of water availability, quality, and dynamics, including the impact of both a changing climate and human activity on the water system.
- The Division of Atmospheric and Geospace Sciences provides critical infrastructure and research funding for understanding our planet, including weather and precipitation variability and atmospheric and space weather hazards. Earth and space observations provide data necessary to predict severe space weather events, which affect the electric power grid, satellite communications and information, and space-based position, navigation, and timing systems.
- The National Research Council report *Sea Change: 2015-2025 Decadal Survey of Ocean Sciences* highlights research questions to guide NSF investment. The report identifies questions that will help make informed decisions, including: How can risk be better characterized and the ability to forecast geohazards like megathrust earthquakes, tsunamis, undersea landslides, and volcanic eruptions be improved? What are the rates, mechanisms, impacts, and geographic variability of sea level change? How different will marine food webs be at mid-century? In the next 100 years?
- Natural hazards – including earthquakes, tsunamis, volcanic eruptions, wildfires, and landslides – are a major cause of fatalities and economic losses. Recent natural disasters provide unmistakable evidence that the United States remains vulnerable to staggering losses. An improved scientific understanding of geologic hazards will reduce future losses by informing effective planning and mitigation. We urge Congress to support NSF investments in fundamental Earth science research and facilities that underpin innovations in natural hazards monitoring and warning systems.

National Aeronautics and Space Administration

GSA requests request \$6.5 billion to fund NASA’s Science Mission Directorate (SMD) and increased funding for the Earth Science and Planetary Science Divisions. Increased funding will be critical to implement the recommendations of the National Academy of Sciences’ *Earth Science and Applications from Space (ESAS) Decadal Survey* report released earlier this year. The report notes,

“Earth science and applications are a key part of the nation’s information infrastructure, warranting a U.S. program of Earth observations from space that is robust, resilient, and appropriately balanced.”

The data and observations from Earth observing missions and research are a tremendously important resource for natural resource exploration and land use planning, as well as assessing water resources, natural disaster impacts, and global agriculture production. GSA supports

interagency efforts to ensure the future viability of Landsat satellites as well as funding to increase the capabilities and uses of multi-spacecraft constellations of small scientific satellites.

We appreciate congressional support in FY 2018 for Earth Science Missions, and request that Congress continue their funding in FY 2019. These missions will advance science frontiers and provide critical data for society. For example, PACE will help us monitor the duration and impact of harmful algae blooms and CLARREO Pathfinder will enable industry and military decision-makers to more accurately assess natural hazards, such as flooding.

Planetary research is directly linked to Earth science research and cuts in either program will hinder the other. To support missions to better understand the workings of the entire solar system, planetary scientists engage in both terrestrial field studies and Earth observation to examine geologic features and processes that are common on other planets, such as impact structures, volcanic constructs, tectonic structures, and glacial and fluvial deposits and landforms. In addition, geochemical planetary research studies include investigations of extraterrestrial materials now on Earth, including lunar samples, meteorites, cosmic dust particles, and, most recently, particles returned from comets and asteroids. We appreciate past congressional support for this area and urge you to continue to increase this important area to support priority areas identified in the Planetary Science Decadal Survey.

Support Needed to Educate Future Innovations and Innovators

Earth science research and education are fundamental to training the next generation of Earth science professionals. *Status of the Geoscience Workforce Report 2016* found an expected deficit of approximately 90,000 geoscientists by 2024.

Increased NSF and NASA investments in Earth science education are necessary to meet these workforce needs and develop an informed, science-literate electorate. Earth scientists will be essential to meeting the environmental and resource challenges of the twenty-first century. NSF's Education and Human Resources Directorate researches and improves the way we teach science and provides research and fellowship opportunities for students to encourage them to continue in the sciences. Similarly, NASA's educational programs have inspired and led many into science careers. GSA fully supports these efforts, as well as programs to make the geoscience workforce more diverse.

Please contact GSA Director for Geoscience Policy Kasey White at kwhite@geosociety.org for additional information or to learn more about the Geological Society of America – including GSA Position Statements on water resources, planetary research, energy and mineral resources, natural hazards, climate change, and public investment in Earth science research.

GREAT LAKES INDIAN FISH & WILDLIFE COMMISSION

P. O. Box 9 • Odanah, WI 54861 • 715/682-6619 • FAX 715/682-9294



• MEMBER TRIBES •

MICHIGAN
 Bay Mills Community
 Keweenaw Bay Community
 Lac Vieux Desert Band

WISCONSIN
 Bad River Band
 Lac Courte Oreilles Band
 Lac du Flambeau Band

Red Cliff Band
 St. Croix Chippewa
 Sokaogon Chippewa

MINNESOTA
 Fond du Lac Band
 Mille Lacs Band

FY 2019 TESTIMONY
HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON COMMERCE, JUSTICE, SCIENCE AND RELATED AGENCIES
 BY
MICHAEL J. ISHAM JR., EXECUTIVE ADMINISTRATOR
GREAT LAKES INDIAN FISH AND WILDLIFE COMMISSION (GLIFWC)

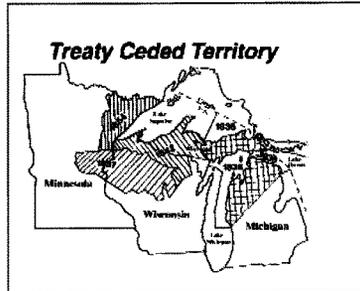
AGENCY INVOLVED: Department of Justice

PROGRAM INVOLVED: COPS Tribal Resources Grant Program (TRGP) Hiring and Equipment/Training Program under the Coordinated Tribal Assistance Solicitation (CTAS)

SUMMARY OF GLIFWC’S FY 2019 TESTIMONY: GLIFWC supports sustained funding for the TRGP at no less than the FY 2018 enacted funding level. This program has enabled GLIFWC to solidify its communications, training, and equipment requirements, essential to ensuring the safety of GLIFWC officers and their role in the proper functioning of interjurisdictional emergency mutual assistance networks in the treaty ceded territories.

CEDED TERRITORY TREATY RIGHTS AND GLIFWC’S ROLE: GLIFWC was established in 1984 as a “tribal organization” within the meaning of the Indian Self-Determination Act (PL 93-638). It exercises authority delegated by its member tribes to implement federal court orders and various interjurisdictional agreements related to their treaty rights. GLIFWC assists its member tribes in:

- securing and implementing treaty guaranteed rights to hunt, fish, and gather in Chippewa treaty ceded territories; and
- cooperatively managing, restoring and protecting ceded territory natural resources and their habitats.



For over 34 years, Congress and various Administrations have funded GLIFWC through the BIA, the Department of Justice and other agencies to meet specific federal obligations under: a) a number of US/Chippewa treaties; b) the federal trust responsibility; c) the Indian Self-Determination and Education Assistance Act, the Clean Water Act, and other legislation; and d)

various court decisions, including a 1999 US Supreme Court case, that affirmed the treaty rights of GLIFWC's member tribes. Under the direction of its member tribes, GLIFWC operates a ceded territory hunting, fishing, and gathering rights protection/implementation program through its staff of biologists, scientists, technicians, conservation enforcement officers, and public information specialists.

COMMUNITY-BASED POLICING: GLIFWC's officers carry out their duties through a community-based policing program. The underlying premise of that program is that effective detection and deterrence of illegal activities, as well as education of the regulated constituents, are best accomplished if the officers work within the tribal communities they primarily serve. The officers are based in reservation communities of the following member tribes: in Wisconsin – Bad River, Lac Courte Oreilles, Lac du Flambeau, Red Cliff, Sokaogon Chippewa (Mole Lake), and St. Croix; in Minnesota – Mille Lacs; and in Michigan – Bay Mills, Keweenaw Bay and Lac Vieux Desert. To help develop mutual trust between GLIFWC officers and tribal communities, officers provide outdoor skills workshops and safety classes (hunter, boater, snowmobile, ATV) to over 1,100 tribal youth in grades 4-8 annually. GLIFWC's officers also actively participate in summer and winter youth outdoor activity camps, kids fishing events, workshops on canoe safety and rice stick carving, and seminars on trapping and archery/bow safety.

GLIFWC's member tribes realize it is critical to build relationships between tribal youth and law enforcement officers as a means of combatting gang recruitment and drug/alcohol abuse in reservation communities. GLIFWC is continuing to take a pro-active approach to support these efforts by obtaining FY 2013 DOJ funding to hire a Youth Outreach Officer. This Officer is working to improve and expand youth outdoor recreation activities in partnership with other GLIFWC officers. The program's goal is to build and expand these relationships to help prevent violations of tribal off-reservation codes, improve public safety and promote an outdoor lifestyle as an alternative to a lifestyle characterized by youth gangs¹ and substance abuse². The availability of the Youth Outreach Officer has enabled GLIFWC, in partnership with the U.S. Forest Service, to grow participation in Camp Onji-Akiing (From the Earth). The camp began with just 9 tribal students in grades 5-8 and by 2017 expanded to 55 tribal students in grades 5-8, 8 tribal Junior Counselors (i.e. high school students) and 1 tribal Junior Director (i.e. high school graduate enrolled in college).

INTERACTION WITH LAW ENFORCEMENT AGENCIES: GLIFWC's officers are integral members of regional emergency services networks in Minnesota, Michigan and Wisconsin. They not only enforce the tribes' conservation codes, but are fully certified officers who work cooperatively with authorities from other jurisdictions when they detect violations of state or federal criminal and conservation laws. These partnerships evolved from the inter-governmental cooperation

¹ The American Indian and Alaska Native (AI/AN) youth population is more affected by gang involvement than any other racial population. 15% of AI/AN youth are involved with gangs compared to 8% of Latino youth and 6% of African American youth nationally. (National Council on Crime and Delinquency: Glesmann, C., Krisberg, B.A., & Marchionna, S., 2009).

² 22.9% of American Indian and Alaska Native (AI/AN) youth aged 12 and older report alcohol use, 18.4% report binge drinking and 16.0% report substance dependence or abuse. In the same group, 35.8% report tobacco use and 12.5% report illicit drug use. (2010 National Survey on Drug Use and Health: Summary of National Findings).

required to combat the violence experienced during the early implementation of treaty rights in Wisconsin. As time passed, GLIFWC's professional officers continued to provide a bridge between local law enforcement and many rural Indian communities.

GLIFWC remains at this forefront, using DOJ funding to develop interjurisdictional legal training that is attended by GLIFWC officers, tribal police and conservation officers, tribal judges, tribal and county prosecutors, and state and federal agency law enforcement staff. DOJ funding has also enabled GLIFWC to certify its officers as medical emergency first responders, and to train them in search and rescue, particularly in cold water rescue techniques. When a crime is in progress or emergencies occur, local, state, and federal law enforcement agencies look to GLIFWC's officers as part of the mutual assistance networks. In fact, the role of GLIFWC's officers in these networks was further legitimized in 2007 by the passage of Wisconsin Act 27, which affords GLIFWC wardens the same statutory safeguards and protections that are afforded to their DNR counterparts. GLIFWC wardens now have access to the criminal history database and other information to identify whom they are encountering in the field so that they can determine whether they are about to face a fugitive or some other dangerous individual.

GLIFWC's participation in mutual assistance networks located throughout a 60,000 square mile region increases public safety in an effective and cost efficient manner. In 2017, GLIFWC officers utilized prior DOJ funded training and equipment to respond to:

- 16 incidents where GLIFWC officers responded to emergency backup requests from other law enforcement agencies including: 1) a barricaded suspect who had shot an officer and three civilians (Marathon County Sheriff's Department, Wisconsin); 2) a shots fired incident (Michigan State Police, Bruce's Crossing, Michigan); 3) an officer involved shooting (City of Ashland, Wisconsin); 4) a tactical response to a suicidal suspect with a knife threatening people at a residence (Rhineland, Wisconsin); 5) location of wanted suspect (Ashland County Sheriff's Department, Wisconsin); 6) an officer involved shooting (Ashland County, Wisconsin);
- 12 accidents including two on I-75 in Michigan within 2 hours of each other;
- 5 search and rescue operations including a fisherman stranded on shore after their boat had taken on water (Willow Flowage, Wisconsin) and a lost boater encountering rough water (Lake Gogebic, Michigan);
- 2 medical calls including with one requiring CPR and an AED to resuscitate a male until an ambulance arrived and transportation of a child with a severe allergic reaction from the Ottawa National Forest to paramedics for ambulance transport to a hospital; and
- 1 interagency body recovery operation involving two deceased fishermen (Flambeau Flowage, Wisconsin).

Increased Versatility and Improving Public Safety: In addition to supporting GLIFWC participation in mutual assistance networks, DOJ training and equipment proved critical in building partnerships to improve public safety on Lake Superior and addressing a recent flood.

Lake Superior Ghost Net Removal and Search and Rescue: Ghost nets are commercial fishing nets that have been damaged due to Lake Superior's strong storms or vandalism and have sunk to the bottom of a lake. These lost gill nets can pose navigation hazards and damage equipment. In 2015, GLIFWC utilized DOJ Tribal COPS funding to purchase equipment to address this public safety concern and in 2016 removed around 8,000 feet of ghost nets from Lake Superior and in 2017 GLIFWC removed around 8,700 feet of ghost nets. GLIFWC also formed a partnership with Wisconsin Sea Grant and the Apostle Islands Sport Fishermen's Association, and obtained funding from the Marine Debris Program to sponsor a series of public workshops to educate commercial and tribal anglers on best net-management practices, build community relationships and further expand GLIFWC's Community Policing outreach efforts. In addition, GLIFWC's DOJ funded airboat was used in 2017 to search and locate lost kayakers in the Apostle Island National Park, (Wisconsin) and provide emergency response and safety support for the *Book Across the Bay* 10 kilometer cross-country ski race (Ashland, Wisconsin). GLIFWC officers also used their DOJ funded training to assist the U.S. Coast Guard in recovering a boat that had become stranded on pilings in Chequamegon Bay.

Bad River Flood: Thunderstorms over four days in July of 2016 resulted in flood waters breaking records with a rise of 27.28 feet. The flooding caused the destruction of roads, bridges, community facilities, trails and recreation areas. More than 46 homes within reservation boundaries were affected by flooding and ten were totally destroyed. The flooding cut off the reservation from regular routes to food, water, and medical supplies. An Incident Command Center was set up by a GLIFWC Officer and supported by additional GLIFWC law enforcement staff to address public safety needs as they arose including establishing road blocks, emergency transport, communications, and search and rescue activities. DOJ funded equipment (i.e. a Command trailer, communications systems, boats, ATV's, first aid kits, etc.) and training expanded GLIFWC's capacity to respond to this emergency.

LOOKING TO THE FUTURE: In 2017, a GLIFWC officer, performing a routine investigation during a deer shining incident, discovered a case that the suspect had dropped out of their vehicle. The case contained a medical rubber band, syringes, and a substance in a plastic bag. The officer turned the paraphernalia over to county deputies who were on scene and the suspect was placed under arrest.

Unfortunately, member tribes have not escaped the opioid and methamphetamine crisis gripping much of the United States. Wisconsin has experienced a 335% growth in neonatal abstinence syndrome (NAS) from 2006 to 2014 from 2.0 to 8.7 per 1,000 live births³ and counties with reservation communities have the highest per capita NAS rates in the state. In 2017, GLIFWC officers participated in training with Wisconsin Native American Drug and Gang Initiative (NADGI) Task Force and BIA funded Tribal Justice Support Division VAWA/Opioid training in an effort to stay current on developing issues. FY 2019 DOJ funding will be needed to assist officers in the identification of opioid users, safely searching suspects (i.e. given increased needle use), and how to effectively administer Naloxone in reservation communities.

³ When opioids or other substances are used during pregnancy, the infant may be born with withdrawal from substances taken by the mother. This condition, termed neonatal abstinence syndrome (NAS), is associated with physiologic and behavioral consequences, such as low birth weight, feeding difficulties and respiratory problems. .Select Opioid – Related Morbidity and Mortality, Data for Wisconsin, November 2016, WI Dep. of Health Services



**Human Factors
and Ergonomics
Society**

**Official Written Testimony in Support of
Fiscal Year 2019 Science and Research Funding**

Submitted to the House Subcommittee on Commerce, Justice, and Science, and Related
Agencies; Committee on Appropriations
United States House of Representatives
April 27, 2018

Submitted by
Valerie Rice, PhD, President, Human Factors and Ergonomics Society
Julie Freeman, Interim Executive Director, Human Factors and Ergonomics Society

On behalf of the Human Factors and Ergonomics Society (HFES), we are pleased to provide this written testimony to House Appropriations Subcommittee on Commerce, Justice, and Science, and Related Agencies for the official record. **HFES urges the Subcommittee to provide \$8.45 billion for the National Science Foundation (NSF) and \$21.7 billion for the National Aeronautics and Space Administration (NASA) in the fiscal year (FY) 2018 appropriations process.**

HFES and its members believe strongly that investment in scientific research serves as an important driver for innovation and the economy, national security, and for maintaining American global competitiveness. We thank the Subcommittee for its longtime recognition of the value of scientific and engineering research and its contribution to innovation in the U.S.

The Value of Human Factors and Ergonomics Science

HFES is a multidisciplinary professional association with over 4,500 individual members worldwide, comprised of scientists and practitioners, all with a common interest in enhancing the performance, effectiveness and safety of systems with which humans interact through the design of those systems' user interfaces to optimally fit humans' physical and cognitive capabilities.

For over 50 years, the U.S. federal government has funded scientists and engineers to explore and better understand the relationship between humans, technology, and the environment. Originally stemming from urgent needs to improve the performance of humans using complex systems such as aircraft during World War II, the field of human factors and ergonomics (HF/E) works to develop safe, effective, and practical human use of technology. HF/E does this by developing scientific approaches for understanding this complex interface, also known as "human-systems integration." Today, HF/E is applied to fields as diverse as transportation, architecture, environmental design, consumer products, electronics and computers, energy systems, medical devices, manufacturing, office automation, organizational design and

management, aging, farming, health, sports and recreation, oil field operations, mining, forensics, and education.

With increasing reliance by federal agencies and the private sector on technology-aided decision-making, HF/E is vital to effectively achieving our national objectives. While a large proportion of HF/E research exists at the intersection of science and practice—that is, HF/E is often viewed more at the “applied” end of the science continuum—the field also contributes to advancing “fundamental” scientific understanding of the interface between human decision-making, engineering, design, technology, and the world around us through research funded by NSF. The reach of HF/E is profound, touching nearly all aspects of human life from the health care sector, to the ways we travel, to the hand-held devices we use every day.

Human Factors and Ergonomics at the National Science Foundation

HFES and its members believe strongly that federal investment in NSF will have a direct and positive impact on the U.S. economy, national security, and the health and well-being of Americans. It is for these reasons that HFES supports robust funding for the Foundation to encourage further advancements in the fields of technology, education, defense, and healthcare, among others. HFES also supports the Foundation’s dedication to its “10 Big Ideas,”¹ including *Future of Work at the Human-Technology Frontier (FW-HTF)*, which seeks to address and improve human-technology interactions as workplaces integrate and adapt to artificial intelligence, automation, machine learning, and beyond. In the past, NSF funding for HF/E basic research has strengthened interdisciplinary partnerships allowing for a multilateral approach to technology research and development, including the human and user perspectives. The benefits of this research are not confined to one field but rather span across a range of disciplines to increase understanding of the way humans interact with technology, as well as with each other.

In particular, NSF funds HF/E research to:

- Better understand and improve the effectiveness of how individuals, groups, organizations, and society make decisions.²
- Improve understanding of the relationship between science and engineering, technology, and society, in order to advance the adoption and use of technology.³
- Gain a better understanding of how humans and computers interact to ensure the development of new devices or environments that empower the user.⁴

¹ National Science Foundation-proposed “10 Big Ideas”

(https://www.nsf.gov/about/congress/reports/nsf_big_ideas.pdf?dm_i=1ZJN,4FGWL,E2900Q,GB891,1)

² Decision, Risk & Management Sciences (DRMS) Program

(http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5423)

³ Science, Technology, and Society (STS) Program

(http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5324&org=SFS&from=home)

⁴ Human Centered Computing (HCC) Program

(http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503302&org=IIS&from=home)

- Inform decision making in engineering design, control, and optimization to improve individual engineering components and entire systems.⁵

Human Factors and Ergonomics at the National Aeronautics and Space Administration

HF/E is a critical enabler of NASA science, aeronautics, and human spaceflight missions. Through the Human Research Program,⁶ NASA and external HF/E practitioners conduct research on the design and procedures that influence most, if not all, aspects of astronaut and mission control performance. This crucial role is necessary for the Agency to ensure safety and efficiency in complex systems with narrow risk parameters.

The practical applications of HF/E will only become more pronounced as NASA looks to expand the horizon of human exploration. With the United States planning to send humans beyond Earth orbit, unique challenges will arise that necessitate an increased reliance on HF/E research. Long duration missions with the potential for delayed Earth communications will require systems and procedures designed to guarantee safe operation of autonomous systems. This and other issues were highlighted in the *National Aeronautics and Space Administration Transition Authorization Act of 2017*,⁷ wherein Congress required NASA to take into consideration HF/E research outcomes in the mandated *Human Exploration Roadmap*.

Conclusion

Given NSF's critical role in supporting fundamental research and education across science and engineering disciplines, HFES supports an overall FY 2019 NSF budget of \$8.45 billion and a NASA budget of \$21.7 billion. This investment funds important research studies, enabling an evidence-base, methodology, and measurements for improving organizational function, performance, and design across sectors and disciplines.

On behalf of HFES, we would like to thank you for the opportunity to provide this testimony. Please do not hesitate to contact us should you have any questions about HFES or HF/E research. HFES truly appreciates the Subcommittee's long history of support for scientific research and innovation.

⁵ Systems Engineering and Design Cluster
(http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13473&org=CMMI&from=home)

⁶ NASA Human Research Program (<https://www.nasa.gov/hrp>)

⁷ National Aeronautics and Space Administration Transition Authorization Act of 2017, Sec. 432(b)(3)(I)
(<https://www.congress.gov/115/bills/s442/BILLS-115s442enr.pdf>)

TESTIMONY OF HILARIE BASS, PRESIDENT, AMERICAN BAR ASSOCIATION
in support of the
LEGAL SERVICES CORPORATION
APRIL 27, 2018

U.S. HOUSE APPROPRIATIONS SUBCOMM. ON COMMERCE, JUSTICE, SCIENCE

REQUEST: Chairman Culberson, Ranking Member Serrano, and Subcommittee Members, I am Hilarie Bass, President of the American Bar Association (ABA) and Co-President of Greenberg Traurig law firm. I submit this statement today on behalf of approximately 400,000 members of the ABA. The ABA has long been committed to the realization of “Equal Justice Under Law” in our country, establishing our Standing Committee on Legal Aid and Indigent Defendants in 1920. U.S. Supreme Court Justice Lewis F. Powell, while serving as ABA President in 1964, understood the need to provide legal services, later culminating in President Nixon signing the LSC Act into law in 1974. The ABA recommends restoring Legal Services Corporation (LSC) funding, which has been cut sharply since FY2010, to at least the inflation-adjusted FY2010 level of \$482 million. LSC appropriations have not yet even returned to the FY2010 unadjusted level of \$420 million, let alone kept up with inflation.

CONTENT: This testimony delves into the need for and the beneficiaries of LSC funds and addresses some of the latest challenges. Following that, the testimony flows into the proper role of the federal government in achieving equal justice under law and in helping to secure federal rights. Next, I address the downturn in funding over the past decade and the resultant rank of the United States in the global assessment of access to justice. Finally, I review the Legal Service Corporation’s efficacy, LSC’s utility to Congress’ constituent services, and support for LSC.

NEW JUSTICE GAP STUDY: We acknowledge, in the wake of the 2017 Justice Gap Report, that an even better trajectory for achieving the pledge of justice for all could be accomplished with the Legal Services Corporation requested budget of \$564.8 million.

In June of 2017, the University of Chicago’s NORC provided data analysis regarding the unmet civil legal needs of low-income Americans. The survey of more than 2,000 adults living in low-income households (at or below 125% of the Federal Poverty Level) updated two previous reports. According to the Report, “Eighty-six percent of the civil legal problems faced by low-income Americans in a given year receive inadequate or no legal help.”

Specifically, LSC Board Chair John G. Levi points out: “Low-income seniors, for example, received inadequate or no professional help for 87% of their civil legal problems. For low-income rural residents, the number was 86%, while for low-income veterans or other military personnel, the number was 88%.”

DISASTERS: On April 5, 2018, Colorado State University, whose Meteorologist Phil Klotzbach and other experts are viewed as the nation's top seasonal hurricane forecasters, released their hurricane predictions for 2018’s June through November hurricane season. They predict 14 named tropical storms, of which 7 will become hurricanes—above the average of 12 and 6.

By comparison, for 2017, Colorado State forecasters predicted formation of 11 tropical storms, 4 of which would become hurricanes. In reality, 17 tropical storms formed and 10 became hurricanes.

Last year the committee commendably included \$15 million in supplemental funding for LSC to provide services to victims of fire and hurricane disasters. We hope the committee will keep a close eye on 2018 disasters and if circumstances require will provide supplemental funds for LSC disaster services again this year.

Disasters have a severe and disproportionate impact on the poor, resulting in a sharp increase in the need for legal help. As LSC points out, “In the immediate wake of a disaster or crisis, disaster-related legal issues follow a common pattern. Survivors often need help obtaining copies of important documents such as birth certificates, driver’s licenses, and Social Security cards to apply for or restore benefits and supports. The need for adequate housing is generally a major issue for survivors of most disasters. In addition, low-income and other vulnerable people who need housing after an emergency are more susceptible to scams and price gouging. With families experiencing even more stressors than before, there is also an increase in the need for more legal information on core areas of practice for legal aid, such as public benefits, domestic violence prevention, consumer law, and fraud prevention.”

In response to these disaster concerns, the Legal Services Corporation has formed a Disaster Task Force comprising LSC grantees, business leaders from LSC’s Leaders’ Council, emergency management experts, and other stakeholders to improve disaster relief coordination, comprehensiveness, and effectiveness nationwide.

OPIOIDS: Legal services for custody, guardianship, and adoptions have become paramount in light of the opioid epidemic. The need for kinship care — or a family member caring for a child of a relative — is a significant result of the crisis.

In Harrison County, West Virginia, an advocate reports that she primarily sees grandparents raising grandchildren, who are often informally placed in their care due to neglect by the addicted parents. “Grandparents aren’t really aware of the kinds of benefits that can come from establishing formal legal custody in court,” Courtney Crowder told the Exponent Telegram. “Medical treatment and school enrollment are two barriers that come with not having legal custody of a child. As well, grandparents can receive benefits through the Department of Health and Human Resources. That can be really helpful for grandparents, especially those who are living on a fixed income and probably didn’t plan on raising three extra kids,” Crowder said.

In response to these opioid concerns, the Legal Services Corporation has formed an Opioid Task Force, co-chaired by LSC Board Members Victor Maddox and Robert Grey, and comprising LSC grantees, leaders from LSC’s Leaders’ Council, healthcare experts, and other social services providers and stakeholders to educate government leaders and the public about the legal issues raised by the opioid crisis in areas such as healthcare, family law, domestic violence, child and elder abuse, and housing. The task force will, among other things, highlight the critical role legal aid programs play in helping low-income people address these issues.

With the opioid crisis placing heavy new burdens on legal aid, a commensurate increase in funding for LSC grantees should be appropriated.

THE FEDERAL ROLE IN EQUAL JUSTICE: The federal government has a definite role in promoting equal justice and justice for all.

Legal aid clients secure their rights through federal, state, and local law—not exclusively state and local law. Thus, funding for equal justice under federal law is a federal duty. The federal role in promoting equal civil justice *is* funding the Legal Services Corporation.

UNFUNDED MANDATE: Elimination of federal funding for equal justice would necessarily foist unfunded mandates on states, tribes, and localities. Day in and day out, Legal Services Corporation-funded attorneys work with these federal laws to secure the federal rights of individuals unable to secure their rights for themselves.

Nonetheless, the Fiscal Year 2019 White House Budget Blueprint proposes to eliminate federal funding for LSC. In addition, the Fiscal Year 2018 House Budget Committee-passed budget report stated: “It is the duty of State and local governments to provide legal services to those individuals unable to provide it for themselves.” That statement assumes that to ensure equal justice under law, governmental assistance to ensure legal representation is needed, yet it would saddle only states, tribes, and localities with the burden.

The federal government legislates—conferring rights and imposing duties—in all areas important to the lives of our citizens. Justice for all certainly requires access to legal representation in these myriad areas of federal law. For example, don’t destitute veterans deserve equal justice? Funding for equal justice under federal law cannot be shouldered by state and local governments as an unfunded mandate. The federal government should contribute its fair share. That can only be accomplished through funding the Legal Services Corporation.

FUNDING FOR LSC IS 15% DOWN SINCE 2010: I want to thank the House subcommittee for the recent increase in funding for LSC. That increase will permit LSC to serve more needy clients. Nevertheless, the FY18 LSC appropriation of \$410,000,000 is still 15% lower than it was in FY10 (the FY10 appropriation would be \$482 million in FY18 dollars). At the same time, the number of people qualifying for assistance is about 25% higher than in 2007. Compare also the FY17 funding to LSC’s average appropriation of \$719,730,870 (in FY18-adjusted dollars) during the 1980s. LSC funding needs restoration in these good economic times when unemployment is low, the stock market is high, and the 302A total spending level is commensurately high pursuant to the Bipartisan Budget Act of 2018.

IOLTA REVENUES DOWN: Furthermore, robust funding for the LSC is desperately needed because other funding sources have diminished since the country’s economic downturn. Over 10 years, from peak returns in 2007 to the most recent 2016 data, low interest rates and principal balances have caused a decrease by about 77% in Interest on Lawyers’ Trust Accounts (IOLTA) funds that go to legal aid offices.

RANKING: As discussed above, 86% of all eligible people seeking legal aid services are turned away or receive inadequate legal services due to lack of resources—an impediment seriously hamstringing justice in our legal system. That’s why the 2017-18 World Justice Project, which Justice Gorsuch cited in his confirmation hearings, ranked the United States 26th of 102 countries in its Rule of Law Index for civil justice access, behind the Czech Republic, St. Lucia, and the United Arab Emirates. Funding bolsters accessibility. LSC is the nation’s largest civil legal aid provider: nearly 900 LSC-funded legal aid offices serve every Congressional district in the U.S.

COST-BENEFIT: The American Bar Association collects dozens of statewide studies of the cost-benefit impact of legal aid. All studies show a big positive impact: http://www.americanbar.org/groups/legal_aid_indigent_defendants/initiatives/resource_center_f_or_access_to_justice/atj_commission_self-assessment_materials1/studies.html.

For example, Community Services Analysis LLC published a 2015 report regarding the return on investment of civil legal aid services in the State of Alabama. The report reveals, “For every \$1 invested in Alabama Legal Aid during the year, the citizens of Alabama receive \$8.84 of immediate and long-term financial benefits.”

CONSTITUENT SERVICE: Legal Aid offices in every corner of the country regularly assist constituents referred by congressional offices and their district staff. Civil legal aid is a constituent service performed in every state and congressional district in the country, complementary to and often at the request of your own constituent services staff. Key beneficiaries of legal aid services include: 1. Veterans; 2. Older Americans; 3. Rural Americans; 4. Domestic violence survivors; 5. Women, constituting 70% of clients; and 6. Natural-disaster victims.

U.S. SUPREME COURT SUPPORT: The late Supreme Court Justice Antonin Scalia stated, at the 40th anniversary of the Legal Services Corporation: “I’m here principally...*to represent the support of the Supreme Court and I’m sure all of my colleagues for the LSC*... The American ideal is not for some justice; it is, as the Pledge of Allegiance says, ‘Liberty and justice for all’ or as the Supreme Court pediment has it, ‘Equal Justice.’ I’ve always thought that’s somewhat redundant. Can there be justice if it is not equal? Can there be a just society when some do not have justice? Equality, equal treatment is perhaps the most fundamental element of justice. So, this organization pursues the most fundamental of American ideals, and it pursues equal justice in those areas of life most important to the lives of our citizens.” [Emphasis added.]

U.S. Supreme Court Justice Neil Gorsuch, a former legal clinic volunteer, embraced access to justice for all in his confirmation hearing: “It’s a fact that too few people can get lawyers to help them with their problem... I do think access to justice in large part means access to a lawyer. Lawyers make a difference. I believe that firmly.” In his 2016 law journal article “Access to Affordable Justice,” Justice Gorsuch wrote: “Legal services in this country are so expensive that the United States ranks near the bottom of developed nations when it comes to access to counsel in civil cases.”

POLLING: 82% of those surveyed believe it is important to ensure everyone has access to civil legal help or representation, according to polling by Voices for Civil Justice (<https://voicesforciviljustice.org/wp-content/uploads/Lake-Tarrance-Expanding-civil-legal-aid-2013.pptx3.pdf>).

CONCLUSION: As the economy revives, LSC funding should also revive. Down 15% from 2010 (in FY18 dollars) and with 25% more people qualified for legal aid, LSC seriously needs funding restored at least to the FY2010 level. Given LSC’s excellent benefit/cost ratio and with 82% supporting access to civil legal help, we encourage you, to heed constituents’ views. ###

Peter J. Marx, contractor for the Choose Clean Water Coalition (CCWC) - March 13, 2018

March 13, 2018

The Honorable John Culberson, Chairman
Subcommittee on Commerce, Justice, Science and Related Agencies
H-310 The Capitol
U.S. House of Representatives
Washington, D.C. 20515

The Honorable José Serrano, Ranking Minority Member
Subcommittee on Commerce, Justice, Science and Related Agencies
1016 Longworth House Office Building
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Culberson and Ranking Member Serrano:

The undersigned members of the Choose Clean Water Coalition request continued support for programs that are essential to maintaining a healthy and vibrant Chesapeake Bay and a strong regional economy that is dependent on the Bay's resources. The National Oceanic and Atmospheric Administration (NOAA) has a strong and long term presence in the Chesapeake Bay area, and its Chesapeake Bay Office coordinates their efforts with other federal agencies, state and local partners and users of the resource.

The programs that are run and/or coordinated by NOAA's Chesapeake Bay Office (NCBO) are critical for the Chesapeake Bay ecosystem and for its users and residents. These programs provide the science and management assistance necessary for those whose livelihood is to ply the Bay's waters for fish, crabs and oysters and to the hundreds of thousands of people who fish recreationally in the Bay every year and to the millions who boat, kayak, and/or view wildlife in the region.

NCBO is also critical for others, from students learning about science with hands-on experiences to local governments and residents along the shore to have the latest information to prepare for coastal flooding and hurricane emergencies.

Utilizing sound science in the management of Chesapeake Bay resources is critical for our regional economy. We request the following funding levels in Fiscal Year 2019:

Department of Commerce

National Oceanic and Atmospheric Administration – Chesapeake Bay Office (NCBO) - \$9.25 million

The NCBO was established by Congress in 1992 to provide resources, technical assistance and coordination through its two branches: the Ecosystem Science and Synthesis Program, which focuses on applied research and monitoring in fisheries and aquatic habitats; synthesis, and analysis to describe and predict Bay ecosystem processes; and technical assistance to Chesapeake Bay decision makers.

The second branch is Environmental Literacy and Partnerships Program, which focuses on the development of K-12 and higher education environmental science education programs; strategic partnerships with the Chesapeake Bay Program and other government, university, and nonprofit partners; and delivering NOAA products, services, and programs to targeted audiences.

The Office's programs play a key role in implementing the voluntary Chesapeake Bay Agreement among the states and is critical to ensuring that commitments are met to:

- restore native oyster habitat and populations in 10 tributaries by the year 2025;
- ensure students graduate with the knowledge and skills to protect and restore their local watershed;
- sustain a healthy blue crab and striped bass (rockfish) population; and
- maintain a coordinated watershed-wide monitoring and research program.

The specific breakdown of our request for \$9.25 million for the NCBO is as follows:

- Oyster Restoration - \$4 million
The Chesapeake Bay oyster population is less than 1 percent of historic levels and the ecosystem functions associated with oyster reefs, including fish habitat and nitrogen removal, are similarly diminished. NCBO has built on past success to restore entire tributaries, with self-sustaining oyster populations and to measure the resulting ecosystem benefits. NCBO works with federal, state and private partners to plan and implement this tributary-scale restoration in both Maryland and Virginia. Funding for oyster restoration in the Chesapeake was also done through the U.S. Army Corps of Engineers, but they have not received funding in a number of years. Funding for this key program has eroded sharply since FY2010, and without Army Corps funds, NOAA is the only Federal agency left to continue this key restoration program.
- Environmental Education and Literacy - \$3.5 million
NCBO encourages and supports efforts in K-12 and higher education to develop and implement comprehensive environmental literacy programs. NCBO runs the nationally recognized Bay Watershed Education and Training Program (B-WET) - a competitive grant program for hands-on watershed education for students and teacher training to foster stewardship of the Chesapeake Bay. B-WET's funding has steadily eroded since 2010 and should be restored to at least that level.
- Fisheries Science and Management - \$1 million
Recreational and commercial fisheries are among the most valuable economic activities for the coastal communities of the Bay. Fishing pressure, habitat loss, invasive species, degraded water quality, and toxics affect these important fisheries, including striped bass (rockfish), blue crabs, oysters, menhaden and cow-nosed rays. NOAA supports well-managed Chesapeake Bay fisheries and the habitats they depend on by delivering timely ecosystem-based science and forecasts to science and management partners. Historically, the states have looked to NCBO to conduct stock assessments, particularly for blue crabs. Each state often has its own assessment data, but NOAA's ability to look at the stocks for the entire Bay is critical. Each stock assessment costs approximately \$500,000.

- Chesapeake Bay Interpretive Buoy System (CBIBS) - \$750,000
The Chesapeake Bay ecosystem is dynamic, and water quality is driven by variable local and regional forces. High quality data is needed to monitor, understand, forecast, and provide information for science-based decisions and needs to be continuously measured and summarized. NCBO maintains the CBIBS, a network of 10 buoys that collects and relays near-real-time data to users. This supports public access to the Bay and boater safety on the water through the Captain John Smith Chesapeake National Historic Trail, administered by the National Park Service.

Thank you for your consideration of these very important requests to maintain funding for programs that are critical to the health of the Chesapeake Bay and its natural resources. Please contact Peter J. Marx at 410-905-2515 or Peter@ChooseCleanWater.org with any questions or concerns.

Sincerely,

1000 Friends of Maryland
Alice Ferguson Foundation
Alliance for the Chesapeake Bay
American Chestnut Land Trust
American Rivers
Anacostia Watershed Society
Audubon Naturalist Society
Audubon Society of Northern Virginia
Back Creek Conservancy
Baltimore Tree Trust
Blue Heron Environmental Network
Blue Ridge Watershed Coalition
Blue Water Baltimore
Cacapon Institute
Capital Region Land Conservancy
Catskill Mountainkeeper
Center for Progressive Reform
Chapman Forest Foundation
Chesapeake Bay Foundation
Chesapeake Legal Alliance
Chesapeake Wildlife Heritage
Clean Fairfax
Clean Water Action
Coalition for Smarter Growth
Conservation Voters of Pennsylvania
Delaware Nature Society
Ducks Unlimited
Earth Force
Earth Forum of Howard County
Eastern Pennsylvania Coalition for
Abandoned Mine Reclamation

Elizabeth River Project
Elk Creeks Watershed Association
Environmental Working Group
Friends of Accotink Creek
Friends of Dyke Marsh
Friends of Lower Beaverdam Creek
Friends of Quincy Run
Friends of St. Clements Bay
Friends of Sligo Creek
Friends of the Middle River
Friends of the Nanticoke River
Friends of the North Fork of the Shenandoah
River
Friends of the Rappahannock
Interfaith Partners for the Chesapeake
James River Association
Lackawanna River Conservation
Association
Lancaster Farmland Trust
Lower Susquehanna Riverkeeper
Lutheran Advocacy Ministry in
Pennsylvania
Lynnhaven River NOW
Maryland Conservation Council
Maryland Environmental Health Network
Maryland League of Conservation Voters
Maryland Native Plant Society
Mattawoman Watershed Society
Mehoopany Creek Watershed Association
Mid-Atlantic Council Trout Unlimited

Mid-Atlantic Youth Anglers & Outdoor Partners
 Montgomery Countryside Alliance
 Muddy Branch Alliance
 National Aquarium
 National Parks Conservation Association
 National Wildlife Federation
 Natural Resources Defense Council
 Nature Abounds
 Neighbors of the Northwest Branch
 New York League of Conservation Voters
 New York State Council of Trout Unlimited
 Otsego County Conservation Association
 Otsego Land Trust
 PennEnvironment
 PennFuture
 Pennsylvania Council of Churches
 Piedmont Environmental Council
 Potomac Conservancy
 Potomac Riverkeeper
 Potomac Riverkeeper Network
 Prince William Conservation Alliance
 Queen Anne's Conservation Association
 Rachel Carson Council
 Rivanna Conservation Alliance
 Rivertown Coalition for Clean Air and Clean Water
 Rock Creek Conservancy
 St. Mary's River Watershed Association
 Savage River Watershed Association
 Severn River Association
 Shenandoah Riverkeeper
 Shenandoah Valley Network
 ShoreRivers
 Sidney Center Improvement Group
 Sleepy Creek Watershed Association
 South River Federation
 Southern Environmental Law Center
 Southern Maryland Audubon Society
 SouthWings
 Sparks-Glencoe Community Planning Council
 Susquehanna Heritage
 The Downstream Project
 Trash Free Maryland
 Upper Potomac Riverkeeper
 Upper Susquehanna Coalition
 Virginia Conservation Network
 Virginia Eastern Shorekeeper
 Virginia Interfaith Power and Light
 Virginia League of Conservation Voters
 Warm Springs Watershed Association
 Water Defense
 Waterkeepers Chesapeake
 West/Rhode Riverkeeper
 West Virginia Citizens Action Group
 West Virginia Environmental Council
 West Virginia Highlands Conservancy
 West Virginia Rivers Coalition
 Wicomico Environmental Trust

**Testimony of RADM Jonathan White, USN (Ret.)
President and CEO of the Consortium for Ocean Leadership
House Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies
Regarding NSF, NOAA, and NASA
27 April 2018**

On behalf of the Consortium for Ocean Leadership (COL), I appreciate the opportunity to submit for the record the ocean science, technology, and education community's fiscal year (FY) 2019 funding priorities for the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), and the National Aeronautics and Space Administration (NASA). Geosciences, broadly, and ocean science and technology, specifically, strengthen our national security, support a safe and efficient marine transportation system, underpin our economy, and further understanding of complex ocean and coastal processes important to our everyday lives – today and tomorrow. For these reasons, *COL (and the ocean science, technology, and education community we represent) calls on the subcommittee to make a \$1 billion investment in the security of the nation by dramatically strengthening federal investment in ocean science and technology through NSF, NOAA, and NASA¹.*

In summer 2017, the first ship to traverse the Arctic Northern Sea Route without assistance from ice-breaking vessels completed its journey. This transformational moment drives home both the opportunity and the imperative for the United States to ready itself for the new Arctic. The region is warming at twice the rate of the rest of the Earth with far-reaching consequences for these polar residents and for those in the lower 48 states. On a global level, Arctic change will fundamentally alter climate, weather, and ecosystems in ways we do not yet understand, but we know there will be profound impacts on the world's economy and security. Rapid loss of sea ice and other changes will also bring new access to the area's natural resources, such as fossil fuels, minerals, and new fisheries, and this new access is already attracting international attention from industry and nations seeking new resources. Current Arctic observations are sparse and inadequate for enabling discovery or simulation of the processes underlying Arctic system change or to assess their environmental and economic impacts on the broader Earth system. One of NSF's "Big Ideas" is the initiative *Navigating the New Arctic* (NAA), which would establish an observing network of mobile and fixed platforms and tools across this polar region to document these rapid biological, physical, chemical and social changes, leveraging participation by other federal agencies.

Storm surge is often the greatest threat to life and property from coastal storms and hurricanes. Researchers are quantifying how future tropical storm surges may impact U.S. coastal properties, using past patterns of coastal sea-level change. From 1990 to 2008, population density increased by 32% in Gulf Coast coastal counties, 17% in Atlantic coastal counties, and 16% in Hawaii, according to the U.S. Census Bureau. In 2011, 45% of our nation's gross domestic product (GDP) was generated in the coastal shoreline counties along the ocean and Great Lakes. A storm surge of 23 feet has the ability to inundate 67% of interstate highways, 57% of arterial roads, almost half of all rail miles, 29 airports, and virtually all ports in the Gulf Coast area. Information on coastal property risk is vital to owners, insurers, and government.

These two examples demonstrate the connection of our ocean science and technology enterprise with the security interests (national, economic, and public safety) of the nation. In addition:

¹ Aligning with like-minded science organizations and coalitions, we respectfully request the Subcommittee provide no less than **\$8.45 billion for NSF** (including funding parity for all directorates or at least \$1.4 billion for the Geosciences Directorate), **\$6.5 billion for NASA's Science Mission Directorate** (including at least \$2.03 billion for the Earth Science Division), and **\$6.2 billion for NOAA** (including research, extramural grant programs, and education). Additionally, the ocean science and technology community is deeply concerned by the Administration's FY 2019 budget intention to drastically reduce non-defense discretionary funding (-\$65 billion) with draconian cuts and outright program eliminations in the geosciences, education, and extramural grants.

- The U.S. coastal and ocean economy contributes \$359 billion to our GDP (2% of total GDP), including marine construction (\$5.8 billion), ship building (\$17.3 billion), marine transportation (\$59.1 billion, equaling 95% of all imports to the U.S.), offshore oil and gas (\$167 billion), living marine resources (\$7.3 billion), and tourism and recreation (\$101.1 billion, which is 72% of the ocean economy contributions to GDP)
- 14 percent of U.S. coastal counties produce 45% of the nation's GDP, with close to one in 45 jobs directly dependent on the resources of the ocean and Great Lakes.
- In 2014, the ocean economy employed more people in the U.S. than the telecommunications, crop production, and building construction industries combined. Additionally, if the nation's coastal counties were considered an individual country, they would rank number three in global GDP, behind only the U.S. and China. The Great Lakes alone generated nearly \$5 trillion in economic output (about 30% of U.S. and Canadian production combined).
- In 2014, the ocean economy's 149,000 business establishments employed about 3.1 million people, paid \$123 billion in wages, and produced \$352 billion in goods and services. This accounted for about 2.3 percent of the nation's employment.
- The ocean's role in food security is critical – it provides 20 percent of the animal protein we depend on for food, supplies fishmeal that fertilizes the nation's crops, and is the major driver of the weather and water cycles that bring warmth and water to inland farms.
- The U.S. is the leading global importer of seafood, with 91% originating abroad – half of which is from aquaculture. Driven by imports, our seafood trade deficit grew to over \$14 billion in 2016. Our ocean science research institutions are leaders in developing and supporting innovative methods to improve and encourage sustainable U.S. aquaculture that complements, not competes with, our existing commercial fisheries.
- Increasing numbers of people are calling the coast home, with populations in coastal watershed counties increasing 45 percent from 1970-2010.
- The U.S. marine transportation system is a major driver of the U.S. economy and its impact reaches into the heartland of the nation. America's seaports are crucial generators of economic development and jobs, regionally and nationally, throughout all supply chains using ports. Long-term sustainability of such critical oceanfront infrastructure in the wake of shifting—and dynamic—environmental conditions is a significant concern addressed by ocean research institutions (typically sharing the same geographic proximity to the water).
- A 12.5 percent projected growth of science, technology, engineering, and math (STEM) jobs in the U.S. is expected from 2012 to 2022, with a 14 percent projected increase in U.S. geoscience jobs in that same period. Coupled with the greying of America's geoscience workforce (47 percent of American geoscientists in the private sector and 43 percent in the federal government were over the age of 55 in 2016), it is clear that our nation will experience major changes with our innovation workforce.

All the issues identified above—and more—can be addressed, in part, through a vibrant ocean science and technology enterprise. A diverse, well-educated, ocean-literate workforce provides the necessary base from which innovation grows. This will require a concerted effort to upgrade the infrastructure needed, which includes vessels, instrumentation, advanced computing, and observing and monitoring support. It requires an enhanced investment in at-sea and university-based research in our ocean sciences and technology enterprise. Finally, it requires a substantial and focused effort on the education and training of the next generation of scientists to ensure we have the intellectual resources to take full advantage of the new knowledge that will come from

this investment in ocean sciences and technology, but it also needs those who will train the following generation and those whose work supports novel and emerging science solutions. A dynamic workforce moves our nation forward. From business professionals who can commercialize scientific advances to technicians who maintain observing infrastructure and employees trained in scientific principles, our future depends upon how we will meet these demographic and educational challenges.

COL is calling on Congress to increase federal investment in our national ocean science, technology, and education enterprise by \$1 billion over the next year (within the resources available under the new spending cap for non-defense discretionary spending). The level of investment in non-defense research and development today (2018) is essentially the same as it was in 2002 (in constant dollars). Making a concerted, dramatic effort to increase and sustain the federal investment in technology, science education, research, and development will send a message to our global competitors that this country is determined to regain our science leadership position on the world stage while also addressing national, homeland, food, and economic security challenges.

Below are some suggestions for how some of these additional funds could be invested to help achieve a more secure nation via our ocean science, technology, and education enterprise.

- NSF's Division of Ocean Sciences (OCE) supports interdisciplinary research and technology, education, and cutting-edge infrastructure that advances scientific knowledge of the ocean to support the U.S. economy; provide vital information regarding national, economic, and homeland security matters such as sea level rise, coastal erosion, ocean influences on weather (e.g., hurricanes, winter storms, floods, extended drought, etc.); and to advance U.S. leadership in ocean science and technology relative to our international competitors. OCE supports basic scientific and technological research to better understand changing ocean circulation and other physical, chemical, and biological parameters. OCE also supports research on the geology of the ocean margins and sub-seafloor to investigate natural hazards such as earthquakes and volcanic eruptions. In addition to the NSF's NAA initiative that COL supports, an additional \$100 million allocation to support ocean and coastal research as it relates to risk and resilience due to natural hazard understanding and mitigation would be a strong step toward increased homeland and economic security. Funding should be used to support the operational costs of the current academic fleet and ocean observing initiative in their ocean and coastal research into natural hazards and to provide resources for additional graduate and undergraduate student training in research related to natural hazards through NSF traineeships, fellowships, and undergraduate research programs.
- Extramural programs within NOAA are well positioned to more fully engage the ocean science and technology community to assist federal entities in supporting coastal and inland communities through best practices to improve coastal economic and environmental resiliency. The National Sea Grant College Program (Sea Grant) is well equipped to work with state and local government decision makers and coastal community residents to apply sound science and technology principles to improve natural disaster preparation. The Office of Oceanic and Atmospheric Research (OAR)'s Cooperative Institutes can focus on large-scale systemic research issues related to our ocean, coasts, and Great Lakes. The National Marine Fisheries Service (NMFS) and OAR should collaborate to support aquaculture research and commercial development to help the nation address the seafood trade deficit. NOAA's National Ocean

Service (NOS) has important assets that can be more fully exploited in areas related to coastal mapping, ocean and coastal observing and monitoring through the Integrated Ocean Observing System, coastal community economic resiliency grants, and research that can best be carried out within the National Estuarine Research Reserve System and National Marine Sanctuary System. Additionally, support for national-scale projects that improve environmental stewardship and informed decision-making is critical. As the longest-standing and most comprehensive national grants program with a focus on environmental literacy, NOAA's Office of Education Environmental Literacy Program² (ELP) grants keep our coastal communities, and therefore our nation as a whole, safe, secure, and prosperous. Increasing resources for ELP also contributes to the training of the next generation of ocean scientists through its education programs. A total of \$400 million is recommended to support a package of time-tested NOAA programs related to natural hazard research impacting the ocean, coasts, and Great Lakes and the training of a diverse, ocean science literate, dynamic workforce. These actions support our nation's national, homeland, food, and economic security, all with an eye to the future.

The ocean science, technology, and education community recognize the constraints facing the subcommittee when it comes to allocating scarce resources. The subcommittee has equally demanding and deserving needs in law enforcement, the census, and manned space flight program, to name a few. Nevertheless, growth in the annual investment in science and technology by this subcommittee is critical to support innovation, national security, economic competitiveness, improvements in living standards, and support for public and societal well-being. Research and development is a major driver of innovation, and these expenditures reflect a nation's commitment to expanding capabilities in science and engineering, which in turn drives innovation. On January 18, the National Science Board released the biennial *Science and Engineering Indicators 2018*. The report finds that the world's nations are continuing to accelerate the growth of their technology-intensive economies. It documents how the science and engineering landscape — historically concentrated in the U.S., Europe, and Japan — is rapidly shifting as China and other countries continue to increase their research and development investments. It makes clear while the U.S. remains the global leader now, China prioritizes science and continues its rapid rise in the rankings and looks to overtake us.

Adequate and sustained investment in science is the bedrock upon which this nation's global science primacy and innovation economy are built. The U.S. is poised to maximize its maritime experience and potential to address security through science and increase competitiveness in the international marketplace, all while looking toward the long-term viability of our base resource — the ocean. Only through the subcommittee's continued dedication to our nation's science and education enterprise will this be possible.

Mr. Chairman, Ranking Member, and members of the subcommittee, we greatly appreciate the opportunity to share our recommendations, and I encourage bipartisan support for geoscience funding, including this \$1 billion ocean science, technology, and education initiative, in the FY 2019 appropriations process and into the future.

² We recommend funding the Office of Education base account separately to adequately support staff without diminishing the grant program.

Testimony of Ms. Kristen Yarincik
Consortium for Ocean Leadership
Vice President, Research & Education and Director, National Ocean Sciences Bowl
House Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies
Regarding NOAA's Environmental Literacy Program
27 April 2018

I appreciate the opportunity to submit, for the record, testimony in support of the National Oceanic and Atmospheric Administration (NOAA)'s Environmental Literacy Program (ELP). Building community resiliency through environmental stewardship and informed decision making is a critical component of keeping our nation and its citizens safe and secure. ELP, operated by NOAA's Office of Education, provides support for national-scale projects that do exactly that, while also creating a public capable of understanding and interpreting forecasts as well as safety and preparedness instructions. **I respectfully request the subcommittee fund the Environmental Literacy Program at \$8 million in Fiscal Year (FY) 2019. I also request that you fund the Office of Education base account separately to adequately support staff without diminishing the grant program.**

Environmental Literacy Program (ELP)

The two goals of NOAA's agency-wide education strategic plan required by the America COMPETES Act are workforce development and environmental literacy, where formal and informal education and outreach in ocean, coastal, Great Lakes, weather, and climate sciences support an environmentally literate society. Additionally, report language accompanying America COMPETES cites the agency's principal education grant programs, the Bay-Watershed Education and Training and the ELP.

At the core of the ELP is the grants competition, which, since 2005, has supported 124 grants totaling more than \$70 million. The 2017 competition focused on helping communities become more resilient to extreme weather and other environmental hazards by building environmental literacy. The overwhelming response—170 applications requesting more than \$77 million—highlights the need to continue building resilience through education.

Also in 2017, the unprecedented damage from the 7th most active Atlantic hurricane season since 1851 made last year the most expensive hurricane season to date. The estimated \$200 billion in damage easily surpassed the previous record of \$159 billion, which occurred in 2005, when Hurricane Katrina made landfall. On average, weather, water, and climate events cause approximately 650 deaths, \$15 billion in damage, and 90 percent of presidentially declared disasters each year. The importance of building community resilience through education and informed decision-making cannot be understated. It's increasingly important that federal efforts support these endeavors to build a resilient, ocean-literate, weather-ready nation.

Value of Education to NOAA's Mission

ELP does more than improve environmental literacy. In doing so, it grows the science, technology, engineering, and math (STEM) workforce, strengthens our economy, and ensures our national security, all while advancing NOAA's mission of science and service.

In 2017 alone, more than 200,000 youth and adults participated in ELP-supported informal education programs (with another 9,000 preK-12 students participating in ELP-supported formal education programs) and more than 46 million visited institutions with ELP-supported exhibits. The 150 institutions using ELP-supported formal and informal education initiatives reached at least 37 states, 110 congressional districts, and 574 counties.

As the longest-standing and most comprehensive national grants program with a focus on environmental literacy, ELP grants have and will continue to keep our coastal communities, and therefore our nation as a whole, safe, secure, and prosperous. Adequately funding ELP will allow programs such as the National Ocean Sciences Bowl (NOSB), a quiz-bowl style ocean science competition for high schoolers that has received ELP funding during its 21-year history, to flourish. The NOSB, alone, has graduated tens of thousands of students from high school with a solid ocean science foundation who go on to careers that advance our nation and keep it secure. NOSB alums have diverse careers, including coordinating NOAA Exploration and Research expeditions, enforcing port security with the U.S. Coast Guard, and developing software for Bloomberg LP.

A diverse, well-educated, ocean-literate workforce provides the necessary base from which innovation grows. A 12.5 percent projected growth of science, technology, engineering, and math (STEM) jobs in the U.S. is expected from 2012 to 2022, with a 14 percent projected increase in U.S. geoscience jobs in that same period. Coupled with the greying of America's geoscience workforce (47 percent of American geoscientists in the private sector and 43 percent in the federal government were over the age of 55 in 2016), it is clear that our nation will experience major changes with our innovation workforce. NOSB and other ELP programs help to ensure the U.S. has the intellectual resources to take full advantage of new knowledge, as well nurture those who will train the following generation and those whose work supports novel and emerging science solutions. A dynamic workforce moves our nation forward. From business professionals who can commercialize scientific advances to technicians who maintain observing infrastructure and employees trained in scientific principles, our nation's future depends upon how we will meet these demographic and educational challenges. ELP rises to this challenge through innovative, time-tested programs like the NOSB.

I consider investments in ELP to be investments in our future and request you include \$8 million for the program in FY 2019. I also request that you fund the Office of Education base account separately to adequately support staff without diminishing the grant program.

The National Ocean Sciences Bowl (NOSB) includes 25 regional competitions that reach students in 33 states:

- Aloha Bowl (serving the students of Hawaii)
- Bay Scallop Bowl (serving the students of New York)
- Blue Crab Bowl (serving the students of southern Virginia)
- Blue Heron Bowl (serving the students of North Carolina and Tennessee)
- Blue Lobster Bowl (serving the students of Massachusetts)
- Chesapeake Bay Bowl (serving the students of northern Virginia, Maryland, the District of Columbia, Delaware, and central Pennsylvania)
- Dolphin Challenge (serving the students of northern Texas and Arkansas)
- Garibaldi Bowl (serving the students of southern California – San Diego and surrounding area)
- Great Lakes Bowl (serving the students of Michigan)
- Hurricane Bowl (serving the students of Mississippi, Louisiana, Alabama, and northwest Florida)
- Lake Sturgeon Bowl (serving the students of Wisconsin and Illinois)
- Loggerhead Challenge (serving the students of southern Texas)
- Los Angeles Surf Bowl (serving the students of southern California – Los Angeles and surrounding area)
- Manatee Bowl (serving the students of Florida's east coast)
- Nor'easter Bowl (serving the students of New Hampshire and Maine)
- Orca Bowl (serving the students of Washington)
- Penguin Bowl (serving the students of Ohio, Kentucky, and western Pennsylvania)
- Quahog Bowl (serving the students of Connecticut and Rhode Island)
- Salmon Bowl (serving the students of Oregon and Idaho)
- Sea Lion Bowl (serving the students of northern California)
- Shore Bowl (serving the students of New Jersey and eastern Pennsylvania)
- Southern Stingray Bowl (serving the students of Georgia and South Carolina)
- Spoonbill Bowl (serving the students of Florida's Gulf coast)
- Trout Bowl (serving the students of Colorado)
- Tsunami Bowl (serving the students of Alaska)

Outside Witness Testimony: Fiscal Year 2019 Appropriations

Submitted by:

Physical Science Education Policy Coalition, facilitated by Dr. Bethany R. Johns at the American Institute of Physics

To:

House Appropriations Committee
Subcommittee on Commerce, Justice, Science, and Related Agencies

Regarding:

Physical Science Education

April 27, 2018

Dear Chairman Culberson, Ranking Member Serrano, and Members of the Subcommittee:

The Physical Science Education Policy Coalition (PSEPC) is a diverse group of scientific non-profit organizations that works to promote issues regarding all aspects of physical science education to benefit both students and teachers.

- We urge you to once again to reject the White House's proposal to eliminate **NASA's Office of Education and fund the office consistent with the FY 2018 enacted level of \$100 million.**
- We urge you to support **the National Science Foundation (NSF) Education & Human Resources (EHR).**
- We also urge you to reject the White House's proposal to eliminate **NOAA's Office of Education and fund the office at the FY 2018 enacted level of \$28 million**

NASA, OFFICE OF EDUCATION

NASA plays a pivotal role in inspiring and encouraging young people to pursue STEM disciplines of study and careers; engaging the broader public in NASA's mission; and strengthening NASA and the nation's workforce. Bolstering American science and innovation is central to the Administration's strategy for strengthening the economy and increasing opportunities for Americans. The NASA Office of Education supports programs such as the National Space Grant College and Fellowship Program (Space Grant) and the Experimental Program to Stimulate Competitive Research (EPSCoR).

The Space Grant program funds nearly 4,000 fellowships and scholarships for students in all 50 states and the District of Columbia who are pursuing a STEM career, allowing them to participate in NASA aeronautics and space projects integrating classroom learning with on-the-job training much like apprenticeships.

EPSCoR plays a key role in U.S. economic competitiveness by establishing partnerships with government, higher education and industry that are designed to effect lasting improvements in a state's or region's research infrastructure, R&D capacity and hence, its national R&D competitiveness. The goal of EPSCoR is to provide funding that will enable jurisdictions to develop an academic research enterprise directed toward long-term, self-sustaining, nationally-competitive capabilities in aerospace and aerospace-related research. The EPSCoR program is directed at those jurisdictions that have not in the past participated equitably in competitive aerospace and aerospace-related research activities.

EPSCoR states are home to 20 percent of the country's population and workforce. They contain nearly 30 percent of the nation's research institutions and more than 15 percent of the nation's scientific and technological personnel. They bestow 20 percent of the nation's undergraduate degrees in science and engineering and 16 percent of the nation's doctorate degrees in these fields of study. They are home to 20 percent of the country's high-tech industries. Fifty-seven of the Fortune 500 companies have their corporate headquarters in EPSCoR states¹.

Continued support for NASA's Office of Education is vital to ensure the United States continues to train and inspire our next generation of scientists, engineers, and technicians in order to remain globally competitive.

NSF, EDUCATION & HUMAN RESOURCES (EHR)

EHR supports excellence in U.S. STEM education at all levels, in all settings for the development of a diverse and well-prepared workforce of scientists, technicians, engineers, mathematicians and educators and a well-informed citizenry. The role of NSF, through EHR, within the federal government in supporting research on STEM education is unique. EHR programs fund crucial foundational, design and development, and implementation research that is made available to inform large investments at scale made by other agencies, organizations, and the private sector. In addition, the EHR investments in preK-12 STEM education and informal STEM learning are focused, catalytic contributions that push the frontiers of effective learning and practice in those environments. Such work is foundational as a part of the national STEM education infrastructure.

Both Texas and New York are in the top ten states that received award funding from EHR in 2017 that addresses physical science education. In 2017 Texas was awarded \$4,431,904 and New York was awarded \$7,401,134.00 in multi-year grants.

The City University of New York (CUNY), City College established the Center for Interface Design and Engineered Assembly of Low-Dimensional Systems (IDEALS) in 2016 with a \$5 million grant from the NSF EHR Centers for Research Excellence in Science and Technology (CREST) Program, which provides support to enhance the research capabilities of

¹ EPSCoR 2030 Report,
http://www.epscorideafoundation.org/media/docs/EPSCoR_2030_Report_4-23b.pdf

minority-serving institutions through the establishment of centers that effectively integrate education and research. The goal of IDEALS is to address the national need for, “accelerating the pace of discovery and deployment of advanced material system”, as stated in the Materials Genome Initiative.

University of Houston received \$1.5 million grant through the National Science Foundation Robert Noyce Teacher Scholarship Program, seeks to encourage talented science, technology, engineering, and mathematics (STEM) majors and professionals to become K-12 mathematics and science (including engineering and computer science) teachers. The purpose of the Robert Noyce Scholarship Program at the University of Houston is to address the recruitment, preparation and retention of science majors for secondary education in physics and chemistry through Noyce scholarships and summer internships. The goal of this project is to train 40 highly qualified secondary STEM teachers to teach in the metropolitan Houston area.

The goals of the NSF EHR are in line with many of the core values of the organizations within PSEPC to promote an active, inclusive and diverse physical science community.

NOAA, OFFICE OF EDUCATION

The NOAA Office of Education advances education internally within the agency and to the broader public. The Office has several major areas of emphasis: the Educational Partnership Program (EPP) with Minority-Serving Institutions (MSI); the Ernest F. Hollings Undergraduate Scholarships; the Environmental Literacy Program; and the Bay Watershed Education and Training (B-WET). The Office of Education also coordinates interagency educational activities and those involving external partners.

The EPP/MSI workforce development program supports four NOAA-University education and collaborative research-based Cooperative Science Centers at Florida A&M University, Howard University, CUNY City College, and the University of Maryland Eastern Shore. These four universities partner with 20 additional MSI to increase the number of students who graduate within degrees in STEM and natural resource management/policy. Other key EPP/MSI initiatives are the Undergraduate Scholarship Program and NOAA Experiential Research & Training Opportunities.

The Hollings Scholarship Program provides students with two years of undergraduate academic assistance and a summer internship. There are 120 active scholars and a network of more than 1300 alumni, of which 75% have attended graduate school. Among other benefits, the program prepares students for careers in public service or as oceanic and atmospheric science teachers and educators who can improve U.S. science and environmental education.

The Environmental Literacy Program supports competitive grants and long-term external partnerships. The grants programs is most comprehensive and enduring national funding opportunity focused on improving environmental stewardship and increasing resilience to natural hazards.

B-WET provides competitive funding in support of K-12 Meaningful Watershed Educational Experiences, which promote classroom-based and outdoor education ecosystem learning and stewardship. B-WET currently operates in California, Hawaii, and the Chesapeake Bay, Great Lakes, Gulf of Mexico, New England, and Pacific Northwest regions.

In support of PSEPC goals, these NOAA Office of Education programs broaden STEM education and promote workforce development, with focus on underserved audiences.

Thank you for your consideration. For additional information or to learn more about the Physical Science Education Policy Coalition please contact Dr. Bethany Johns from American Institute of Physics at (301) 209-3137 or bjohns@aip.org.

Endorsed by the following member organizations:

American Physical Society (APS)
American Association of Physics Teachers (AAPT)
American Astronomical Society (AAS)
The Optical Society



NATIONAL CENTER FOR LESBIAN RIGHTS

WASHINGTON, DC
1775 K Street NW, Suite 852
Washington, D.C. 20006

National Center for Lesbian Rights

Testimony Submitted April 27, 2018

By Tyrone Hanley, Esq., Policy Counsel

To the House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies

Fiscal Year 2019 Appropriations for the Legal Services Corporation

The National Center for Lesbian Rights (NCLR) writes to express our strong support for the Legal Services Corporation (LSC). We ask that Congress uphold one of our country's most precious values – that of equal justice under law – **and fund the Legal Services Corporations at its requested level of \$564,800,000 for fiscal year 2019.**¹

Established by Congress in 1974, LSC is an independent nonprofit organization that ensures equal access to justice for low-income Americans by providing grants to 133 civil legal aid providers in every state and territory. Each year, LSC-funded legal aid programs help struggling Americans have access to basic living standards by preventing seniors from having their homes taken away, obtaining earned benefits for veterans, and helping mothers who have been impacted by domestic violence. In 2016, LSC grantees closed 736,404 cases, of which over 70% involved women, more than 50% involved people of color, and 18% involved people aged 60 or older.² In total, LSC grantees served nearly 1.8 million people.³

According to a 2017 LSC report, LSC grantees are forced to turn away 50% of the individuals who come to them for legal help due to a lack of resources.⁴ In fact, 86% of the civil legal needs of low-income Americans received inadequate or no legal help.⁵ Without increased funding for LSC, millions of low-income people, including those who are lesbian, gay, bisexual, and transgender (LGBT), will continue to be unable to seek justice.

NCLR is an organization committed to advancing the civil and human rights of LGBT persons and their families through litigation, legislation, policy, and public education. Because LGBT people face a higher rate of poverty than do non-LGBT people,⁶ NCLR is devoted to protecting access to civil legal services for low-income people. In a report on the legal needs of low-income LGBT people, Legal Services NYC found that “[l]ow-income LGBT people are buffeted by the same forces that all poor people face and need representation in every poverty

¹ Legal Services Corporation, *Fiscal Year 2019 Budget Request*, <https://www.lsc.gov/media-center/publications/fiscal-year-2019-budget-request>.

² Legal Services Corporation, *LSC by the Numbers: The Data Underlying Legal Aid Programs (2016)* (2017), <https://www.lsc.gov/media-center/publications/2016-lsc-numbers>.

³ *Id.*

⁴ Legal Services Corporation, *The Justice Gap: Measuring the Unmet Civil Legal Needs of Low-income Americans* (June 2017), <http://www.lsc.gov/sites/default/files/images/TheJusticeGap-FullReport.pdf>.

⁵ *Id.*

⁶ Brad Sears & Lee Badgett, *Beyond Stereotypes: Poverty in the LGBT Community* (June 2012), <https://williamsinstitute.law.ucla.edu/williams-in-the-news/beyond-stereotypes-poverty-in-the-lgbt-community/>.

law practice area.”⁷ The civil legal needs of LGBT people are only made worse by anti-LGBT discrimination, harassment, and violence. Maintaining funding for LSC is crucial to ensuring that vulnerable communities – including LGBT people – have equal access to justice.

While NCLR currently serves over 1,500 LGBT individuals each year who are low-income and are seeking help with civil and immigration legal matters, we and other LGBT legal organizations cannot make up for insufficient LSC funding.

We ask that Congress recognize the critical need for affordable legal services and acknowledge that ensuring access to these services reflects our country’s deeply held values and commitment to equal justice under law. These values are reflected in the fact that nearly 90% of Americans support LSC funding.⁸ Congress can uphold these values by funding the Legal Services Corporation at \$564,800,000 for fiscal year 2019, which would allow it to better address the urgent legal needs of low-income people.

⁷ Legal Services NYC, *Poverty is an LGBT Issue: An Assessment of the Legal Needs of Low-Income LGBT People*, <http://www.legalservicesnyc.org/storage/PDFs/lgbt%20report.pdf>

⁸ Debora Cassens Weiss, *ABA Poll: Two-Thirds of Americans Support Federal Legal Aid for Poor*, ABA Journal, Apr. 20, 2009, http://www.abajournal.com/news/article/aba_poll_two-thirds_of_americans_support_free_legal_services_for_poor.


FASEB

 Federation of American Societies
for Experimental Biology

Representing Over 130,000 Researchers

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www.faseb.org

 9650 Rockville Pike
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Name: Benjamin H. Krinsky, PhD

Title: Senior Legislative Affairs Officer

Institutional Affiliation: Federation of American Societies for Experimental Biology (FASEB)

**Agency Addressed in Testimony:
National Science Foundation**

The Federation of American Societies for Experimental Biology (FASEB) respectfully requests a fiscal year (FY) 2019 appropriation of at least \$8.45 billion for the National Science Foundation.

FASEB, a federation of 30 scientific societies, represents 130,000 life scientists and engineers, making it the largest coalition of biomedical research associations in the United States. Our mission is to advance health and welfare by promoting progress and education in biological and biomedical sciences.

With its broad mandate to support fundamental research across all fields of science, technology, engineering, and mathematics, the National Science Foundation (NSF) is the cornerstone of our nation's scientific enterprise.¹ NSF investments in discovery-based research at institutions nationwide generate new knowledge, which in turn leads to transformative innovations that enhance quality of life.

Web browsers, modern weather forecasting, and magnetic resonance imaging (MRI) are just a few of the tangible benefits enabled by NSF-funded research.^{2,3}

Many of these advances result from NSF's relationship to mission-oriented scientific agencies such as the NIH. For example, in the biological sciences, NSF supports research that expands our understanding of life at multiple scales of time and space, from molecules to ecosystems.³

This knowledge is then applied to advance medicine, enhance agriculture, stimulate new bioenergy technologies, and safeguard our planet's health. NSF is also uniquely positioned to support interdisciplinary collaboration, research facilities, and scientific resources – which no other agency provides.

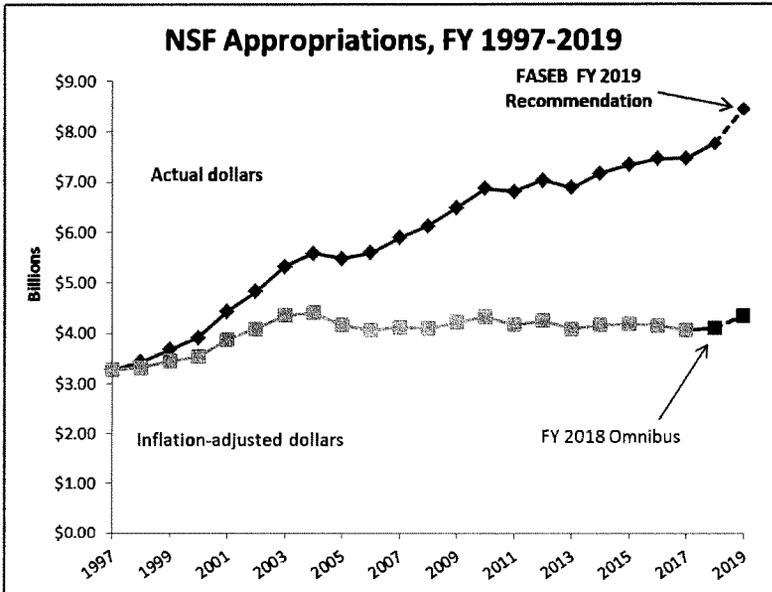
NSF has a complementary, and critical, educational mission. The Foundation's graduate and postdoctoral fellowships and other educational programs underwrite the training of thousands of young scientists and engineers. This investment ensures a technical and scientific workforce capable of pursuing research and leading the innovative, dynamic industries of the future.

The American Physiological Society • American Society for Biochemistry and Molecular Biology • American Society for Pharmacology and Experimental Therapeutics
American Society for Investigative Pathology • American Society for Nutrition • The American Association of Immunologists • American Association of Anatomists
The Protein Society • Society for Developmental Biology • American Peptide Society • Association of Biomolecular Resource Facilities
The American Society for Bone and Mineral Research • American Society for Clinical Investigation • Society for the Study of Reproduction • The Teratology Society
The Endocrine Society • The American Society of Human Genetics • International Society for Computational Biology • American College of Sports Medicine
Biomedical Engineering Society • Genetics Society of America • The Histochemical Society • Society for Pediatric Research • Society for Glycobiology
Association for Molecular Pathology • Society for Redox Biology and Medicine • Society For Experimental Biology and Medicine
American Aging Association • U.S. Human Proteome Organization • Society of Toxicology

Even as the demand for scientific research has dramatically grown, the NSF budget has remained flat in real terms for 15 years (Figure 1). The federal government must renew its commitment to fundamental, discovery-based science.⁴ Providing NSF with a budget of \$8.45 billion (\$683 million above the FY 2018 funding level⁵) would support about 700 additional research grants, enabling researchers to seize new scientific opportunities.

FASEB FY 2019 recommendation: at least \$8.45 billion for NSF

Figure 1: NSF Appropriations



¹ <https://www.nsf.gov/about>

² *Transforming the World Through Science*. National Science Foundation, Alexandria, VA

³ *NSF Sensational 60*. National Science Foundation, Alexandria, VA

⁴ *Innovation: An American Imperative*

⁵ H.R. 1625 – Consolidated Appropriations Act, 2018



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Sarah Murdock, Director of Resilience and Water Policy
The Nature Conservancy
Written Testimony for programs under the National Oceanic and
Atmospheric Administration (NOAA) for Fiscal Year 2019
U.S. House Subcommittee on Commerce, Justice, Science and Related Agencies
April 27, 2018

Thank you for the opportunity to comment on the Fiscal Year 2019 (FY19) appropriations for the National Oceanic and Atmospheric Administration (NOAA). The Nature Conservancy (the Conservancy) is a non-profit conservation organization working in all 50 states and 72 countries to conserve the lands and waters on which all life depends. As the nation enters the FY19 budget cycle, the Conservancy acknowledges the need for fiscal restraint. However, the Conservancy also recognizes the critical role that oceans and coasts play in the lives of millions of Americans and in our nation's economy. Each year the U.S. ocean and coastal economy contributes \$359 billion to the nation's GDP and supports 3 million jobs. NOAA's funding keeps this ocean and coastal economic engine running. It not only helps NOAA catalyze local and regional action, but also reduces risk and saves money based on the tangible economic and societal benefits that coastal natural resources provide.

While the President's FY19 Budget once again called for dramatic cuts to the National Marine Fisheries Service and the National Ocean Service including the proposed elimination of "grants and programs supporting coastal and marine management, research, and education including Sea Grant," the Conservancy was encouraged by Congress' FY18 omnibus funding levels for these and other critical NOAA programs. Over the years and across many sites, NOAA has been an invaluable partner to the Conservancy. NOAA programs provide practical, community-oriented approaches to restoration, resource management, and conservation that align naturally with the Conservancy's mission. NOAA has made important strides in addressing key challenges, but much more remains to be done. We believe that the NOAA budget levels proposed by the Conservancy represent a prudent investment in our country's future, and ask your support for the requests detailed below.

National Marine Fisheries Service

Habitat Conservation and Restoration: The Conservancy supports at least \$53.384M, consistent with FY18 funding. Coastal wetlands and nearshore waters produce the fish and shellfish that feed America. The health of these places is essential to the economic and social well-being of those who live, work, and recreate in coastal communities. NOAA and the Conservancy have partnered on over 150 habitat restoration projects across the U.S. Through the Community-based Restoration Program and the Habitat Blueprint Initiative, the Conservancy works closely with NOAA to restore the health of degraded habitats in places and ways that benefit not just local marine life, but communities and coastal economies as well. NOAA funding for coastal habitat restoration supports on average 15 jobs per million dollars spent and up to 30 jobs per million dollars spent on labor intensive restoration

projects.¹ The several grants managed by this program are awarded on a competitive basis and typically leverage the resources and capacity of multiple partners. This work enhances our understanding of the connections between fisheries productivity and habitat, measures the effectiveness of conservation and restoration activities, and applies those lessons to improve future efforts. This funding provides for NOAA's consultations on and implementation of Essential Fish Habitat. The Regional Fishery Management Councils address fishing impacts on these areas, and NOAA must have sufficient capacity to provide technical assistance to the Councils and to work with federal agencies to avoid, minimize, and mitigate the impacts on these important fishery habitats.

Fisheries Management Programs and Services: The Conservancy supports the appropriation of at least \$118.659M, consistent with FY18 funding. With a \$214 billion dollar fisheries and seafood sector, fishermen rely on management services and information from NOAA to make the most informed decisions on where, how, and when to fish. NOAA Fisheries has made important strides in addressing these challenges and strengthening fisheries management, and support for these efforts is necessary to recover fish stocks so that they provide food and jobs now and in the future. It is critical that funding be provided to reduce destructive fishing practices, restore coastal habitats, and support the efforts of fishermen and fishing communities and do so in a collaborative way. Funding for work already begun to improve the management of electronic monitoring and reporting must be maintained. Recent legislation and administrative action to combat illegal, unreported, and unregulated (IUU) fisheries show great promise in leveling the playing field for legal fishermen. Funding provided will enable NOAA to take the next steps on traceability of seafood.

Fisheries and Ecosystem Science Programs and Services: The Conservancy supports at least \$144.196M, consistent with FY18 funding. Good information about the status of fish stocks is essential for effective management. Systems for collecting fishery data tend to be paper-based, slow, expensive, and prone to errors; they are long overdue for modernization. The modest funding for electronic monitoring and reporting must be maintained. The Subcommittee's previous report language has been very helpful, and continued guidance on the need to provide clear data and storage standards will be useful in moving efforts from pilot to implementation. Priority should be given to those fisheries that have already piloted these efforts. Also key is improving our understanding of the ecological and economic connections between fisheries and nearshore habitats. Funding for ecosystem-based solutions for fisheries management will provide tools and information to better target fisheries habitat restoration efforts.

Fisheries Data Collections, Surveys and Assessments: The Conservancy supports at least \$164.749M, consistent with FY18 funding. Limited or poor quality information on the status of fishery stocks undermines the effectiveness of fishery management and can erode community support for conservation measures. Accurate and timely stock assessments are essential for the sound management of fisheries and the sustainability of fishing resources. The funding proposed will help the agency prioritize assessments, determine what level of assessments are needed and, where to appropriately incorporate ecosystem linkages – such as ocean conditions, habitat, multispecies assemblages, and socioeconomic factors.

Pacific Coastal Salmon Recovery Fund: The Conservancy supports at least \$65M, consistent with FY18 funding. This is the most critical federal program addressing major threats to Pacific salmon so

¹ Samonte et al. 2017. Socioeconomic Benefits of Habitat Restoration. NOAA Tech. Memo. NMFS-OHC-1. <http://www.habitat.noaa.gov/pdf/TM-OHC-1.pdf>.

that these fish can continue to sustain culture, economies, recreation, and ecosystem health. PCSRF funding is tailored for each state, competitively awarded based on merit, and has funded hundreds of successful, on-the-ground salmon conservation efforts. PCSRF invests in cooperative efforts to conserve species under NOAA's jurisdiction, and projects are matched at a 3:1 ratio (federal/non-federal). The PCSRF has catalyzed thousands of partnerships among federal, state, local, and tribal governments, and conservation, business, and community organizations.

Protected Resources Science and Management: The Conservancy supports at least \$189.566M, consistent with FY18 funding. Competitive grants to states and tribes support conservation actions that contribute to recovery, or have direct conservation benefits for, listed species, recently de-listed species, and candidate species that reside within the states. Species Recovery Grants allow the agency to strengthen and expand partnerships to address the growing number of listed species and allow for larger, ecosystem-level scale recovery efforts. The Conservancy works with state agency partners to restore endangered species and monitor the results of these efforts. Additional listed species and emerging challenges to recovery have increased the number and complexity of NOAA's consultation and permitting requirements. Funding is needed to aid NOAA's ability to complete these requirements in a timely and predictable manner. NOAA's cooperative efforts with states, tribes, and other partners such as the Conservancy, help to improve our understanding of and ability to protect listed salmon and the habitats that sustain them. Maintaining the modest increase provided in FY18 to the Pacific salmon base funding will allow NOAA to enhance recovery efforts including monitoring, fish passages, hatchery operations, and stakeholder engagement.

National Ocean Service

Coastal Management Grants: The Conservancy supports at least \$75M for Coastal Zone Management Grants, consistent with FY18 funding. Our nation's coastal areas are vital to our economy and our way of life. The narrow area along our coasts is home to approximately 163 million people and coastal economies contribute over 45 percent of our gross domestic product. The Conservancy collaborates with state coastal programs around the country to meet multiple goals for coastal communities including economic development, enhancement of public access and recreation, and conservation of coastal resources. To advance these goals, the Conservancy supports an additional \$30M in Title IX funds for the competitively awarded Regional Coastal Resilience Grants, consistent with the FY18 level. The Regional Coastal Resilience Grant Program has provided the resources and tools to build coastal resilience to avoid costly federal disaster assistance and sustain healthy fisheries, maintain robust tourism opportunities, provide for increased shipping demands, and support other coastal industries. Coastal communities have clearly shown that they are ready to match and leverage this funding to take proactive measures to protect their way of life. The Subcommittee should ensure that the full range of eligible activities from the Regional Coastal Resilience Grant Program are maintained now that administration of the program's functions has been transferred to the National Fish and Wildlife Foundation (NFWF).

Coral Reef Conservation Program: The Conservancy supports at least \$26.6M, consistent with FY18 funding. The decline of coral reefs has significant social, economic, and ecological impacts on people and communities in the United States and around the world. The Conservancy works with NOAA's Coral Reef Conservation Program under a competitively awarded, multi-year cooperative agreement to address the top threats to coral reef ecosystems: changing ocean conditions, overfishing, and land-based sources of pollution. Together, we develop place-based strategies, measure the effectiveness of management efforts, and build capacity among reef managers globally.

Coastal Zone Management and Services: The Conservancy supports at least \$42.5M, consistent with FY18 funding. NOAA's research and monitoring of coastal and marine systems provide data and decision-support tools that inform the safe operations of industry, prioritize habitats for restoration, and advance science-based management decisions. Improving our ability to incorporate natural infrastructure into coastal protection efforts before and after storms can help communities achieve multiple benefits such as improving fisheries productivity and coastal water quality. Additionally, the Conservancy has worked with NOAA through the Digital Coast partnership to develop decision support tools and techniques that help communities understand and reduce risk and build resilience. Sharing this work across federal, state, and tribal agencies, industry, and with non-governmental organizations can increase our collective ability to understand and incorporate into decision making complex coastal economic, social, and ecological needs.

National Estuarine Research Reserve System: The Conservancy supports at least \$25M, consistent with FY18 funding. The National Estuarine Research Reserve System (NERRS) partners with states and territories to ensure long-term education, stewardship, and research on estuarine habitats. Atlantic, Gulf, Pacific, Caribbean and Great Lakes reserves advance knowledge and stewardship of estuaries and serve as a scientific foundation for coastal management decisions. By using local management needs to help shape research, the NERRs aim to fill critical gaps. Incorporating the results of this research into training programs and through public engagement, the NERRs make science actionable for communities.

Sanctuaries and Marine Protected Areas: The Conservancy at least \$54.5M, consistent with FY18 funding. National marine sanctuaries support economic growth and hundreds of coastal businesses in sanctuary communities, preserve vibrant underwater and maritime treasures for Americans to enjoy, and provide critical public access for over 42 million visitors each year. Through a transparent, inclusive approach, the marine sanctuaries provide for the conservation of our natural and cultural marine resources while balancing multiple uses and diverse stakeholder needs.

Thank you for this opportunity to share The Nature Conservancy's priorities. Please contact me (617-510-1689, smurdock@tnc.org) if you have questions or would like additional information.



**RECORD TESTMONY OF REBECCA BROWN,
POLICY DIRECTOR, INNOCENCE PROJECT,
AND MEMBER OF THE INNOCENCE NETWORK
FOR THE COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES
SUBCOMMITTEE OF THE HOUSE COMMITTEE ON APPROPRIATIONS
April 27, 2018**

On behalf of the Innocence Project and the Innocence Network, a coalition of 56 local innocence organizations working to exonerate the innocent and prevent wrongful convictions nationwide, thank you for the Subcommittee's critical funding increases and strong support for innocence and forensic science research programs in FY18. Thank you also for allowing me to submit written testimony for the record as you consider budget requests for FY19. I urge you to robustly fund the following programs at the Department of Justice and the National Institute of Standards and Technology at the Department of Commerce. FY19 funding requests include:

- **\$5 million for the Wrongful Conviction Review Program at the Department of Justice (DoJ), Bureau of Justice Assistance (*the Wrongful Conviction Review Program is part of the Capital Litigation Improvement Program*);**
- **\$10 million for the Kirk Bloodsworth Post-Conviction DNA Testing Program at the DoJ, National Institute of Justice (NIJ);**
- **\$30 million for the Coverdell Forensic Sciences Improvement Grant Program at NIJ;**
- **\$4.2 million to support forensic science standards setting activities at the National Institute of Standards and Technology (NIST);**
- **\$15 million for NIST to support forensic science research and measurement science.**

These innocence and forensic science programs increase the accuracy and fairness of the criminal justice system, provide the strongest possible forensic science tools to justice system stakeholders, and generate greater public safety for our nation.

National Registry of Exonerations data show that the number of exonerations has significantly increased since federal innocence programs - the Bloodsworth Post-Conviction DNA Testing and Wrongful Convictions Review programs - began to receive funding in 2008 and 2009, respectively. ***This dramatic increase in the number of exonerations is in part a result of the federal decision to invest in these programs to help ensure the accuracy and integrity of the criminal justice system.*** In the 20 years prior to the initiation of innocence program funding (from 1989 to 2008), the rate of exonerations was much lower. ***In 2016, the number of exonerations was at its highest with 171 exonerations.*** These effective program outcomes show the power and need to invest in federal innocence and forensic science programs.

Freeing innocent individuals and preventing wrongful convictions through reform ***greatly benefits public safety.*** Every time DNA identifies a wrongful conviction, it enables the identification of the person who actually committed the crime. ***Such true perpetrators have been identified in approximately half of the over 350 DNA exoneration cases.*** Unfortunately, many of these individuals went on to commit additional crimes while an innocent person was convicted and incarcerated in their place.

To date over 350 individuals in the United States have been exonerated through DNA testing, including 20 who served time on death row. These innocents served an average of 14 years in prison before exoneration and release. However, the value of federal innocence and forensic science programs is not to just these exonerated individuals. It is important to fund these critical programs because reforms and procedures that help to prevent wrongful convictions ***enhance the accuracy of criminal investigations, strengthen criminal prosecutions, and result in a stronger, fairer system of justice that provides true justice to victims of crime.***

Wrongful Conviction Review Program

We know that wrongful convictions occur in cases where DNA evidence is not sufficient or even available to prove innocence. The National Registry of Exonerations currently lists almost 2,200 exonerations since 1989 -- over 350 of which were based primarily on DNA. The Wrongful Conviction Review Program provides critical support to ensure that experts are available to navigate the complex landscape of post-conviction litigation, as well as oversee the thousands of volunteer hours local innocence organizations leverage to help investigate these complex cases and support the significant legal work they require. ***The Wrongful Conviction Review Program has contributed to 30 exonerations over the past 3 years.***

The Wrongful Conviction Review Program provides funding to local innocence organizations so that they may provide this type of expert, high quality, and efficient representation for innocent individuals. The program's goals are both to alleviate burdens placed on the criminal justice system through costly and prolonged post-conviction litigation ***and to identify, whenever possible, the person who actually committed the crime.***

To help continue this important work, ***we urge you to provide \$5 million for the Wrongful Conviction Review Program in FY19 (the Wrongful Conviction Review Program is a part of the Capital Litigation Improvement Program.)***

The Bloodsworth Post-Conviction DNA Testing Program

The Bloodsworth Post-Conviction DNA Testing Program supports states and localities that want to pursue post-conviction DNA testing in appropriate cases. The program does not directly fund the work of local innocence organizations, but instead focuses on state and local applicants, including law enforcement agencies, crime laboratories, and a host of others -- often in collaboration with each other, as well as with local innocence organizations. For example, a Bloodsworth grant to Arizona allowed the state's Attorney General's Office to partner with the Arizona Justice Project to create the Post-Conviction DNA Testing Project. This effort canvassed the Arizona inmate population, reviewed cases, located evidence, and filed joint requests with the court to have evidence released for DNA testing. In addition to identifying the innocent, *Arizona Attorney General Terry Goddard noted that the "grant enable[d] [his] office to support local prosecutors and ensure that those who have committed violent crimes are identified and behind bars."*¹

¹Arizona receives federal DNA grant, <http://community.law.asu.edu/news/19167/Arizona-receives-federal-DNA-grant.htm> (last visited Mar. 13, 2012).

The Bloodsworth program is a powerful investment for states seeking to free innocent individuals and identify the individuals who actually committed the crimes. ***The program has resulted in the exonerations of 44 wrongfully convicted persons in 14 states. The person who actually committed the crime was identified in 13 of those cases.*** For example, Virginian Thomas Haynesworth, who was wrongfully incarcerated for 27 years, was freed thanks to Bloodsworth-funded DNA testing that also revealed the person who actually committed the crime. The culpable person in that case went on to terrorize the community by attacking twelve women, with most of the attacks and rapes occurring while Mr. Haynesworth was wrongfully incarcerated. Given the importance of this program to both innocent individuals and public safety, we ***urge you to provide \$10 million to continue the work of the Bloodsworth Post-Conviction DNA Testing Program in FY19.***

The Coverdell Program

Recognizing the need for independent government investigations in the wake of allegations of forensic negligence or misconduct, Congress created the forensic oversight provisions of the Coverdell Program, a crucial step toward ensuring the integrity of and improving public confidence in forensic evidence. Specifically, in the Justice for All Act, Congress required that:

[t]o request a grant under this subchapter, a State or unit of local government shall submit to the Attorney General...a certification that a government entity exists and an appropriate process is in place to conduct independent external investigations into allegations of serious negligence or misconduct substantially affecting the integrity of the forensic results committed by employees or contractors of any forensic laboratory system, medical examiner's office, coroner's office, law enforcement storage facility, or medical facility in the State that will receive a portion of the grant amount.⁴²

The Coverdell Program provides state and local crime laboratories and medical examiner offices with much needed federal funding to carry out their work both efficiently and effectively. As forensic science budgets find themselves severely stretched in many states and localities as a result of the opioid epidemic, and as federal bodies recommend the implementation of new policies, standards, and guidelines, the Coverdell funds are critical to ensure that crime labs can function both efficiently and effectively. As the program supports both the capacity of crime labs to process forensic evidence and the essential function of ensuring the integrity of forensic investigations in the wake of serious allegations of negligence or misconduct, we ***urge you to provide \$30 million for the Coverdell Program in FY19.***

Forensic Science Improvement

To continue the critical work to improve forensic science, and help prevent wrongful convictions, we urge you to provide ***the following amounts in FY19 for forensic science improvements, including:***

- **\$4.2 million** directed to NIST to support forensic science technical standards development, including **\$3 million** to support the Organization of Scientific Area Committees (OSAC) and **\$1.2 million** to support technical merit evaluations.

⁴² 42 U.S.C. § 3797k(4) (emphasis added).

- **\$15 million for the National Institute of Standards and Technology (NIST)** at the Department of Commerce to support forensic science research and measurement science.

As the federal entity that is both perfectly positioned and institutionally constituted to conduct measurement science and foundational research in support of forensic science, NIST's work will improve the validity and reliability of forensic evidence, a need cited by the National Academy of Sciences 2009 report, *Strengthening Forensic Science in the United States: A Path Forward*.¹ NIST's reputation for innovation will result in technological solutions to advance forensic science applications and achieve a tremendous cost savings by reducing court costs posed by litigating scientific evidence.

The OSAC is seen by many as the most significant federal forensic science initiative in recent years. State and local forensic scientists, who conduct the vast majority of forensic science casework, are in strong support and are significantly involved in this effort. In order for a standard to qualify for the registry that the OSAC maintains, it must demonstrate that it is technically sound. Some forensic science methods have not yet received an evaluation of their technical merit and NIST needs further support to conduct these vital reviews. At a time when public safety and national security are some of our nation's top priorities, it is imperative that Congress invest in scientific tools that support these endeavors. The forensic science activities and research at NIST will help to greatly improve forensic disciplines and propel forensic science toward greater accuracy and reliability.

Conclusion

Thank you so much for your leadership in helping to ensure the accuracy, integrity, and reliability of our nation's criminal justice system. We urge you to support all of the aforementioned programs, including the Wrongful Conviction Review; Bloodsworth; Coverdell; and NIST forensic science programs. If you have any questions, or need additional information, please contact Jenny Collier, Federal Policy Advisor to the Innocence Project, at jcollier@colliercollective.org.

¹ National Research Council. *Strengthening Forensic Science in the United States: A Path Forward*. Washington, DC: The National Academies Press, 2009. doi:10.17226/12589, p. 22-23.

To All Members of Congress:

As leaders of more than 180 U.S. law firms with offices in all 50 states and the District of Columbia, we encourage you to maintain the bi-partisan support for fully funding the **Legal Services Corporation (“LSC”)**. Specifically, we respectfully request that you support LSC’s requested appropriation of \$564 million for FY 2019.

For more than four decades, Congress has funded LSC to provide grants to local legal aid organizations in all 50 states, covering every county in our nation. Proposals to defund LSC appear to misunderstand the local impact and control of this federal funding. LSC’s grants are spent only by community-based organizations, which supplement the funds with local fundraising, to provide critical civil legal services to low-income individuals, like veterans seeking benefits, women fleeing domestic violence, and families struggling to stay in their homes. LSC’s local grantees follow the Congressional mandate to focus their resources on these vulnerable individuals in our communities; they are precluded by law from using this money to, among other things, represent prisoners, file class actions, and litigate re-districting actions.

The local legal aid organizations funded by LSC are critical to our firms and our communities. The lawyers at our firms collectively provide millions of hours of free legal services each year to individuals in desperate need of assistance. Our ability to provide these pro bono legal services *is directly dependent on partnership with LSC-funded legal aid organizations*, which screen cases for merit and eligibility, and train and mentor our attorneys. Eliminating the Legal Services Corporation will not only imperil the ability of civil legal aid organizations to serve Americans in need, it will also vastly diminish the private bar’s capacity to help these individuals. The pro bono activity facilitated by LSC funding is exactly the kind of public-private partnership the government should encourage, not eliminate.

It is also important to understand that LSC funds local legal aid organizations in rural areas that most law firms have difficulty serving because of their lawyers’ geographic location and/or bar memberships. In many rural counties across our nation, the local legal aid organizations funded by LSC are the only available help for low-income Americans.

LSC funding is money well spent in our local communities. State studies have shown that the problems solved by legal aid offer a strong return on investment. For instance, in Florida in 2016, civil legal services saved \$60.4 million, including emergency shelter and foreclosure costs. In Tennessee in 2015, civil legal aid saved \$1.3 million on emergency shelters; \$7.5 million in costs to domestic violence survivors, including medical and mental health expenses; and \$33.8 million in foreclosure costs for residents and local governments. In Virginia in 2015, civil legal aid spending saved \$1.2 million in emergency shelter costs and \$1.9 million in healthcare and other expenses related to domestic violence. Other state surveys, from Pennsylvania and Iowa for instance, have shown that every dollar spent on legal aid has an eleven-fold local economic impact.

Our local communities depend on the legal aid organizations funded by LSC, and our firms, in turn, rely on these legal aid agencies to increase the impact of our volunteer legal services. That is why our firms, as well as our individual lawyers, give generously to LSC grantees. We ask that Congress do its part by fully funding LSC and continuing its bi-partisan support of civil legal aid for our communities.

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Don Saunders
 Vice President, Civil Legal Services
 National Legal Aid & Defender Association

April 27, 2018

House Appropriations Committee
 Subcommittee on Commerce, Justice, Science, and Related Agencies
 H-305, The Capitol
 Washington, DC 20515

Dear Committee Members:

We appreciate the opportunity to provide comments as the committee considers appropriations for Fiscal Year 2019. We write specifically regarding the Legal Services Corporation (LSC). LSC provides grants and other support to civil legal aid organizations serving low-income individuals and families in every Congressional district. The committee's decision to increase the budget of LSC in FY2018 is a welcome recognition of the critical role of civil legal aid in protecting the fundamental American promise of equal justice for all. We now urge the committee to take the next step and provide the resources that are required to adequately serve every eligible client that seeks assistance from an LSC grantee.

The National Legal Aid & Defender Association (NLADA), founded in 1911, is the oldest and largest national nonprofit organization whose resources are exclusively dedicated to advancing equal access to justice for all Americans. NLADA champions effective legal assistance for people who cannot afford counsel, and serves as a collective voice for both civil legal aid and indigent defense systems throughout the nation. NLADA has more than 800 civil legal aid and public defender program members that collectively represent thousands of attorneys in all 50 states and the U.S. territories.

The American legal system is extraordinarily complex and is nearly impossible to navigate without the assistance of effective legal counsel, but with nearly one in five Americans living near or below the federal poverty level, many families simply do not have the money to pay for a lawyer when facing a legal problem. These problems can have devastating outcomes with life-altering consequences, like when a victim of domestic violence is unable to secure a restraining order and safety from their abuser; or a person addicted to opioids is denied access to treatment necessary for their continued sobriety; or the family who lose their home because they were unable to renegotiate with a mortgage lender; or a veteran with a disability who is wrongly denied the benefits they earned through military service. LSC grantees prevent harmful outcomes like these, making a vital difference in the lives of Americans every day, and solving these problems before they generate social and economic costs to our communities and our taxpayers.

In June 2017, we wrote to LSC to urge them to seek \$669 million in their budget request to Congress for FY19. This was based on data from the 2017 report *The Justice Gap: Measuring*

the Unmet Civil Legal Needs of Low-income Americans, which revealed that the FY17 appropriation level (\$385 million) enabled LSC grantees to address to *some degree* 59 percent of legal problems brought to them. Based on this data, a conservative estimate of the resources that would be required to adequately address all the legal problems brought to grantee organizations is \$669 million. We note that this would not be sufficient to meet all the legal needs of low-income Americans, but it would enable organizations to serve far more of those individuals who directly seek their help. The letter from NLADA to LSC, which includes a more comprehensive explanation of this estimate, can be accessed at: <http://www.nlada.org/sites/default/files/FY19LSCBUDGETNLADA.pdf>.

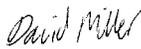
This should not suggest that LSC grants are solely responsible for addressing the legal needs of low-income Americans. Rather, civil legal aid organizations effectively leverage the important foundation provided by LSC grants to attract additional investment and resources from other sources. On average, LSC grants now comprise just 35 percent of the total budget of LSC grantees. Through pro bono contributions by private sector entities, the impact of these federal dollars is extended even further. This is one reason why 251 general counsel at some of America's largest corporations have signed a letter to Congress requesting an increase in funding for LSC. In addition to explaining why a robust investment in LSC is necessary for their companies to engage in pro bono legal services, the letter describes how the "[t]he promise of equal justice for all engenders trust in our justice system", which creates a "competitive advantage" for our country's businesses. The letter can be accessed at: <http://www.nlada.org/sites/default/files/LSCFY19GC.pdf>.

Thank you again for the opportunity to provide comments to the committee. If you have any questions, please do not hesitate to contact us at (202) 452-0620 ext: 224 or at d.saunders@nlada.org and d.miller@nlada.org.

Sincerely,



Don Saunders
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David Miller
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**Testimony in Support of the Youth Mentoring Grant
House Committee on Appropriations
Subcommittee on Commerce, Justice, Science and Related Agencies**

On behalf of MENTOR: The National Mentoring Partnership (MENTOR), our network of affiliates, and youth mentoring programs throughout the country, I thank Chairman Culberson and Ranking Member Serrano for the opportunity to provide testimony in support of a critical federal investment in America's young people. My testimony will focus on the Youth Mentoring Program housed in the **Office of Juvenile Justice and Delinquency Prevention (OJJDP) at the Department of Justice (DOJ)**. MENTOR and our partners are calling on your committee to build on your increased investment in the Youth Mentoring Program in Fiscal Year 2018 with a further increase of at least \$100 million in Fiscal Year 2019. This investment will make it possible for quality mentoring organizations to better meet the mentoring needs of many of our nation's most at-risk youth.

MENTOR is the unifying national champion for expanding quality youth mentoring relationships and connecting volunteers to mentoring opportunities in their local communities. In a time when 1 in 3 young people are growing up without a mentor, MENTOR seeks to close this "mentoring gap" and ensure our nation's young people have the caring adult support they need to succeed at school, in community, and in the workforce. We seek to leverage resources and provide the tools and expertise that local programs -- whether in schools, non-profits, faith-based institutions, or the private sector -- require to provide high-quality mentoring for young people who need it most, build greater awareness of the value of mentors, and positively inform public policy in order to bring support and opportunity to young people in need.

I write this testimony on behalf of the thousands of mentoring programs and millions of volunteer adult mentors that serve our communities each day, as well as the millions of young people in the United States still waiting to find the supportive caring adults they need to thrive. I would also like to thank the House Commerce, Justice and Science Subcommittee for its strong history of supporting these critical federal funds for evidence-based mentoring and demonstrating leadership in expanding pathways for young people.

The Benefits of Quality Youth Mentoring

Youth mentoring is a simple, yet powerful concept: a caring adult provides guidance, support and encouragement to help a young person achieve success in life. Research confirms that quality evidence-based mentoring relationships have powerful positive effects on young people in a variety of personal, academic, and professional situations. Mentoring is a strategic intervention and prevention-based strategy that helps foster positive outcomes for young people from all backgrounds and Zip codes. Mentoring is proven to play an important role in the following areas of support for young people:

Reducing Unsafe or Risky Behaviors: Mentors provide young people with consistent support as they encounter the daily challenges of navigating their lives. Mentors serve to help young people make healthy decisions and stay away from high-risk behaviors. Young people who meet regularly with their mentors are 46% less likely than their peers to start using illegal drugs and 27% less likely to start drinking. Mentors also provide guidance to positive behaviors that could support growth and development in a young person. Young adults who face an opportunity gap but have a mentor are 81% more likely to participate regularly in sports or extracurricular activities than those who do not.

Workforce Development: Mentoring helps develop the future workplace talent pipeline by preparing young people for careers through exposure and 21st century skill building. One study estimates that the human potential lost as a result of the educational achievement gap is the economic equivalent of a permanent national recession. There are far too many young people who have not had access to the opportunities that having a mentor opens to professional and career development. Mentoring helps young people set career goals and take the steps to accomplish those goals. Through their mentors, young people are also introduced to resources and organizations they may not be familiar with, providing them with new networks as well as methods to find jobs and internships.

Educational Achievement: According to the Department of Education, during the 2013-14 school year, over 6.8 million students (14% of all students) were chronically absent. Students who are chronically absent are more likely to fall behind academically, particularly in reading, more likely to have increased behavioral issues and more likely to drop out of school. Young people who are chronically absent benefit exponentially from having a mentor to aid regular attendance and provide the young person academic and emotional support. Students who meet regularly with their mentors are 52% less likely than their peers to skip a day of school and 37% less likely to skip a class. Mentoring provides young people with an important support that helps develop positive attitudes towards school and reduce recurring behavior problems. Young adults who face an opportunity gap but have a mentor are 55% more likely to be enrolled in college than those who did not have a mentor.

Social Emotional Development and Mental Health: Mentoring provides young people with improved communications with their families and other caring adult relationships. A recent study showed that the strongest benefit from mentoring, and most consistent across risk groups, was a reduction in depressive symptoms. Mentoring promotes positive social

attitudes and relationships. Mentored youth trust their parents and guardians more and communicate better. These benefits serve as building blocks for engagement in positive activities, increased school participation and improved attitudes.

Youth Mentoring ultimately provides much-needed social support, increased positive relationships with and perceptions of adults, life skills training, and access to social capital to young people who are in need of support leading them to positive and productive futures.

Closing the Mentoring Gap

While mentoring is an effective evidence-based intervention and prevention strategy for at-risk and high-risk young people, mentoring organizations across the nation still face barriers in providing high-quality mentoring services. Thousands of young people remain on waitlists at organizations because of limited resources and funding for programs. Many programs also lack the training and technical assistance that could bolster their mentoring programs to better support young people and specifically high-risk young people. These two issues combined have provided many obstacles for mentoring programs, but with the critical support of both private and public funds mentoring organizations have been able to serve more young people.

One of the ways that mentoring programs have succeeded in decreasing waitlists is through support from the Youth Mentoring Program. The program focuses on prevention and interventions for at-risk youth and helps mentoring programs as they work to close the mentoring gap. **These funds go directly to providing support for some of our highest risk young people, who without these kinds of interventions could likely become involved in negative behaviors and activities causing harm to themselves, their communities, and which take an economic toll.** In a 2016 study conducted by MENTOR it was found that 51% of mentoring programs have a budget of under \$50,000 and 75% of programs have a budget of under \$100,000. Mentoring programs work far beyond their financial capacity to serve young people, but with additional resources their reach expands exponentially and the quality of their services can strengthen through improved training and technical assistance. The individual cost per mentored youth has remained relatively steady over the past 20 years, however costs for high-risk groups of young people including those with mental health needs, teen parents or victims of commercial sexual exploitation, for example, require more resources and expertise, increasing the cost per youth in order to fully address their unique needs. Mentoring programs utilize federal support in part to better serve the large number of young people who could benefit most from evidence-based mentoring.

Mentoring programs are able to safely serve young people when they are fully trained on the most up to date mentoring evidence and training. In 2015, through funds from the Youth Mentoring Program, The National Mentoring Resource Center (NMRC) was created to improve the quality and effectiveness of mentoring by supporting youth mentoring practitioners. MENTOR runs the National Mentoring Resource Center and provides free mentoring tools, program and training materials and no-cost, evidence-based technical assistance to mentoring programs, school districts, non-profits and faith-based institutions across the nation. **This important resource has bolstered the ability of mentoring programs to serve young people**

from vulnerable populations including young people at-risk of entering the juvenile justice system, youth in foster care and victims of commercial sex trafficking.

Research on youth mentoring demonstrates that, at a minimum, for every dollar invested in quality mentoring programs there is a return of at least three dollars. This positive return on investment reflects projected increases in lifetime earnings gained by leading at-risk youth down the path towards becoming productive adults. It also derives from dollars saved through reduced risky behaviors in young people, decreased school absence, high school graduation rates, and lowered risk of youth involvement in unsafe and costly behaviors. Public opinion has also reflected both the need for more mentoring and support for public investment to better meet this need. In a recent nationally representative survey conducted by Pacific Market Research -- across geography, political persuasion, faith, age, and income -- two-thirds of Americans consider it highly important for young people to have mentors, but this same population estimates that only a quarter of youth have the mentors they need. **Nearly nine in ten adults feel that more mentoring is needed in our country—with more than eight in ten supporting the use of government funds to grow mentoring opportunities.**

Unfortunately, the Youth Mentoring Program is now the only remaining federal grant exclusively dedicated to providing funds for evidence-based mentoring. **Youth Mentoring Program funds have been awarded to national, multi-state and collaborative mentoring projects and programs who serve suburban, rural and urban populations. The flexibility of the grant has allowed organizations to use these funds to specifically tailor programs to their community's unique needs. This provides local control and specialized concentration on results that work best for each young person and their communities.** These funds are simply invaluable in the ways that they affect youth development, educational achievement and safe communities.

Without adequate resources and funding mentoring programs and ultimately America's young people do not have access to the caring adults they need to develop healthy, safe and productive lives. This request in support of at least \$100 million for the Youth Mentoring Program will allow more young people to have access to the important social, professional, and academic opportunities we hope to provide for all America's youth. **The Youth Mentoring Program demonstrates a sound and an effective investment in evidence-based programs that works and will have definitive and measureable impact on closing the mentoring gap in America.**

Thank you again for this opportunity to provide testimony on this critical federal resource supporting young people.



Testimony of
Arturo Vargas
Executive Director
NALEO Educational Fund

to the

Subcommittee on Commerce, Justice,
Science, and Related Agencies
of the
House Committee on Appropriations

Regarding FY2019 Appropriations for the
Census Bureau

April 27, 2018

On behalf of the National Association of Latino Elected and Appointed Officials (NALEO) Educational Fund, I respectfully request your support for a \$4.735 billion appropriation for the Census Bureau in FY 2019. We urge the committee to recommend this funding level to ensure that the Bureau can effectively complete the activities needed to prepare for a sound 2020 Census.

NALEO Educational Fund is the nation's leading nonprofit organization that facilitates the full participation of Latinos in the American political process, from citizenship to public service. Our Board members and constituency encompass the nation's more than 6,600 Latino elected and appointed officials, and include Republicans, Democrats and Independents.

NALEO Educational Fund is a national leader in Census outreach, community education and policy development. Our organization has decades of experience working closely with its Latino elected official constituency, other government officials and partner organizations to promote public policies to achieve the most accurate count possible of the nation's population. NALEO Educational Fund has been a member of the U.S. Census Bureau's national advisory committees since 2000, and currently sits on the Bureau's National Advisory Committee on Racial, Ethnic and Other Populations. NALEO Educational Fund is also the co-chair of the Leadership Conference on Civil and Human Rights' Census Task Force, and of the National Hispanic Leadership Agenda's Census Task Force.

The 2020 Census cannot be successful without a complete count of the Latino community. Latinos are the second largest population group in the nation, comprising 17.6 percent of our nation's residents, and 26 percent of children under the age of five. The Census Bureau estimates that the 2010 Census may have missed 1.5 percent of the entire Latino population, and research suggests this included nearly 400,000 Latino children under the age of five. Undercounting Latinos in Census 2020 would severely diminish the accuracy and value of statistical data critical to sustaining our nation's democracy and economic progress.

Conducting a credible decennial Census requires the most significant peacetime mobilization of resources that our federal government undertakes. For 2020, the Census Bureau's task is particularly daunting because the agency has committed to using new approaches for data collection. It is modernizing its procedures by collecting responses over the internet. It is also using administrative records for address canvassing, and is seriously considering using these records to obtain demographic information on non-responding households. The Bureau needs to test these approaches for effectiveness and efficiency before deployment.

The Bureau will also need to sustain intensive efforts to protect the confidentiality of information provided over the internet as cyber-security threats continually evolve. The agency can neither shortchange nor delay its efforts to put in place the reliable and secure IT backbone that it needs to conduct a modern 2020 Census, and to achieve cost-savings in its future surveys.

Moreover, in the nation's current political and social climate, there is growing mistrust and fear of government, and the Census Bureau must begin in FY2019 to build relationships throughout the country with "trusted messengers" capable of motivating people to participate in the Census. The Bureau must also place advertising and create outreach materials that address Americans' concerns about cybersecurity, and the potential government misuse of Census information. This outreach must also highlight key motivators for Census participation.

The Secretary of Commerce's last-minute decision to add an untested and unnecessary citizenship question to the Census 2020 questionnaire will exacerbate the challenges facing the Bureau by deterring the participation of Latinos and other hard-to-count populations. The Bureau's own research has revealed widespread and unprecedented fear among respondents to other surveys; they are reluctant to participate fully and provide accurate information. The Bureau will need a particularly robust and effective communications and partnership campaign which emphasizes the safeguards that protect the confidentiality of Census data. If the Bureau fails to proactively connect with trusted messengers and hard-to-count communities, it will be forced to spend exponentially more than it plans in FY 2020 to reach non-responding households through extra mailings and visits: at least \$55 million more for each additional 1% of households that do not respond to initial mailings, up from an earlier estimate of \$45 million.

In spite of the challenging environment it faces, and in part because of funding restraints, the Bureau has dramatically reduced the number of local Area Census Offices (ACOs) it intends to open for Census 2020. In Census 2010, the Bureau opened nearly 500 ACOs, including one in every Congressional district. In contrast, as of this writing, the Bureau intends to open only 248 for Census 2020. These offices are invaluable for building a trusted local community presence for the Bureau, particularly when staffed with individuals who have the cultural competency and linguistic skills to reach hard-to-count communities. These offices are also on the "frontlines" of census operations, and can troubleshoot when problems or challenges arise during enumeration activities.

Because its work is cyclical, and intensifies every decade as the year ending in -0 approaches, the Census Bureau needs significantly increased appropriations in the fiscal years ending in -9 and -0 as compared to its budget in preceding years. Congress has never failed to meet the Bureau's fluctuating needs in the most critical years for decennial Census preparations, so our nation has not had to consider the devastating impact a failed Census would have on our nation's democracy, prosperity and well-being. We are now compelled to face this prospect by the Administration's woefully inadequate appropriations request for the Bureau for FY 2019, which is well below the amount that the Department of Commerce projected it would need to ensure the success and preservation of some cost-savings in the conduct of the 2020 Census.

Failure to provide at least \$4.735 billion for the Census Bureau in FY 2019 would shortchange important activities, including the creation of a contingency fund

recommended by Secretary Wilbur Ross; the full implementation of a robust communications campaign; the hiring of a number of community partnership specialists comparable to the number employed in advance of the 2010 Census; and the opening of 52 additional ACOs. Funding for contingencies would guarantee that no corners are cut in IT systems development - an effort that has experienced cost overruns - and would equip the Bureau to implement rapid staffing and other changes that might become necessary, should aspects of the operational plan prove unworkable because they were never validated and finalized.

NALEO Educational Fund urges you to appropriate \$4.735 billion to the Census Bureau in FY 2019, in recognition that funding thoughtful preparation for the decennial Census best ensures the efficiency and accuracy of this critically important undertaking. Without adequate funding to realize its plans for modernization and to navigate a challenging social environment, the Census Bureau's efforts to conduct a credible and accurate 2020 Census are in acute jeopardy. Without accurate data, Latinos and all Americans cannot realize our potential economic, political, and social success. Stewardship of an effective Census is one of the first duties assigned in the Constitution to the federal government, as well as one of the most fundamental to our democratic character.

We are grateful for your attention to these matters, and for the opportunity to submit testimony in support of full funding for the Census Bureau.



National 4-H Council

www.4-h.org

Contact: Betsy McKay, bmckay@fourhcouncil.edu , 301-961-2821

**Testimony in Support of the Youth Mentoring Grant
House Committee on Appropriations
Subcommittee on Commerce, Justice, Science and Related Agencies**

On behalf of National 4-H Council, we thank Chairman Culberson and Ranking Member Serrano for the opportunity to provide testimony in support of a critical federal investment in America's young people. My testimony will focus on the Youth Mentoring Program housed in the **Office of Juvenile Justice and Delinquency Prevention (OJJDP) at the Department of Justice (DOJ)**. National 4-H Council along with other national youth development organizations are calling on your committee to build on your increased investment in the Youth Mentoring Program in Fiscal Year 2018 with a further increase of at least \$100 million in Fiscal Year 2019. This investment will make it possible for quality mentoring organizations to better meet the mentoring needs of many of our nation's most at-risk youth.

National 4-H Council was established in 1976 to facilitate national level partnerships, marketing and resource development for the greater 4-H community. Council is the private, non-profit partner of 4-H National Headquarters within USDA/NIFA and the Cooperative Extension System (CES). 4-H programs are implemented by the 110 LGUs through 3,100 local CES offices, which serve nearly six million children and youth across all counties in America. Three Federal Acts, dating back to 1862 (State Universities and Colleges), 1890 (Historically Black Colleges and Universities) and 1994 (American Indian Tribal Colleges), established the CES and 4-H youth development program as a means of delivering university knowledge, research and educational programs to local communities and youth. This powerful connection between higher education and communities is unprecedented, and is an exceptional distinction of all 4-H youth programming.

Nearly 3,500 4-H educators serve *every* county in America and the Territories by delivering 4-H programming and engaging youth through 90,000 4-H Clubs, 17,000 4-H Camps and 9,000 4-H Afterschool programs. The 4-H reach also includes nearly 500,000 volunteers, 3,500 professionals and 25 million alumni. Regardless of subject area, all 4-H projects and curriculum are developing life skills and a relevant 21st century workforce. Priority program areas and related 4-H enrollment includes: Science, Engineering, Technology, and Math (5.9 million youth projects); Citizenship (2.8 million youth projects); and Healthy Living (2.5 million youth projects). Among the six million youth ages 5-18 reached annually by 4-H programs, at least 15 percent are African American, 13 percent Latino/Hispanic and more 60,000 are Native American; reach also includes children in military families and children of incarcerated parents. President and CEO Jennifer Sirangelo leads Council in

its mission to increase investment and participation in high-quality 4-H PYD programs, including increased outreach within underserved and minority communities.

We write this testimony on behalf of the nearly six million youth who have benefited from finding the supportive caring adults they need to thrive. I would also like to thank the House Commerce, Justice and Science Subcommittee for its strong history of supporting these critical federal funds for evidence-based mentoring and demonstrating leadership in expanding pathways for young people.

The Benefits of Quality Youth Mentoring

- Empirical literature suggests that strong mentoring relationships, especially those within a school setting, can have a positive impact on social and academic outcomes for youth, especially those that are identified as "at-risk" for delinquency. In our work, we measure proximal outcomes (i.e. noted behavior change), such as social competence, perception of social support, and family relationship bonds, which contribute to improvements in other key areas.
- To ensure impact is made in key areas, pre-test and post-surveys are given to youth to ensure program impact. Programming has been seen to impact key behaviors, such as increases in social competence and perceptions of social support, and has improved family relationships. Improvements in these key areas of development not only reduce youth tendency toward delinquency, but promote prosocial behaviors and positive youth development. With 4-H programming at the heart of these formal mentoring efforts, youth are learning key leadership skills and develop service hearts - getting involved in their community to improve the contact in which other youth develop.
- More than 60% of the youth participating in the program have demonstrated a positive impact in the areas of social competence, social support and improved family relationships

Closing the Mentoring Gap

While mentoring is an effective evidence-based intervention and prevention strategy for at-risk and high-risk young people, mentoring organizations across the nation still face barriers in providing high-quality mentoring services. Thousands of young people remain on waitlists at organizations because of limited resources and funding for programs. **These funds go directly to providing support for some of our highest risk young people, who without these kinds of interventions could likely become involved in negative behaviors and activities causing harm to themselves, their communities, all of which takes an economic toll.**

The 4-H National Mentoring Program (4-H NMP) reaches youth in rural communities, tribal communities, public housing, youth with incarcerated parents, military youth and other

underserved youth and their communities. Without this funding these communities will most likely see a drastic reduction in services.

Since these grant dollars are used to reach underserved youth in difficult to reach communities (many in our most rural communities), 4-H programs rely heavily on these funds to gain access to youth and hire the right staff to serve these young people. Without the funds many local programs could potentially lose access to the youth and the youth would lose access to the 4-H programming and mentors.

- **Local Partnerships:** More than 100 4-H NMP mentoring programs have developed strong partnerships with local school systems and law enforcement agencies, providing consistent academic support and a safe place for kids to go after school. These partnerships have been essential to creating buy-in from the community.
 - Example: In West Virginia, a state-wide initiative is in place to provide specialized attention for youth engaged by the police or who have had emergency services called to their home. Through the 4-H NMP program, if a Principal at a youth's school is informed of the occurrence, they immediately reach out to the youth's mentor to alert him or her for intervention and assistance with the trauma.
- **Public Housing:** 4-H NMP is reaching the most difficult to reach youth across the country. Many families do not have the means to connect their children to after-school activities. As a result, mentoring programs are cropping up in Public Housing Authorities and other affordable living communities.
 - Example: In a Maryland mentoring program, youth residing in a local public housing authority are paired with a mentor who lives in the community. The program engages the matches in technology education, resume writing, App and video development, and more. This has been a positive experience for both youth and mentors – youth are excited about having access to the program and the mentors are learning a lot about technology and valuable life skills.
- **STEM:** Providing youth access to quality STEM learning opportunities so they have the chance to become leaders and innovators of tomorrow is a focus area for 4-H. *4-H Tech Wizards*, a National Mentoring Program offering, capitalizes on youth interest in technology to engage low-income Latino/Hispanic and other youth in learning basic life and workforce skills and aspiring to post-secondary education, productive jobs and careers, and community engagement.
 - Example: In Maine, a partnership with a local middle school has led to STEM classes and mentoring occurring as part of a weekly curriculum within the school. A local high school has partnered with a Maine mentoring site to provide full academy-style, project-based learning for 9th grade students. Students spend a

half-day there and earn credits in science, math, language arts, social science, and physical education. The partnership has yielded an increase in standardized test scores for the local school.

- **College Readiness:** As part of a pilot test, 4-H NMP is engaging underserved youth in four states (Alabama, Illinois, Kansas, and Missouri) in the *4-H Youth Futures: College Within Reach Program*. Youth Futures is an innovative program for high-school youth promoting college as an obtainable goal for those not typically encouraged to attend college such as “first in family” and racial/ethnic minority students. Youth are mentored one-on-one to provide intensive and sustained support to assist in college preparation and participate in on-campus experiences.
- **Tribal:** 4-H NMP is currently engaging youth in Tribal communities in nine states:
 - Kalispel Tribe (Washington)
 - Coeur d’Alene Tribe (Idaho)
 - Standing Rock (North Dakota)
 - Fon du Lac Reservation (Minnesota)
 - Catawba Indian Nation (South Carolina)
 - St. Regis Mohawk Tribe (New York)
 - Blackfeet Tribe (Montana)
 - Cherokee Nation, Chickasaw Nation, Choctaw Nation (Oklahoma)
 - Fallon Paiute-Shoshone Tribe (Nevada)

Without adequate resources and funding for mentoring programs, America’s young people will not have access to the caring adults they need to develop healthy, safe and productive lives. This request in support of at least \$100 million for the Youth Mentoring Program will allow more young people to have access to the important social, professional, and academic opportunities we hope to provide for all America’s youth. **The Youth Mentoring Program demonstrates a sound and an effective investment in evidence-based programs that works and will have definitive and measureable impact on closing the mentoring gap in America.**

Thank you again for this opportunity to provide testimony on this critical federal resource supporting young people.

NERRA

**National Estuarine
Research Reserve
ASSOCIATION**

Testimony for the Record

Lisa M. Auermuller

President, National Estuarine Research Reserve Association

Before the

Commerce-Justice-Science Appropriations Subcommittee

Committee on Appropriations

United States House of Representatives

Washington, D.C.

April 27, 2018

Chairman and Members of the Subcommittee, my name is Lisa Auermuller and I am the Assistant Manager of the Jacques Cousteau National Estuarine Research Reserve in New Jersey, administered by Rutgers, The State University of NJ. I submit this testimony in my capacity as President of the National Estuarine Research Reserve Association (NERRA). NERRA is a not-for-profit scientific and educational organization dedicated to the protection, understanding, and science-based management of our nation's estuaries and coasts.

Thank you, on behalf of these special places and all of the communities they support. We appreciate the investment Congress has made in the National Estuarine Research Reserve System (NERRS) over the past 45 years. Because of your support, coastal states and communities have worked to expand the NERRS into a network 29 protected places spanning over 1.3 million acres of coastal land. Reserves are locally managed programs that communities depend on to address critical challenges like balancing economic growth and natural resource conservation. Reserves help local communities plan for extreme storms and rising sea levels, protect nursery habitats that support commercial and recreational fisheries, and prepare the next generation to be wise stewards of these precious resources in the future. This unique state-federal partnership brings the scientific expertise and financial resources of NOAA into coastal communities across the country. Investments in the research reserves support locally implemented science-based coastal resource management, research, and education programs.

Reserves are valued, valuable, and highly leveraged

Reserves support healthy estuaries and healthy estuaries support communities nationwide. From Alaska's Kachemak Bay to Rookery Bay in Florida, estuaries protect thousands of communities from flooding, keep water clean, sustain and create jobs, support fish and wildlife, and offer endless opportunities for outdoor recreation and water-based small businesses. Reserve programs help sustain more than 10,000 jobs, provide training to more than 13,400 people. Our national system contributes billions of dollars to the shellfish and seafood industry and tens of billions of dollars in ocean-dependent industries along our coasts. Each year, coastal wetlands, like those protected by the NERRS, provide \$26.25 billion in value by protecting U.S. communities against storms.

Every reserve leverages additional funding for their surrounding communities. In some states, this can be as much as \$1.5 million. In addition to their ability to leverage funding, reserves engage and empower people in their own communities. Over a half of million people visit reserves each year and all reserves attract volunteers that offset costs by donating approximately 82,000 hours of work every year equating to a value of \$1.9 million in services. It is well documented that people place an enormous value in living near a healthy estuary. Locally, Reserves become trusted sources of science-based information and recreation for community members to recreate with, learn from and rely on when information is needed to inform decision making.

NERRA recommendations

For Fiscal Year 2019, NERRA strongly recommends the following funding levels within the National Oceanic and Atmospheric Administration (NOAA):

NERRS Operations	\$27 million
NERRS Procurement, Acquisition, and Construction (PAC)	\$1.9 million

NERRA is deeply concerned with the Administration's elimination of funding for the NERRS and for other programs that support coastal and ocean science and management, but we are heartened by the support from Senate and Congress. We agree that everyone benefits from the return on investment the NERRS provide. People benefit from the economic opportunities and quality of life that coastal communities and natural resources provide. To preserve the safety, economic vitality, and cultural and environmental values of the coast, we need to invest in proven programs that are delivering direct benefits. NERRA's recommended budget will allow reserves to maintain and increase:

- Science programs that deliver guidance and solutions to issues facing local, state and national interests.
- Environmental monitoring programs that serve as a foundational element of national water and weather coastal observations.
- Science, technology, engineering and mathematics focused education programs that serve approximately 81,000 students and more than 3,000 teachers each year.
- Public access for hunting, fishing, and passive recreation on over a million acres of land and water.
- Scientific technical assistance and information to professionals in over 2500 cities and towns and 570 businesses nation- wide
- Support for students and researchers at over 100 university partners

NERRA's FY19 request is a \$2M increase over current program baseline. The additional \$2M will stimulate graduate research on coastal communities and ecosystems by employing a graduate student at each reserve. These recommendations are derived from a Congressionally requested Blue Ribbon Panel that evaluated the NERRS in 2015, and identified increased site specific science and enhanced student research opportunities as locally beneficial essential services that reserves are well positioned to implement.

Specific within the FY19 request, is support for a graduate research fellowship program. These locally based students would help reserves answer the most pressing local management questions. Past research by graduate fellows has informed state and local decisions on how to manage fish stocks, coastal erosion, and water quality. Hosting a research fellowship at reserves will train young professionals to understand the community context of coastal science and management questions, provide them with cross disciplinary mentors, and give them experience and opportunities to engage in meaningful science. In a time where funding for advance education degrees is very tight, and science skills is needed, this program is an excellent fit for helping coastal communities and young professionals. In one specific example from the Great Lakes, colleagues from Wisconsin found that graduate research helped communities predict problems and identify solutions relating to making stream banks more resilient to the region's increasingly frequent and intense storms.

Protecting special places for science, recreation, education

The NERRS Procurement, Acquisition, and Construction (PAC) funding is designated for land conservation, through acquisition of priority lands, and essential facilities construction and upgrades. This competitive funding program is matched by state funds and is critical to maintaining the places that host NERR research, education and outreach. Reserves are destinations for tourists, natural playgrounds for children, and havens for quiet reflection for people around the country. Additionally, hunters and fishermen use these public lands for commercial and recreational uses: 27 reserves allow for recreational fishing; and, approximately 85% allow for recreational hunting..

Funding the acquisition of coastal land protects research, education and recreational opportunities; water quality and quantity; flood storage areas; and critical fish and wildlife habitat. Coastal and estuarine habitats are consistently ranked as having the highest need for protection by national non-profits and state assessments. These places are also under the most intense development pressure as people continue to move to the coast in search of jobs and a high quality of life. This land is expensive, and is becoming scarce. PAC's federal investment are often the critical seed monies necessary to attract other pots of private, state, local, and nonprofit funds.

PAC funding allows reserves to be a catalyst in their communities for conservation. Of the 1.3 million acres that are currently a part of the reserve system, over 500,000 of those acres are wetlands. Wetlands provide essential services to all Americans; they are fish and bird sanctuaries, trap pollutants, store carbon, and act as sponges to reduce flooding. This ability to store flood waters enables wetlands like salt marshes to reduce a community's storm damages. These marshes reduce the risk of flood exposure by 50% for people within 2/3 of a mile of these areas, while also reducing property losses in upstream communities. Reserves are critical coastal areas for protecting communities against storms and floods, especially along the eastern seaboard and the Gulf of Mexico. For example, \$625 million in property damages were avoided during Hurricane Sandy due to coastal wetlands protecting property and over 1,300 miles of roads. Ten NERRs were hit by that storm, contributing to the protection provided by these habitats. While

studies of the impact of 2017 storms are not completed, they did include the second (Harvey), third (Maria), and fifth (Irma) most costly storms to hit the U.S.

In addition to the preservation of critical coastal lands, NERRS PAC funds also in the increase of local construction jobs.

Conclusion

NERRA greatly appreciates the past support the Subcommittee has provided. This support is critical to sustain and increase the economic viability of coastal and estuary-based communities, businesses and industries.

With NERRA's FY 2019 request of \$27 million for the NERRS Operations and \$1.9 million for NERRS PAC, the program will be able to enhance delivery of credible scientific research and translation to local coastal communities around the country.

Thank you for the opportunity to present these remarks. On behalf of NERRA, I would be happy to answer questions or provide additional information to the Subcommittee.

**Testimony for the Commerce, Justice, Science Appropriations Subcommittee
United States House of Representatives
Kim Gandy, President and CEO, National Network to End Domestic Violence
Regarding the
Violence Against Women Act (Office on Violence Against Women) and
Victims of Crime Act (Office for Victims of Crime)
U.S. Department of Justice
April 27, 2018**

Chairman Culberson, Ranking Member Serrano, and distinguished members of the Appropriations Committee, thank you for this opportunity to provide testimony on the importance of investing in Violence Against Women Act programs and the Victims of Crime Act. I sincerely thank the Committee for its ongoing support for these lifesaving programs.

I am the President and CEO of the National Network to End Domestic Violence (NNEDV), the nation's leading voice for victims of domestic violence and their advocates. We represent the 56 state and territorial domestic violence coalitions, their over 2,500 member domestic violence and sexual assault programs, and the millions of victims they serve annually. Our direct connection with victims and those who serve them gives us a unique understanding of their needs and the vital importance of these continued investments.

The purpose of this testimony is to request an investment of the full authorized amount of **\$571 million** in the Violence Against Women Act (VAWA) and the release of **\$2.6 billion** (with no transfers to other DOJ programs) from the Victims of Crime Act Fund administered by the U.S. Department of Justice in the FY 2019 Budget. We sincerely appreciate the Committee's increased funding in the recently passed Omnibus bill. These much needed increases will help survivors access critical services and find safety.

Incidence, Prevalence, Severity and Consequences of Domestic and Sexual Violence. The crimes of domestic and sexual violence are pervasive, insidious and life-threatening. In 2011, the Centers for Disease Control and Prevention released the first-ever National Intimate Partner and Sexual Violence Survey which found that domestic violence, sexual violence and stalking are widespread. Domestic violence affects more than 12 million people each year, and more than one in four women and one in seven men have experienced rape, physical violence, or stalking in his or her lifetime. The terrifying conclusion of domestic violence is often murder, and every day in the U.S. an average of 3 women are killed by a current or former intimate partner.ⁱ The cycle is perpetuated as approximately 15.5 million children are exposed to domestic violence every year.ⁱⁱ In addition to the impact of domestic and sexual violence to individual victims and their families, these crimes cost taxpayers and communities. According to the Centers for Disease Control, based on 1999 figures, the cost of intimate partner violence exceeds \$5.8 billion each year, \$4.1 billion of which is for direct health care services.ⁱⁱⁱ Translating this into 2018 dollars, based on the Bureau of Labor Statistics Consumer Price Index, the annual cost to the nation is over \$9 billion per year. In addition, domestic violence costs U.S. employers an estimated \$3 to \$13 billion annually.^{iv}

Despite this grim reality, we know that when a coordinated response is developed and immediate and essential services are available, victims can escape from violence and succeed at rebuilding their lives. Additionally, several high-profile cases, national focus on domestic and sexual violence, and the #MeToo movement have given survivors the courage to come forward and hold their abusers accountable. As a result, shelters overwhelmingly report that they cannot fulfill the growing need for these services. To address unmet needs and build upon their successes, VAWA programs and the Victims of Crime Act fund release should receive significant investments in the FY 19 Commerce, Justice, Science Appropriations bill.

The Need for Increased Funding to Maintain Programs and Bridge the Gap. NNEDV's *DV Counts Census* found that in just one day during 2016, 72,959 victims of domestic violence received critical emergency shelter, housing, counseling; legal support, children's advocacy, crisis line, and prevention related services, but 11,991 requests for services went unmet, largely due to lack of funding. That same year, domestic violence programs reported that they had laid off nearly 1,200 staff positions, 61% of which were direct service positions, such as case managers, advocates, shelter staff, and child advocates. For those individuals who are not able to find safety the consequences can be dire, including homelessness or continued exposure to life-threatening violence.

We have made phenomenal progress in addressing sexual and domestic violence because of Congress' ongoing, annual investment. Before the passage of VAWA, law enforcement often failed to conduct effective investigations and make arrests where appropriate, prosecutors often declined to file charges they could have proven, and courts often neglected or mishandled cases involving survivors and their families. With the passage of VAWA, the infusion of federal funds fostered unprecedented coordination between frontline stakeholders responding to these crises. VAWA has elevated a national learning community, fostering innovation and promoting best practices. VAWA's work is complemented by VOCA, which funds direct services to victims of all types of crime, including dating violence and stalking. Together, VAWA and VOCA have fueled our undeniable national progress.

Between VAWA's implementation in 1994 and 2011, serious victimization by intimate partner violence declined by 72% for women and 64% for men.^v VAWA saved an estimated \$12.6 billion in net-averted costs in its first 6 years alone.^{vi} A 2010 study demonstrated that an increase in the number of legal services available is associated with a decrease in intimate partner homicide.^{vii} Referring a victim to an advocate has been linked to an increased willingness to file a police report – 59% of the time, versus 41% for individuals not referred to a victim advocate.^{viii} Continued investment is vital to ensure that law enforcement officers, prosecutors, and judges and victim services have the tools they need to support victim safety and to hold perpetrators accountable. In order to meet the immediate needs of victims and to continue to prevent and end domestic violence, I urge you to increase VAWA funding and release steady funds from VOCA.

VICTIMS OF CRIME ACT (VOCA) FUNDING

VOCA uses non-taxpayer money from the Crime Victims Fund for several programs that serve victims of crime, including state-formula victim assistance grants. These funds, which are generated by fines paid by federal criminals, support services to 4 million victims of all types of crimes annually, through 4,400 direct service agencies such as domestic violence shelters, rape crisis centers, and child abuse treatment programs. Sustained VOCA funds are critically needed to respond to the crisis caused by the dangerous lack of available services for victims of domestic and sexual violence. The balance in the Crime Victims Fund is more than enough to maintain increased VOCA funding releases without jeopardizing the Fund's future sustainability. We urge you to request that the committee set the annual VOCA funding release level at no less than the average amount deposited into the Fund over the three previous fiscal years, which is approximately \$2.6 billion for fiscal year 2019.

The FY 18 Appropriations bill transferred VOCA funds to pay for VAWA programs. We oppose VOCA funds being transferred to other CJS accounts, as this reduces vital funding for direct victim services. We urge you to request \$2.6 billion from the VOCA fund in FY 19 to address the urgent needs of victims of crime. We urge you to request that Appropriators do not transfer funds from VOCA to fund other programs within CJS. Additionally, we urge you to request funding to maintain the federal funding stream from VOCA for

tribes. Individuals on tribal lands experience disproportionately high rates of domestic and sexual violence and desperately need funding for victim services.

VIOLENCE AGAINST WOMEN ACT (VAWA) - \$571 million funding request

Since its passage in 1994, VAWA has been the cornerstone of our nation's response to domestic violence, sexual assault, dating violence, and stalking. The promise of VAWA can only be fulfilled if the programs receive continued investment through the appropriations process. We urge you to support full funding for all VAWA programs as you work on the FY 19 CJS bill:

VAWA STOP Program – \$222 million funding request

VAWA's Services, Training, Officers, Prosecutors (STOP) Grant Program is at the core of effective coordinated community responses to domestic violence and sexual assault. These coordinated responses help hundreds of thousands of victims find safety. As the foundational VAWA program, the STOP program awards funds to every state and territory through a formula-based system. States use this STOP funding for law enforcement, prosecution, and courts training and response. In 2016, STOP grant-funded programs helped 362,172 victims of domestic violence, dating violence, sexual violence, and stalking; funded 2,226 staff members, including victim advocates, law enforcement officers, counselors, and attorneys; and trained 252,795 criminal justice professionals. Increased investment in STOP will allow communities to expand their lifesaving homicide reduction efforts, continue to improve their law enforcement and prosecution responses, and serve more victims. We urge you to request \$222 million to support these essential, comprehensive services.

Legal Assistance for Victims (LAV) – \$57 million funding request

Research indicates that the practical nature of legal services gives victims long-term alternatives to their abusive relationships, and are also vital to support survivors of sexual assault in civil matters. Sadly, many survivors do not have the means to secure legal assistance in the aftermath of abuse or assault. Legal services are second only to medical services as the most-requested need of victims. The LAV program is the only federally-funded program designed to meet the legal needs of victims. Targeted increases to the LAV program are a sound investment in long-term solutions to violence. We urge you to request \$57 million for this program to support legal help for victims.

Rural Grant Program – \$50 million funding request

This program supports services for victims of domestic violence and sexual assault living in rural and isolated areas. Rural victims face unique barriers, including lack of access to child care, legal services, and public transportation, under-resourced law enforcement, and a shortage of safe shelter and services. We urge you to provide \$50 million for this program.

Transitional Housing Program – \$35 million funding request

This vital VAWA program helps communities in every state give victims of domestic violence, sexual assault, dating violence, and stalking a safe place to begin to rebuild their shattered lives. On just one day in 2016, 15,283 adults and children were housed in domestic violence transitional housing programs. On the same day, however, 7,914 requests for emergency shelter or transitional housing were denied due to a lack of capacity. The extreme dearth nationwide of affordable housing produces a situation where many victims of domestic violence must return to their abusers because they cannot find stable housing, while others are forced into homelessness. Increased investment in the Transitional Housing program will allow more communities ensure that victims do not have to make these unfathomable choices. We urge you to request \$35 million for this program.

Grants to Encourage Arrest Program (GTEAP) – \$73 million funding request

GTEAP helps communities develop and sustain a comprehensive criminal justice response to domestic violence, enhancing victims' safety and holding perpetrators accountable. GTEAP encourages state, local, and tribal governments and courts to treat domestic violence, dating violence, sexual assault, and stalking as serious violations of criminal law requiring the coordinated involvement of the criminal justice system. The homicide reduction initiative in GTEAP (\$4 million) is designed to address the risk of homicide of abuse victims, especially those in escalating situations. Additionally, a set aside for firearms lethality initiative will allow communities to address the deadly combination of firearms and domestic violence. Increased investment in GTEAP to \$73 million will allow communities to continue this lifesaving work.

Sexual Assault Services Program (SASP) – \$40 million funding request

SASP is a state formula grant and the only federal funding source dedicated to providing direct services to adult and minor victims of sexual violence. Services include hotlines, crisis intervention, advocacy, and accompaniment through medical and legal systems. The Office on Violence Against Women's most recent report to Congress found that 49,068 survivors of sexual assault had been served, and 113,697 hotline calls answered, by SASP-funded advocates. Increased funding will help eliminate waiting lists and respond to the unmet needs of victims. We urge you to provide \$40 million for this vital program.

Remaining VAWA programs: Elder Abuse Grant program (\$9 million), Protections and Services for Disabled Victims (\$9 million), and Outreach to Underserved Victims (\$2 million). VAWA also funds programs designed to prevent domestic violence, sexual assault, dating violence, stalking and addresses crimes experienced by children and youth – including the Violence on College Campuses Grants (\$26 million), the SMART and CHOOSE Youth (\$15 million) programs, the Grants to Support Families in the Justice System (\$22 million). The Rape Survivor Child Custody Act (\$2.50 million) provides rights for victims of rape. Programs that address the needs of Native American victims include Research on Violence Against Indian Women (\$1 million), the VAWA Tribal Jurisdiction (\$5 million), National Tribal Sex Offender Registry (\$1 million) and the National Clearinghouse on Sexual Assault of American Indian and Alaska Native Women (\$0.5 million). Finally, the Resource Center on Workplaces Responses (\$1 million) helps companies address domestic violence and sexual assault in the workplace.

VAWA programs work together to improve the system-wide response to domestic and sexual violence. Thank you for your continued support of these vital programs. While our country has made continued investments in the criminal justice response to these heinous crimes, we need an equal investment in the human service, public health and prevention responses in order to comprehensively address and end the violence. These vital, cost-effective programs help break the cycle and save lives, and we asked for their fully authorized amounts.

¹ Bureau of Justice Statistics (2013). *Intimate Partner Violence: Attributes of Victimization, 1993-2011* (Special Report NCJ243300)

² McDonald, R., et al. (2006). "Estimating the Number of American Children Living in Partner-Violence Families." *Journal of Family Psychology*, 30(1), 137-142.

³ National Center for Injury Prevention and Control. *Costs of Intimate Partner Violence Against Women in the United States*. Atlanta (GA): Centers for Disease Control and Prevention; 2003.

⁴ Bureau of National Affairs Special Rep. No. 32, *Violence and Stress: The Work/Family Connection 2* (1990); Joan Zorza, *Women Battering: High Costs and the State of the Law*, *Clearinghouse Rev.*, Vol. 28, No. 4, 383, 385.

⁵ *FY 2017: Congressional Justification*. (2016). United States Department of Justice, Office on Violence Against Women. <https://www.justice.gov/ond/foi/921736/download>

⁶ Clark, K.A., Biddle, A.K., & Martin, S.L. (2002). A Cost-Benefit Analysis of the Violence Against Women Act of 1994. *Violence Against Women*, 8, 4: 417-428.

⁷ Reckdenwald, A., & Parker, K.K. (2010). Understanding gender-specific intimate partner homicide: A theoretical and domestic service-oriented approach. *Journal of Criminal Justice*, 38, 951-958.

⁸ Campbell, R. (2006). Rape survivors' experiences with the legal and medical system: Do rape victim advocates make a difference? *Violence Against Women*, 12, 30-45.

House Committee on Appropriations
 Subcommittee on Commerce, Justice, Science and Related Agencies
FY19 budget for NOAA and NSF

Written testimony of David Jonas Bardin [davidbardin@aol.com] — 4 May 2018
 Retired member of Arent Fox LLP, *pro se* as a private citizen

Chairman Culberson and Ranking Member Serrano,

Please recommend Report language objecting to renewed proposal to terminate USGS Geomagnetism Program, on which NOAA relies, and urging its preservation and stability.

Please plus up NSF budget so that it may complete its EarthScope MT survey of Earth conductivity in 14 Southern and Southwestern States of Contiguous United States (CONUS).

USGS Geomagnetism Program and NOAA

The President's FY 2019 budget request again asked to eliminate USGS Geomagnetism Program. H.R. 3354 (115) and Pub.L. 115-141 rejected an identical proposal for FY18. My testimony for the Subcommittee on Interior, Environment, and Related Agencies (stressing electric power) will recommend *increased* funding for the Geomagnetism Program. Here I discuss that Program's importance to NOAA's mission and our National Space Weather Strategy.

On April 26, 2018, the Subcommittees on Environment and Space of the Committee on Science, Space, and Technology held a joint hearing (*Surveying the Space Weather Landscape*). Dr. Neil Jacobs (Assistant Secretary of Commerce for Environmental Observation and Prediction, National Oceanic and Atmospheric Administration) presented testimony, including:

Observation Platforms

NOAA utilizes an array of space-based and ground based observations in our space weather forecast operations and related research. Many of these data sets are available in near real real-time, and come from a variety of sources, ranging from solar imaging satellites to ground magnetometer stations. In addition to NOAA operational assets, we have partnerships with other organizations such as NASA, NSF, USAF, and USGS to utilize data from these agencies to complement the NOAA observations.

....

The underpinning data used by NOAA to supply the Nation with geomagnetic storm warnings and alerts are the ground-based magnetic field observations provided by the USGS Geomagnetism Program. NOAA's geomagnetic storm alerts and warnings are based on the USGS magnetometers. These observations describe the local intensity of the changes in magnetic fields and allow NOAA to characterize the intensity of the geomagnetic storm.

On April 20, NOAA kicked off Executive Branch review and updating of the 2015 National Space Weather Strategy by a Request for Information,¹ as Dr. Jacobs' testimony advised it would.

The Geomagnetism Program is vital to national security and to protect our electric power

¹ Federal Register/Vol. 83, No. 77/Friday, April 20, 2018/Notices, pages 17526-7.

grid, other critical infrastructure, and operations from natural and hostile events.² This Program has data acquisition, analytic, and information sharing capabilities. It maintains geomagnetic time series and real-time data used by military and civilian agencies, the North American Electric Reliability Corporation (NERC), Electric Power Research Institute (EPRI), utility firms and groups, consultants and researchers in North America and beyond. It provides continuous outputs of its 14 geomagnetic observatories: five in Alaska, four in the Western Interconnection



service area [Electricity Coordinating Council (WECC)] (in Washington, Colorado, Arizona, California), two in the Eastern Interconnection (in Mississippi, Virginia), one each in Hawaii, Guam, Puerto Rico — and none in the Texas Interconnection service area [Electric Reliability Council of Texas (ERCOT)].³ It reciprocates with international partners. The Program’s “most important product ... is time series of stable [magnetometer data](#) having high accuracy and resolution.”⁴ We should not risk interruption or degradation of Program outputs.

NSF EarthScope MT survey of Earth conductivity in CONUS

Protecting the electric power grid from Geomagnetic Disturbances (GMDs) caused by natural explosion from the Sun (or from E3 pulses due to a high-altitude nuclear explosion), requires data about electric conductivity of the Earth⁵ which federally-funded surveys have acquired (or are acquiring) for most of the country, thanks to National Science Foundation (NSF) EarthScope grants to Oregon State University (OSU). (USGS Mineral Resources Program has performed a fraction of these surveys.) As NSF funding for such surveying runs out this year, completion of surveying for remainder of our country seems unlikely.

- Current pace of soon-to-terminate NSF-funded effort is \$700,000 per year.
- Survey completion cost over two to three years would likely total about \$4 or \$5 million

The map below shows two gaps — each exposing Americans to geomagnetic blackout hazards:

- Big circles, marking six existing USGS magnetometer stations in CONUS and three Canadian ones near border, leave a huge gap between Boulder Colorado and Fredericksburg Virginia.⁶
- Small circles mark Earth conductivity survey of two-thirds of CONUS, leaving gap for all or parts of 14 Southern and Southwestern CONUS states: ALABAMA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, FLORIDA, LOUISIANA, MISSISSIPPI, NEBRASKA, NEVADA, NEW MEXICO, OKLAHOMA, TEXAS and UTAH.

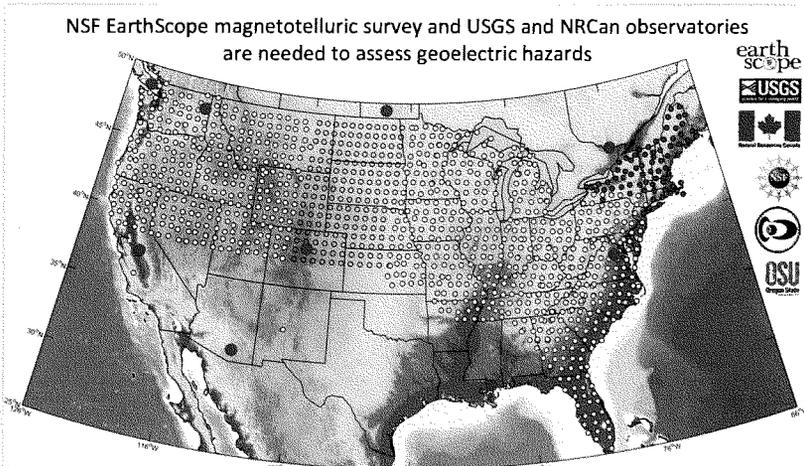
² See Finn & Love, *Proposed elimination of USGS Geomagnetism Program* (June 3, 2017); available at <https://geohazards.usgs.gov/pipermail/geomag-data/2017-June/000026.html>.

³ In July 2009, USGS closed and subsequently dismantled its Del Rio, Texas, observatory for budgetary reasons.

⁴ See <https://geomag.usgs.gov/monitoring/operations.php>.

⁵ See Space Weather Enterprise Forum, 27 June 2017, Session 4, transcript at 5-7, available at https://swfound.org/media/205939/swef_2017_4.pdf

⁶ See Love & Finn (2017) [*Real-time geomagnetic monitoring for space weather-related applications: Opportunities and challenges* Space Weather, 15, doi:10.1002/2017SW001665.



Conclusions

Please recommend following Report language:

The Committee welcomes Executive Branch initiative to update 2015 National Space Weather Strategy, looks forward to outputs from that effort, and urges that the USGS Geomagnetism Program be preserved — and strengthened as appropriate.

Please plus up the NSF budget sufficiently to fund completion of the EarthScope MT Earth conductivity survey of CONUS.

Respectfully submitted, *David Jonas Bardin*

**Testimony in Support of FY 2019 Funding for the
National Science Foundation**

April 26, 2018

Submitted by:

John Bates, Ph.D.

President, Natural Science Collections Alliance

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Submitted to:

House Committee on Appropriations

Subcommittee on Commerce, Justice, Science and Related Agencies

The Natural Science Collections Alliance appreciates the opportunity to provide testimony in support of fiscal year (FY) 2019 appropriations for the National Science Foundation (NSF). **We encourage Congress to provide the NSF with at least \$8.45 billion in FY 2019.**

The Natural Science Collections Alliance is a non-profit association that supports natural science collections, their human resources, the institutions that house them, and their research activities for the benefit of science and society. Our membership consists of institutions that are part of the international community of museums, botanical gardens, herbaria, universities, and other institutions that contain natural science collections and use them in research, exhibitions, academic and informal science education, and outreach activities.

Scientific collections are a vital component of our nation's research infrastructure. These specimens and their associated data (genetic, tissue, organism, paleontological, anthropological, and environmental samples) constitute a unique and irreplaceable library of Earth's history.

Natural science collections advance research that improves public health, agriculture, natural resource management, biodiversity conservation, and American innovation. Current research involving natural science collections also contributes to the development of new cyberinfrastructure, data visualization tools, and improved data management. A few examples of how scientific collections have saved lives, enhanced food production, and advanced scientific discovery include:

- On January 15, 2009, US Airways flight 1549 was forced to land in the Hudson River shortly after take off. The plane's engines failed after it flew through a flock of birds. Luckily, no one was killed in the accident. Per government policy, museum scientists determined from the remains of these birds that they were Canada Geese. The scientists then gathered stable isotope data from feathers and tissue from the engines and compared these samples to museum specimens of geese from known North American localities. The comparative analyses determined that a flock of migratory Canada Geese from the Labrador region of Canada were involved. Using this information, LaGuardia Airport developed a management plan to reduce the risk of future bird strikes.

- In 1993, a deadly new disease appeared in the southwestern United States. Using NSF-supported biological collections at Texas Tech University and University of New Mexico, the agent was determined to be Hantavirus carried by a few species of rodents. When rodent populations increased following an El Niño weather event, the animals spread into human environments and increased the transmission of Hantavirus. With the vector known, it was possible to lessen the risk to humans by reducing opportunities for disease transmission. Using other specimens, scientists have now identified more than 40 other strains of Hantavirus worldwide that are carried by bats, moles, and shrews. Similar work is underway to identify the carrier of Ebola in Africa.
- Citrus bacterial canker disease wreaks havoc on fruit crops in Florida. Using plant specimens collected a century ago, scientists have analyzed the bacterium and traced its source. Knowledge of how the bacteria spreads allows scientists to develop effective control methods and to protect the U.S. citrus industry.

There are more than 1,600 biological collections in the United States, the result of more than 250 years of scientific investigation, discovery, and inventory of living and fossil species. Collections are housed at museums, universities, botanic gardens, and government managed laboratories and archives. The institutions that care for scientific collections are important research infrastructure for the United States that also provide students with hands-on training opportunities.

The NSF plays a unique role in protecting and expanding access to our nation's scientific collections. NSF supports research that uses existing collections as well as studies that gather new natural history specimens. NSF's Directorates for Biological Sciences (BIO) and Geosciences (GEO) support research and student training opportunities in natural history collections. The NSF is also an important supporter of biological research infrastructure, such as natural history museums, living stock collections, and field stations. These place-based research centers enable studies that take place over long time periods and variable spatial scales.

NSF funds state-of-the-art work to digitize high priority specimen collections. The result of this effort is that irreplaceable biological specimens and their associated data are now accessible through the Internet to researchers, educators, and the public. More than 95 million specimens are now online, with millions more awaiting digitization. This effort involves biologists, computer scientists, and engineers in multi-disciplinary teams who develop innovative imaging, robotics, and data storage and retrieval methods. These new tools expedite the digitization process and contribute to the development of new products and services of value to other industries. Museum specimens and associated data represent an extraordinary resource for teaching core concepts in science.

In addition to supporting research, NSF's science, technology, engineering, and mathematics (STEM) education programs enhance the ability of museums, botanic gardens, zoos, and other research institutions to provide science learning opportunities for students. NSF's Advancing Informal STEM Learning program is furthering our understanding of informal science education

outside of traditional classrooms. The program is especially valuable at broadening participation in science for underrepresented groups.

Conclusion

Preservation of specimens is in the best interest of science and taxpayers. Quite simply, it is not possible to replace this important aspect of our heritage. Specimens collected decades or centuries ago are increasingly being used to develop and validate models that explain how species (including viruses, parasites, and pathogens) have dispersed around the world, as well as how and when they have or might infect humans.

The NSF is the primary funding source that provides support to institutions to help them preserve endangered collections, to help increase access to specimens for research and education, and to support the development of new tools and resources that enable innovative new research using the collections.

Investments in NSF programs that support natural science collections research and education are essential if we are to maintain our global leadership in innovation. Please support funding of at least \$8.45 billion for NSF for FY 2019.

Thank you for your thoughtful consideration of this request and for your prior support of the National Science Foundation.



Northwest Indian Fisheries Commission

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**WRITTEN TESTIMONY OF LORRAINE LOOMIS, CHAIR
 NORTHWEST INDIAN FISHERIES COMMISSION
 SUBMITTED TO THE HOUSE OF REPRESENTATIVES APPROPRIATIONS
 SUBCOMMITTEE ON COMMERCE, JUSTICE, SCIENCE, AND RELATED
 AGENCIES
 ON THE FISCAL YEAR 2019 BUDGET FOR THE
 NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION**

April 27, 2018

Chairman Culberson, Ranking Member Serrano, and Honorable Members of the Subcommittee, my name is Lorraine Loomis and I am the Chair of the Northwest Indian Fisheries Commission (NWIFC). The NWIFC is comprised of the twenty tribes that are party to *United States v. Washington*¹ (*U.S. v. WA*), which upheld the tribes' treaty-reserved right to harvest and manage various natural resources on and off-reservation, including salmon and shellfish. On behalf of the NWIFC, we are providing testimony for the record on the natural resources and fishery management program funding requests for the National Oceanic & Atmospheric Administration (NOAA)/National Marine Fisheries Service (NMFS) Fiscal Year 2019 appropriations. These programs support the management of salmon fisheries, which contribute to a robust natural resource-based economy and the continued exercise of tribal treaty rights to fish.

SUMMARY OF FISCAL YEAR 2019 (FY19) APPROPRIATIONS REQUESTS

- ❑ **\$65.0 million for NOAA Pacific Coastal Salmon Recovery Fund**
- ❑ **\$30.0 million for NOAA Pacific Salmon Treaty**
- ❑ **\$25.9 million for NOAA Mitchell Act Hatchery Programs**
- ❑ **Sufficient funding for NOAA Fisheries Disaster Assistance Program**
- ❑ **\$4.0 million for NOAA Hatchery Genetic Management Plans**

The member tribes of the NWIFC ceded much of the land that is now western Washington in exchange for reserving the continued right to harvest and manage various natural resources including salmon and shellfish. Salmon are, and have always been, the foundation of tribal cultures, traditions and economies in western Washington. To ensure that tribal treaty rights and lifeways are protected and not rendered meaningless, it is essential that the federal government provide support to all aspects of salmon management including harvest planning and implementation (e.g. Pacific Salmon Treaty), hatchery production, (e.g. Mitchell Act Hatchery Programs) and habitat protection and restoration (e.g. Pacific Coastal Salmon Recovery Fund).

JUSTIFICATION OF REQUESTS

¹ *United States v. Washington*, Boldt Decision (1974) reaffirmed western Washington tribes' treaty fishing rights.

- **Provide \$65.0 million for NOAA Pacific Coastal Salmon Recovery Fund (PCSRF)**

We respectfully request \$65.0 million for PCSRF, which maintains the FY18 enacted level. Although we support the FY18 enacted level of \$65.0 million, it is a significant departure from the PCSRF peak level of \$110.0 million in FY02 or subsequent years in which budget authority was maintained upwards of \$80.0 million through FY11. We ultimately would like to see PCSRF funding fully restored to FY02 levels, but we recognize that budget conditions may necessitate an incremental increase in the short term. Nevertheless, we continue to support the original Congressional intent of these funds that would enable the federal government to fulfill its obligations to salmon recovery and the treaty fishing rights of the tribes.

The PCSRF is a multi-state, multi-tribe program established by Congress in FY00 with a primary goal to help recover salmon throughout the Pacific coast region. Through PCSRF, tribes develop and implement sustainable salmon harvest and hatchery management practices and help protect and restore salmon habitat. To accomplish this, tribes implement scientifically based salmon recovery plans developed for each watershed in concert with federal, state, and local partners. Tribes also participate in sustainable harvest management activities such as monitoring of fish abundance, which is then used to forecast adult returns and subsequently develop annual harvest rates that achieve conservation objectives and provide for tribal and non-tribal harvest opportunities. Since its inception, PCSRF has been the primary salmon recovery response. This has resulted in over 1.1 million acres of spawning and rearing habitat restored and protected, and re-establishing salmon access to 11,980 miles of previously inaccessible streams in our region.

- **Provide \$30.0 million for NOAA Pacific Salmon Treaty (within Salmon Management Activities and Regional Councils and Fisheries Commissions)**

We support the Pacific Salmon Commission (PSC) U.S. Section's request of \$30.0 million to implement the Pacific Salmon Treaty (PST). Department of Commerce (DOC) funding covers a wide array of programs including NMFS participation in PST, state (AK, WA, ID, OR) base grants, Coded Wire Tag Program, Puget Sound Critical Stock Augmentation Program, chinook indicator stock assessments and implementation of the Chinook Salmon Agreement. Total DOC FY18 funding for the PSC and PST implementation was \$13.3 million. PSC and PST implementation is funded in large part through NFMS's Salmon Management Activities account, as well as some funding provided through the Regional Councils and Fisheries Commissions account.

Within our collective request of \$30.0 million to support the PSC and implement the PST, we specifically request the following funding within Salmon Management Activities account: \$3.0 million for Coded Wire Tag (CWT) Program, \$2.5 million for the Puget Sound Critical Stock Augmentation Program, and restoration of funding levels for the Chinook Salmon Agreement line to the original level of \$1.8 million.

Adult salmon returning to most western Washington streams migrate through U.S. and Canadian waters and are harvested by fishermen from both countries. For years, there were no restrictions on the interception of returning salmon by fishermen of neighboring countries. After many years of negotiations, in 1985 the U.S. and Canada agreed to cooperate in the management, research and enhancement of Pacific salmon stocks of mutual concern by ratifying the PST. The PSC was

created to implement the PST, and is responsible for developing management recommendations, assessing each country's performance and compliance with the treaty. It is also the forum for all entities to work towards reaching agreement on fisheries issues.

The Puget Sound Critical Stock Augmentation Program is required for effective implementation of the PST and its 2008 chinook annex and pending future chinook agreements. This program provides funding for operation and maintenance costs for hatchery augmentation programs. These hatchery efforts were initiated in connection with the 2008 agreements, because the conservation needs of these populations could not be met by harvest restrictions alone.

The funding and implementation of the CWT Program is also a U.S. obligation under the PST. The CWT Program produces data that is widely used by state, federal and tribal fisheries managers to evaluate hatchery contributions to catch, smolt to adult survival rates, spawner abundance on spawning grounds, differential in-hatchery treatments, and other important information that supports fisheries management and research. Funding for the coast-wide CWT Program supports continued maintenance and efficiency improvements.

- **Provide \$25.9 million for NOAA Mitchell Act Hatchery Programs (within Salmon Management Activities)**

We respectfully request \$25.9 million for the Mitchell Act Hatchery Programs. The FY18 appropriations provided a total of \$20.2 million. The request for an additional \$5.7 million in Mitchell Act funds above the FY18 funding level is to ensure that mitigation hatcheries operate at a full production level to meet federal obligations. This program is funded through the Salmon Management Activities account.

Mitchell Act hatchery production is intended to mitigate for fish and habitat loss caused by the federal hydropower dam system on the Columbia River. Funding for these programs supports the operation and maintenance of hatcheries that release between 50 and 60 million juvenile salmon and steelhead in Oregon and Washington. These programs provide fish production for tribal treaty and non-tribal commercial and recreational fisheries in the Columbia River, and also contribute to ocean fisheries from Northern California to Southeast Alaska. Unfortunately, overall production from these hatcheries has been reduced from more than 110 million to fewer than 60 million fish due to inadequate funding.

Adequate funding for Mitchell Act hatcheries is of particular importance to us because it supports salmon production for tribal treaty harvest along the Washington coast. Additionally, adequate funding to ensure full production from the Mitchell Act hatcheries dampens the impact of Canadian and Alaskan ocean fisheries on Washington fisheries under the terms of the PST.

- **Provide sufficient funding for NOAA Fisheries Disaster Assistance Program**

We respectfully request sufficient funding for the Fishery Disaster Assistance Program. Recent declarations of salmon fisheries disasters affecting Washington tribes include: Fraser River sockeye in 2013, Fraser River sockeye in 2014, Grays Harbor coho in 2015, South Puget Sound coho in 2015, Quileute Dungeness crab in 2015, Nisqually coho, chum and chinook in 2015, and

a Washington ocean salmon troll fishery in 2016. The financial impact from these disasters is severe. For example, the western Washington treaty tribes estimate \$17.325 million in damages as a result of those officially declared fisheries disasters since 2014. There are other disasters to which the Secretary has not yet acted upon, including but not limited to a 2015 tribal coho and pink salmon fishery.

Unforeseen natural and manmade disasters can have grave and unexpected impacts on tribal treaty fishing, and impact the livelihoods of tribal members who are economically dependent upon these fisheries. Because of the seasonal nature of fishing, a single disaster can have significant impacts on annual revenues needed to maintain boats and gear, forcing fishers to drop out of the sector, and therefore sometimes lead to diminished fishing fleets. An ongoing Fisheries Disaster Assistance Program is a much-needed stop gap measure to prevent the collapse of this important economic sector during difficult times. We therefore, respectfully request ongoing appropriations to maintain and enhance the Fisheries Disaster Assistance Program, which is needed to support a resilient national fishing fleet.

- **Provide \$4.0 million for NOAA Hatchery Genetic Management Plans (within Pacific Salmon)**

We respectfully request \$4.0 million to provide increased funding to expedite NMFS's review and approval of the backlog of western Washington Hatchery Genetic Management Plans (HGMPs). Review and approval of HGMPs is necessary to provide ESA coverage. The FY18 omnibus provided \$63.0 million for the Pacific Salmon account, which supports NMFS' expedited review of HGMPs. NMFS' FY19 proposed budget requests a specific decrease of \$1.696 million for HGMP review, despite reported progress with new funding, and admittedly still facing a large backlog. NMFS uses the information provided by HGMPs to evaluate a hatchery's impacts on salmon and steelhead listed under the ESA. With proper resources, NMFS should be able to review a bundle of HGMPs within a watershed and provide ESA coverage to operate those hatcheries within 18 months. However, HGMP bundles (multiple HGMPs for a geographic area) to date have been taking about 4-6 years to permit. If NMFS were to review the 11 remaining bundles (65 HGMPs total) at past rates, ESA coverage of Puget Sound hatcheries could take 8-10 more years.

CONCLUSION

Federal support for sustainable salmon fisheries management that improve harvest planning, hatchery production and habitat management are essential components of the federal obligation to ensure continued exercise of tribal treaty-reserved rights. The treaties and the treaty-reserved right to harvest are the "supreme law of the land" under the U.S. Constitution (Article VI). It is therefore, critically important for Congress and the federal government to provide continued support in upholding the treaty obligations and fulfilling the trust responsibilities. This can be accomplished, in part, by supporting the aforementioned programs. We respectfully urge you to continue to support our efforts to protect and restore our natural resources that in turn will provide for thriving economies. Thank you.

Written Testimony of Richard J. Hirn
Legislative Director, National Weather Service Employees Organization
Submitted to the Subcommittee on Commerce, Justice, Science and Related Agencies
on the Administration's FY 19 Budget Request for the National Weather Service

NWSEO urges rejection of the Administration's proposal to cut 355 additional positions from the National Weather Service that is contained in its FY 19 budget submission. All but a handful of these positions are "emergency essential" operational personnel critical to protecting lives and property.

In May 2017, the Government Accountability Office released a study that confirms the vacancy rate in NWS operational units has already reached a point where NWS employees are "unable at times to perform key tasks." National Weather Service: Actions Have Been Taken to Fill Increasing Vacancies, but Opportunities Exist to Improve and Evaluate Hiring (GAO 17-364). The GAO found that the vacancy rate in operational units (defined as those 168 NWS offices that issue forecasts or warnings and that are staffed by emergency-essential personnel) rose from 5 percent at the end of fiscal year 2010 (211 positions) to 11 percent at the end of fiscal year 2016 (455 positions). The GAO also found that NWS "staff experienced stress, fatigue and reduced morale resulting from their efforts to cover for vacancies" due to lack of time off and a loss of training. According to the GAO, NWS managers admit "that employees are fatigued and morale is low" and that employees "were demoralized because they had to cover the workload for multiple vacancies."

Furthermore, the proposed reductions compromise the ability of the National Weather Service to meet specific requirements of the *Weather Research and Forecasting Innovation Act of 2017*, Pub. L. No. 115-25.

Weather Service forecasters

Program Change: NWS Workforce Savings (-110 FTE/-248 Positions, -\$15,000)

The President's budget ostensibly recognizes that "advance notice provided by weather forecasts enables the Nation's leaders, decision makers, and media to provide better warnings and advisories, the public, and businesses" and that "getting this right reduces the catastrophic loss of human life and property and the damaging effects on the national economy." *An American Budget*, at 30. Nevertheless, the budget proposes to eliminate 20% of the 1,250 or so forecasters who issue these forecasts, warnings and advisories from the nation's 122 Weather Forecast Offices. The Budget Justification concedes that "operation times at various offices will be reduced" as a result of these staffing reductions, and that this will present "potential risk to the public and partners." The budget admits that communities affected by these closures will have to rely on "other NWS offices for met watch and services during off hours." *NOAA Budget Justification* at NWS-48, 49.

The nation's 122 Weather Forecast Offices operate 24/7, and most of the time would have just two forecasters on duty. Thus, even with full staffing, there is usually only the minimal number of staff on duty to be alert for severe weather and to call in the rest of the staff when it occurs. According to the National Academy of Sciences:

Though this works well in fair weather, it can become problematic in severe weather, particularly when events develop rapidly under seemingly benign conditions.

While managers at individual WFOs generally plan ahead to add sufficient staff to cover forecasted dangerous weather situations, more innocuous weather scenarios that suddenly and unexpectedly "blow up" often lead to shortcomings that are directly attributed to having insufficient manpower. Several recent Service Assessments (e.g., NWS, 2003, 2009, 2010) illustrate the critical role that adequately enhanced staffing (or lack thereof) plays in the success (or weakness) of NWS performance during major events. Appropriate levels of staffing, beyond normal fair weather staffing, during major weather events, are critical for fulfilling the NWS's "protection of life" mission.

NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, THE NATIONAL WEATHER SERVICE MODERNIZATION AND ASSOCIATED RESTRUCTURING: A RETROSPECTIVE ASSESSMENT, 60-61 (2012).

The Service Assessments to which the NRC refers are conducted by the NWS after major storm events where there are multiple fatalities or a major economic impact, in order to evaluate its performance. Assessment teams, composed of experts from within and outside the NWS, generate a report that serves as an evaluative tool to identify and share best practices in operations and procedures, and to identify and address service deficiencies. Service assessments conducted following eleven major storms that occurred between 2008 and 2016 found that the ability of the NWS to protect lives during these major events was compromised due to already inadequate staffing at Forecast Offices or River Forecast Centers.¹

The Budget justification claims that the agency will attempt to "minimize potential risk" inherent in closing offices part-time by "collaborating with other NWS offices for met watch and services during off hours . . . similar to the backup practice used today when there is a system or communications failure of an office." Budget Justification at NWS-48. However, no savings can be achieved by reducing staff at one office and transferring its workload to a back-up office, because when this occurs now additional staff is called into the back-up office on overtime. Even the Budget Justification concedes that this "may require the supporting office to increase staffing," page NWS-48.

Furthermore, the backup offices only issue critical products, and the quality of the forecasts are degraded because the forecasters in the backup office have limited knowledge of the climate, terrain, hydrology and weather patterns of the remote areas for which they are now forecasting. According to *NWS Western Region's Back-Up Plan, Supplement 18-2003*, (Sept. 19, 2011) at 4: "Personnel at the disabled site remain the best authorities on local weather. They should retain as much responsibility as possible during back-up situations." The backup office has no access to local weather models residing on the servers in the office that is closed. Transferring responsibility for forecasts and warnings back and forth between forecasters at one office and another disrupts the continuity of meteorological analysis and results in lack of continuity in successive forecast products.

¹ Central U.S. Flooding of June 2008; Southeast U.S. Floods, September 18-23, 2009; Record Floods of Greater Nashville: Including Flooding in Middle Tennessee and Western Kentucky, May 1-4, 2010; Historic Tornadoes of April 2011; Missouri/Souris River Floods of May-August 2011; Middle and Lower Mississippi River Valley Floods of Spring 2011; Remnant of Tropical Storm Lee and the Susquehanna River Basin Flooding of September 6-10, 2011; Hurricane/Post Tropical Storm Sandy, October 22-29, 2012; Historic South Carolina Floods of October 1-5, 2015; Historic Nor'easter of January 2016; October 2016 Hurricane Matthew. These reports can be found at: <http://www.weather.gov/publications/assessments>

The Budget Justification also explains that at other times, a forecast office may be staffed by a single person once the reductions take place. (NWS-49). This would violate a 2007 ruling from Labor Arbitrator James Lundberg in *National Weather Service and National Weather Service Employees Organization*, FMCS No. 06-04457-7. The Budget Justification explains that “this operational change will also require the office to be able to recall employees . . . if unexpected local operations or high-impact weather events occur.” NWS-49. According to the 2012 study by the National Academy of Sciences, “the quality of the NWS’s warning capability corresponds with its capacity to muster an ample, fully trained local staff at its Weather Forecast Offices as severe weather unfolds.” *Id* at 60. However, if staffing at the office is reduced, there may be no one available.

The Budget Justification also explains that the reductions sought “will move away from the current uniform staffing model” and rebalance staffing between forecast offices based on population and partner needs. However, according to a study completed by McKinsey and Co., the workload at most forecast offices exceeds the available meteorologist workforce. NWS, *Operations and Workforce Analysis Catalog*, (September 2017) at 17-18. Thus, rather than reducing staff overall, rebalancing should be achieved by increasing the intake of meteorologist interns (forecasters in training) at the majority of forecast offices that are now overworked, and let normal attrition rebalance the staff at the small number of offices that have excess capacity.

Information Technology Officers

Program Change: Establishment of Regional Enterprise Application Development and Integration Teams (-74 FTE/-74 Positions, ~\$10,100)

The President’s budget also again proposes the elimination of the Information Technology Officers (“ITOs”) at each of the 122 Weather Forecast Offices (“WFOs”) – a proposal that has been rejected by Congress every year for the past six years. As the Senate Appropriations Committee noted when rejecting an earlier proposal to eliminate the ITOs, the “IT staff have proven to be valuable parts of the local forecast office teams.” SENATE REPORT NO. 112-158, at 31. The NWS itself recognized the critical role that the ITOs play in the operations of its forecast offices in its recently published service assessment of the agency’s performance during Hurricane Matthew in October 2016:

The evolution of NWS is reliant on cutting-edge advanced technologies that improve forecasting, warning, and distribution of weather information. Therefore, it is imperative that adequate, well-trained IT expertise is readily available and accessible throughout NWSH and the NWS field to operate and maintain a solid infrastructure. Information Technology Officers (ITO) played a critical role within WFOs leading up to and during the event. WFOs are required to complete a series of preparations ahead of a hurricane season, many of which include technical upgrades. During events, the ITO is the WFO’s primary resource when technical issues arise. WFOs were unanimous in their support of having a local ITO present to address issues before, during, and after hurricane season . . . SR WFOs were required to complete a system upgrade to a new Content Management System (CMS) by the end of September 2016. . . ITOs provided critical support to their WFOs during the event to mitigate website issues associated with the CMS change.

<https://www.weather.gov/media/publications/assessments/HurricaneMatthew8-17.pdf> (at 31).

Consolidation of the Tsunami Warning Centers

Program Change: Reduce Tsunami Warning Program (-25 FTE/-25 Positions, - \$11,000)

The President's budget also proposes to consolidate the two tsunami warning centers (possibly at the National Center for Environmental Prediction in College Park, Maryland) and eliminate 25 scientists and technicians employed at these Centers. The proposed merger of the two warning centers violates the express terms of the Tsunami Warning, Education and Research Act of 2017, which was signed into law in April as Title V of the Weather Research and Forecasting Innovation Act. Section 504 of the Act, codified at 33 U.S.C. § 3203(d)(1), requires NOAA to maintain two tsunami warning centers - one in Alaska (with primary responsibility for Alaska and the continental U.S.) and one in Hawaii (with primary responsibility for Hawaii, the Caribbean and other areas of the Pacific). Subsection 3203(d)(3), "Fail-safe warning capability," mandates that the two centers maintain the capability to "perform back-up duties for each other." These requirements cannot be met if the two centers are merged, and if 25 of the 40 scientists and technicians employed at these two centers are eliminated, as proposed.

NWS Climate Prediction Center

Program Change: Consolidate Climate Prediction Center/Weather Prediction Center functions (- 8 FTE/- 8 Positions, -\$1,200)

Finally, the budget also proposes to eliminate eight positions at the NWS Climate Prediction Center - which does "short-term" climate prediction for floods and drought from weeks to seasons. These activities aid U.S. aid and national security agencies in their global efforts. The Budget Justification (at NWS-52) frankly identifies the catastrophic impact of these cuts:

While some efficiency will be realized, this consolidation will limit some of NOAA's products and services such as climate prediction products with domains over hemispheres other than North America/Arctic. Some of these global climate predictions provide information that can lead to understanding of international phenomena like flood and drought that could impact food supplies. These global forecast products have supported national security planning and execution activities at the Department of Defense and the United States Agency for International Development including food security and disaster risk reduction, as well as pandemic health planning.

Consolidation of the CPC and reduction of its efforts would jeopardize the ability of the NWS to meet its requirements under Section 201 of the *Weather Research and Forecasting Innovation Act* "to make usable, reliable, and timely foundational forecasts of sub-seasonal and seasonal temperature and precipitation" and to "build upon existing forecasting and assessment programs and partnerships, including— by consulting with the Secretary of Defense and the Secretary of Homeland Security to determine the highest priority sub-seasonal and seasonal forecast needs to enhance national security."

Testimony for the Record

Submitted on behalf of the American Astronomical Society by:

Megan Donahue, Ph.D.

President-Elect of the American Astronomical Society

Professor of Physics and Astronomy, Michigan State University

To:

Subcommittee on Commerce, Justice, and Science

Committee on Appropriations

United States House of Representatives

Regarding:

Fiscal Year 2019 budgets of the **National Aeronautics and Space Administration** and the **National Science Foundation**

April 27, 2018

On behalf of over 7,000 members of the American Astronomical Society (AAS), I submit this statement to first thank Chairman Culberson, Ranking Member Serrano, and the entire Commerce, Justice, and Science subcommittee for your strong support of the astronomical sciences (astrophysics, planetary science, and solar physics).

Astronomical science in the United States would not be as cutting edge and dynamic as it is today without your leadership, and we are deeply appreciative. I also write to ask for your continued support of NASA and NSF as you write the FY 2019 appropriations legislation. We ask that your FY 2019 subcommittee bill include **at least \$8.45 billion for the National Science Foundation (NSF) and at least \$21.7 billion for the National Aeronautics and Space Administration (NASA)**.

As you know, our community sets its priorities via a consensus "decadal survey" process under the aegis of the National Academies. The decadal surveys' overriding priority has been a balanced program of grants and facilities to optimize return on taxpayer investment: balance across discipline and mission size, between competed and strategic programs, and between facilities and investigator grants. The FY 2019 funding levels in our request will allow both NASA and NSF to continue to support a synergistic program of ground- and space-based facilities to advance the astronomical sciences that funds the top community priorities, ensuring that the U.S. remains the clear world leader in discovery research.

NSF

We appreciate Congress' long-standing support for the construction of new cutting-edge astronomical telescopes, now including the Daniel K. Inouye Solar Telescope (DKIST) and the Large Synoptic Survey Telescope (LSST). As both of these promising facilities near the end of construction, our community is looking forward to using them to make breakthroughs in our understanding of the sun and space weather, near earth objects

and our solar system, and the nature of the universe. Our enthusiasm is tempered by the fact that the research and facility operations budget for astrophysics has remained flat for a number of years, leaving no flexibility to absorb new facility operations without significant cuts to research grants, which are already at historically low success rates. This means that the broad U.S. astronomical community will not reap the full scientific benefit of the taxpayer investment in these new facilities, leaving the door open for our colleagues in Europe and elsewhere to skim much of the scientific cream off the top.

Therefore, we ask that you seize the opportunity presented by the budget deal to **provide a much-needed, substantial investment in NSF with at least \$8.45 billion for this critical basic research agency in FY 2019.**

Such an investment in nation's science and technology efforts rise to the call from the National Science Board (NSB) for a "fearless commitment...[in] this unprecedented time in human history, when we have the tools, know-how, and understanding to tackle daunting challenges and solve problems that have long defied solution." Full, fearless commitment to both to NSF's disciplinary directorates and the new opportunities in the Big Ideas would enable a complementary approach. Research performed within disciplines lays the foundation for inter- and multi-disciplinary innovation, while the Big Ideas empower NSF to cross academic disciplines to drive discovery in burgeoning fields at the intersections of knowledge areas. Big Ideas like "Windows on the Universe" – which brings together disciplines to forge ahead in the exciting new era of multi-messenger astrophysics – are thus an opportunity to grow federal science investment to enhance our science and technology efforts. The Mid-Scale Research Infrastructure Big Idea would develop an agile process for funding experimental research capabilities in the mid-scale range across NSF's science portfolio; the need for such a process to meet the mid-scale gap was prioritized by both the astrophysics and heliophysics decadal surveys, the need for which was demonstrated by the \$10 billion in mid-scale instrumentation identified by NSF's recent Request for Information (RFI). The Astronomy (AST) division began to address that need with the launch of the Mid-Scale Innovations Program (MSIP) – a top priority of the astrophysics and heliophysics decadal surveys – but flat budgets and increasing facilities operations costs have stunted the growth MSIP was meant to advance. Further flat – or even just modestly increased – top lines for NSF would mean diverting most of the funds from AST to a Foundation-wide mid-scale program proposed at a fraction of the need identified in the NSF-wide RFI. An infusion of funds into NSF would instead jumpstart U.S. astronomy and the nation's scientific enterprise at large at this critical time.

NASA

A balanced, ambitious investment in all of the space science disciplines is essential to NASA's mission as an exploration agency. Scientific exploration of space, from the edges of the Earth's atmosphere to the edges of the universe, lays intellectual and technical groundwork for the human exploration of space, both inspiring and training a new generation of explorers daily. **We therefore request at least \$6.2 billion for the Science Mission Directorate (SMD).**

We are particularly alarmed at the Administration's draconian 12% proposed reduction to the Astrophysics Division and the apparent disregard for the findings of multiple National Academies reports of the value of strategic missions in a balanced scientific portfolio. **We strongly oppose the cancellation of the top decadal priority space mission, WFIRST**, and note that one of the proposed substitutes – a “probe class” mission line – has not yet been recommended by a decadal survey committee. **We request \$1.46 billion for the Astrophysics Division**, allowing restoration of WFIRST, full funding for mission operations, and additional investment in research grants without negatively impacting the rest of the balanced program. **For the Planetary Science Division, we request an appropriation of at least \$2.34 billion** that enables an FY 2022 launch for the Europa Clipper mission as a decadal priority and statutory mandate. **We ask that any funding for the Administration's proposed new lunar and planetary defense activities be provided only above and beyond our Planetary Division and SMD requests** until and unless these activities are prioritized as part of a balanced program in a future decadal survey. **In the Heliophysics Division, we request \$723 million**, to continue full execution of the Diversify, Realize, Integrate, Venture, and Educate (DRIVE) initiative, the top heliophysics decadal priority, consistent with your subcommittees' past support.

Finally, we are grateful for the subcommittees' continued support for STEM education, outreach, and broadening participation programs at NASA's Office of Education and key NSF programs across the Education and Human Resources directorate. We urge you to again support these critical efforts in FY 2019, as the administration again proposed to eliminate or dramatically reduce them. These offices play a critical role in inspiring and training a STEM-literate workforce that innovates across industries and disciplines, which is essential to both agencies' missions.

Thank you for the opportunity to offer our recommendations on behalf of the astronomical community. The AAS looks forward to continuing to work with you on ensuring American leadership in the astronomical sciences. Please do not hesitate to contact me, or our Director of Public Policy, Dr. Joel Parriott, at joel.parriott@nasa.gov, with any questions or concerns.

**MR. DAVID Z. BEAN, PUYALLUP TRIBAL COUNCIL
TESTIMONY OF THE PUYALLUP TRIBE OF INDIANS BEFORE THE
HOUSE SUBCOMMITTEE ON COMMERCE, JUSTICE, AND SCIENCE
AND RELATED AGENCIES
FISCAL YEAR 2019**

April 27, 2018

The Puyallup Tribe is pleased to present testimony related to the Department of Justice funding for Office of Justice Programs (\$ 7% set aside of all OJP funding; the Office of Community Oriented Policing; the 5% set-aside of the Victims of Crime Funding; and the Office Violence Against Women Programs.

Introduction: We look forward to working with the Congress to insure that funding levels in the FY 2019 Budget are sufficient to meet and carry-out our public safety and justice responsibilities.

Briefly, the Puyallup Reservation is located in the urbanized Seattle-Tacoma area of the State of Washington. The 18,061 acre reservation encompasses most of the City of Tacoma, but the area is a “checkerboard” of tribal lands, Indian-owned fee land and non-Indian fee land. Our reservation land includes parts of six different municipalities (Tacoma, Fife, Milton, Puyallup, Edgewood and Federal Way). The Puyallup Tribe also provides services for 4,875 tribal members and over 25,000 additional Native Americans from over 355 federally recognized Tribes and Alaskan Villages.

The Puyallup Nation Law Enforcement Division currently has a Chief of Police, 27 commissioned officers and 4reserve officers to cover 40 square miles of reservation in addition to the usual and accustomed areas. The officers serve and protect the Puyallup Reservation seven days a week, twenty-four hours a day. Due to limited federal funding for law enforcement in Indian Country, only two officers are funded with federal funds. The total cost of justice services, including facilities operations and maintenance, exceeds \$5.7 million per year. As stated earlier, these costs are paid for with Tribal earned income.

The Tribe works closely with state and local law enforcement authorities. We recognize that in this day and age, such inter-jurisdictional cooperation is essential. We are fortunate to have a good working relationship with the state, county and city agencies. The Puyallup Tribe has had intergovernmental agreements with Pierce County and the City of Tacoma for many years. Puyallup Tribal Police officers are cross-deputized, so that arrests can be made under city or county jurisdictions, then offenders are turned over to the local authorities to be processed.

Without the large subsidy provided by the Tribe for public safety, we would not have a comprehensive program to address the law enforcement needs of our community. For that reason, it is so important that you continue to fund the Programs within the Department of Justice that support our efforts.

U.S. Department of Justice - Office of Justice Programs - The Department Justice once again proposes bill language to provide for a 7% tribal set-aside from all discretionary OJP

programs to address Indian Country public safety and tribal criminal justice needs. This level of funding would provide \$93.8 million for Tribal Justice Programs. The Puyallup Tribe of Indians joins with the National Congress of American Indians (NCAI) and other Tribes in urging Congress to include the 7% tribal set-aside in the FY 2019 bill language. The OJP programs set-aside is critical for tribes because it would provide a more flexible funding structure and would complement the DOJ Coordinated Tribal Assistance Solicitation (CTAS). The CTAS streamline grant application process allows tribes to submit a single application for multiple purpose areas. We believe that in order to achieve its intended success, the CTAS application needs to be accompanied by a streamlined funding mechanism.

Victims of Crime Funding – The Puyallup Tribe strongly supports the 3% set-aside of the Victims of Crime Fund that was included in the FY 2018 omnibus appropriations act. We would urge Congress to agree to the Administration’s requested 5% set-aside in this year’s bill.

Office of Violence Against Women (VAWA): We ask that Congress continue the \$492 million of funding for the Office of Violence Against Women Act (VAWA). This request includes approximately \$40.5 million for tribal initiatives within the Office of Violence Against Women (OVW). These funds will be aimed at addressing the high victimization rates of American Indian and Alaskan Native women for the crimes of domestic violence, sexual assault, dating violence, and stalking on tribal lands. The devastating impact that violence against women has on our tribal communities cannot be ignored. It is estimated that in their lifetimes one in three Indian women will be raped and that six in ten will be physically assaulted. Because the protection of the health, safety and well-being of our communities begins with the protection of our women and children, and because the rate of sexual assault and domestic violence is higher in Indian Country than any other region in the country, we strongly support funding for OVW programs.

Community Oriented Policing Services (COPS): The FY 2019 Budget requests only \$99 million for the Community Oriented Policing Services (COPS) programs, a \$176 million reduction in this critical program. We urge Congress to maintain this funding at the \$275 million it was funded at last year. We also urge you to continue the \$30 million for hiring of Tribal law enforcement officers.

Regional Information Sharing Systems (RISS) Program
A Proven Resource for Law Enforcement

Fiscal Year 2019 Testimony to the Subcommittee on Commerce, Justice, Science, and Related
 Agencies of the Committee on Appropriations, United States House of Representatives

Submitted by Donald F. Kennedy, Jr., Chair, RISS National Policy Group

The **Regional Information Sharing Systems (RISS) Program** serves more than 9,000 local, state, federal, and tribal criminal justice agencies and other partners by providing adaptive solutions and services that facilitate information sharing, support criminal investigations, and promote officer safety. RISS's powerful and valuable tools, services, and resources help law enforcement agencies and officers solve cases, apprehend offenders, and stay safe. With ongoing threats to our homeland, the opioid crisis and proliferation of narcotics, gang violence, cyber threats, and emerging challenges, it is imperative that programs like RISS be preserved and strengthened. It is respectfully requested that RISS be funded in **FY2019 at \$45 million**.

RISS is composed of six regional centers and the RISS Technology Support Center. RISS works regionally and nationwide to respond to the unique crime problems of each region, while strengthening the country's information sharing environment. For more than 40 years, RISS has demonstrated its value and benefit to the criminal justice and law enforcement community. Hundreds of shared successes are submitted to RISS each year from agencies utilizing RISS services. Examples can be viewed at www.riss.net/Impact.

RISS's adaptable approach and regional/nationwide model enable it to quickly and efficiently respond to the ever-changing criminal justice landscape. RISS supports efforts against **all crimes**, including organized and violent crime, gang activity, drug activity, terrorism, human trafficking, identity theft, cybercrime, and other regional priorities and emerging threats. RISS is a trusted resource that law enforcement agencies and officers utilize to—

- Share critical law enforcement and intelligence data across jurisdictions
- Access case and analytical services that help solve crimes and prosecute offenders
- Prevent friendly fire and safeguard the men and women protecting our streets
- Preserve the integrity of operations and protect citizens and communities

In response to the demand for RISS's services, in FY2017, the RISS Centers:

- Developed **83,612 analytical products**.
- Loaned **3,250 pieces of specialized equipment**.
- Responded to and provided research and information for **85,122 requests** for assistance.
- **Trained 40,225** law enforcement officers and personnel.
- Provided access to more than **45.2 million records** to authorized personnel, including access to investigative databases, such as the RISS Property and Recovery Tracking System (**RISSProp**), the RISS Money Counter Project (**MCP**), and the RISS Master Telephone Index (**MTI**).
- Enabled users to conduct more than **5 million inquiries** to RISS resources and visit RISS-supported websites more than **3.8 million** times.

One resource that makes these results possible is the RISS Secure Cloud (**RISSNET**), which connects disparate systems, provides bidirectional sharing, offers a single simultaneous search of connected systems, and houses hundreds of resources, collaboration tools, and databases (most owned by state and federal partners, fusion centers, and others who trust RISS and turn to RISSNET to solve their information sharing needs). Without RISSNET resources and information, multijurisdictional information sharing would become difficult, leads might be lost, and some cases might not be solved timely or at all. RISS has also developed a number of resources accessible via RISSNET that are critical to the law enforcement community's mission, including the following:

- The **RISS Criminal Intelligence Database (RISSIntel)** provides for a real-time, online federated search of more than **50** RISS and partner intelligence databases.
- The **RISS National Gang Program (RISSGang)** consists of an intelligence database, a website, and information resources.
- The **RISS Automated Trusted Information Exchange (ATIX)** provides a secure platform for law enforcement, public safety, first responders, and the private sector to share information and collaborate.
- The **RISSLeads Investigative Website** enables authorized law enforcement officers to post information regarding cases or other law enforcement issues.
- The **RISS Officer Safety Website** provides law enforcement and criminal justice users with timely officer safety information and a secure infrastructure to exchange and share officer safety-related information among agencies.
- **Law Enforcement Secure Hosted Websites** enable partners to securely share information and materials with specific groups or partners. There are **39** secure hosted websites.

The **RISS Officer Safety Event Deconfliction System (RISSafe)** supports law enforcement personnel who are conducting an event in close proximity to one another at the same time. Events include law enforcement actions, such as undercover operations, surveillance, or executing search warrants. When certain elements are matched between two or more events, a conflict results. Immediate notification is then made to the affected agencies or personnel regarding the identified conflict.

Event deconfliction helps support and protect law enforcement officers in a variety of ways. Officers partaking in high-risk operations are able to enhance their personal safety and the safety of those around them. Using an event deconfliction system enables officers to identify operational conflicts and collaborate with other law enforcement agencies and officers. It also safeguards community members, helps ensure operational integrity, strengthens information sharing, helps reduce risk and liability, and builds community confidence. Officers are able to leverage each other's information and successfully apprehend criminals. Event deconfliction helps prevent "friendly fire" and helps solve investigations.

Since RISSafe's inception, **1,613,086 operations** have been entered into RISSafe, resulting in **425,570 identified conflicts**. Without the identification of these conflicts, officers might have interfered with another agency's or officer's investigation, links between cases might have been lost, or officers or citizens might have been unintentionally hurt or killed. RISSafe is accessible and monitored on a **24/7/365 basis** and available at **no cost to all law enforcement agencies**. Currently, **28 RISSafe Watch Centers** are operational, 22 of which are operated by organizations other than RISS. These organizations have invested resources to support this critical officer safety program.

In May 2015, the three nationally recognized event deconfliction systems—Case Explorer, SAFETNet, and RISSafe—were integrated. The partners worked in collaboration to accomplish this goal with the help of many vested partners, including the Bureau of Justice Assistance (BJA); the Partner Engagement, Information Sharing Environment (PE-ISE); the U.S. Drug Enforcement Administration (DEA); the High Intensity Drug Trafficking Areas (HIDTA); and many others. This partnership and system integration have further strengthened officer and citizen safety across the country.

RISS also supports federal and nationwide initiatives that help enhance and expand efficient and effective information sharing among the criminal justice community. Examples of RISS’s federal and nationwide partnerships include:

- Federal Bureau of Investigation’s (FBI) Law Enforcement Enterprise Portal (LEEP)
- FBI’s Law Enforcement National Data Exchange (N-DEx)
- Federal Law Enforcement Training Centers (FLETC)
- Global Justice Information Sharing Initiative (Global)
- HIDTAs
- INTERPOL
- National Criminal Intelligence Resource Center (NCIRC)
- National Fusion Center Association (NFCA)
- National Motor Vehicle Title Information System (NMVTIS)
- National Virtual Pointer System (NVPS)
- National White Collar Crime Center (NW3C)
- Office of the Director of National Intelligence (ODNI) Intelink-U
- PE-ISE
- United States Attorneys’ Offices (USAO)
- U.S. Department of Homeland Security (DHS) and the Homeland Security Information Network (HSIN)
- U.S. Department of Justice (DOJ)

These and other partnerships have resulted in streamlined processes, increased information sharing and officer access to critical data, safer officers and communities, and the advancement of important technology solutions, some of which are highlighted below.

Through the **N-DEx and RISS partnership**, access to N-DEx is available to authorized RISSNET users via LEEP without an additional username or password. This capability enables officers to obtain information quickly, saves officers’ time, streamlines operations, and enhances law enforcement’s ability to respond to crime effectively and efficiently. Work continues to expand this capability nationwide.

As foundational members of the Sensitive But Unclassified (SBU) Working Group and the National Identity Exchange Federation, HSIN and RISS have made significant progress in implementing **bidirectional secure single sign-on** between the two systems. This integration provides a streamlined approach that enables users to quickly and easily access critical information.

During FY2017, RISS developed, completed, and deployed the **Online Registration, User Self-Service**, and the new **RISSNET Home Page**. In addition, a new **RISS Public Website** was deployed. RISS also expanded partnerships with the FBI, U.S. Customs and Border Protection, and Nlets—The International Justice and Public Safety Network.

In order to continue to build on the gains made in information and intelligence sharing and officer safety, **FY2019 funding for RISS is requested at \$45 million**. The requested funding supports the entire RISS Program, including the operation of the six regional RISS Centers and the RISS Technology Support Center. In addition, the increase in funding will support the following:

- Offer more information resources to additional users from member agencies and partner systems, and **significantly expand the effective use of bidirectional federated search** by connecting more systems to RISSIntel.
- **Support RISSafe’s 24/7/365 operation**, expand officer safety programs, support RISSafe Watch Centers across the country, and continue to promote event deconfliction.
- **Enhance information sharing** with existing partners, such as NVPS and RISSIntel’s information partners, and **expand deconfliction** of this data with partners.
- Further **bridge the gap by expanding existing partnerships** with federal partners.
- Provide agencies having a need for an intelligence database with a cloud-based solution known as **RISSIntel 4.0**.
- Continue to **enhance RISSNET’s cloud and supporting infrastructure**.
- **Expand some of RISS’s successful regional investigative data sources** that are in demand nationwide, such as MTI and MCP.
- Architect **additional scalable solutions on devices**, such as mobile, laptop, and desktop computers, and **provide scalable solutions** for legacy applications.
- **Integrate biometrics** and incorporate **advanced analytics** into RISS systems.

RISS diligently identifies and integrates innovative solutions to provide fast, quality-driven, evidence-based support to the law enforcement and public safety communities. Level or reduced funding for RISS would significantly weaken the nation’s information sharing environment, hinder investigations, and impact the safety of our officers and communities.

RISS is a resource that saves agencies money and time and produces results. The cost of doing business continues to rise and, with level or reduced funding, that means a shortfall for programs like RISS. Without an increase in funding, RISS will not be able to continue some of its critical services that law enforcement agencies and officers desperately need. However, with additional funding, RISS can continue to operate while building on its successes. Investing in RISS—a proven, evidence-based, and successful program that directly supports law enforcement’s efforts to keep our communities and officers safe—is a smart strategy and a good use of taxpayer dollars.

It would be counterproductive to require local and state RISS members to self-fund match requirements or to reduce the amount of BJA discretionary funding. Agencies require more funding to fight the nation’s crime problems. RISS is unable to make up the decrease in funding that a match would cause, for it has no revenue source of its own. RISS is grateful to provide this testimony at your request and appreciates the support that this committee continuously provides to the RISS Program.



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**Outside Witness Testimony from:
Society for Industrial and Applied Mathematics (SIAM)**

**Submitted by:
Dr. C. David Levermore, Vice President for Science Policy, SIAM**

**Submitted to the Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Appropriations, United States House of Representatives**

**Testimony on the Fiscal Year 2019 Appropriations
for the National Science Foundation**

April 27, 2018

Summary: This written testimony is submitted on behalf of the Society for Industrial and Applied Mathematics (SIAM) to ask you to continue your support of the National Science Foundation (NSF) in fiscal year (FY) 2019 by providing NSF with \$8.45 billion to advance both core research areas and NSF's Big Ideas for Future Investment. These Big Ideas would dramatically propel interdisciplinary research forward while revolutionizing quantum communications, medicine, and other areas. In particular, we urge you to provide strong support for the Research and Related Activities Account (RRA) that supports key applied mathematics and computational science programs in the Division of Mathematical Sciences and the Office of Advanced Cyberinfrastructure.

Full Statement: On behalf of SIAM, I am submitting this written testimony for the record to the Subcommittee on Commerce, Justice, Science, and Related Agencies of the Committee on Appropriations of the U.S. House of Representatives.

SIAM has over 14,000 members, including applied and computational mathematicians, computer scientists, numerical analysts, engineers, statisticians, and mathematics educators. They work in industrial and service organizations, universities, colleges, and government agencies and laboratories all over the world. In addition, SIAM has almost 500 institutional members, including colleges, universities, corporations, and research organizations. SIAM members come from many different disciplines but have a common interest in applying mathematics in partnership with computational science to solve real-world problems, which affect national security and industrial competitiveness.

First, we would like to emphasize how much SIAM appreciates your Committee's continued leadership on and recognition of the critical role of the National Science Foundation (NSF) and its support for mathematics, science, and engineering in enabling a strong U.S. economy, workforce, and society.

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Today, we submit this testimony to ask you to continue your support of NSF in FY 2019 and beyond. ***In particular, we join with the research and higher education community and request that you provide NSF with \$8.45 billion in funding for FY 2019.*** After several years of flat funding before FY 2018, NSF needs growth to ensure U.S. competitiveness as countries such as China are rapidly increasing their science and engineering investments.

As we are reminded every day, the nation's economic strength, national security, and welfare are being challenged in profound and unprecedented ways. Many of these challenges are fueled by gaps in our understanding of complex systems such as cyberspace, terrorist networks, the human brain, or the energy grid. Mathematics and computational science play a foundational and cross-cutting role in understanding these systems through advanced modeling and simulation, developing techniques essential to designing new breakthrough technologies, and providing new tools for managing resources and logistics. Progress in computational sciences and applied mathematics also underpins advances across an array of fields and challenges in computing, materials, biology, engineering, and many other areas.

National Science Foundation

NSF serves a unique and critical function supporting all areas of science and engineering to further innovation and seed the knowledge and technologies for a strong future America. NSF provides essential federal support for applied mathematics and computational science, including 64 percent of all federal support for basic academic research in the mathematical sciences. Of particular importance to SIAM, NSF funding supports the development of new mathematical models and computational algorithms, which are critical to making substantial advances in such fields as neuroscience, energy technologies, genomics, and nanotechnology. In addition, new techniques developed in mathematics and computing research often have direct application in industry. Modern life as we know it – from search engines like Google to the design of modern aircraft, from financial markets to medical imaging – would not be possible without the techniques developed by mathematicians and computational scientists. NSF also supports mathematics education at all levels, ensuring that the next generation of the U.S. workforce is appropriately trained to participate in cutting-edge technological sectors and that students are attracted to careers in mathematics and computing.

SIAM supports the Administration's proposal to increase funding for the ***10 Big Ideas for Future Investment***, which represent major scientific challenges where sustained investment can make a transformative difference. In particular, SIAM urges support for the Harnessing the Data Revolution, Understanding the Rules of Life, and Quantum Leap Big Ideas, which each have revolutionary potential. SIAM applauds NSF's recently established programs in these areas, such as the Transdisciplinary Research on Principles of Data Science (TRIPODS) Institutes and the NSF-Simons Research Centers for Mathematics of Complex Biological Systems.

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SIAM urges strong investment in the Research and Related Activities account (RRA) to enable support for the Division of Mathematical Sciences (DMS), the Office of Advanced Cyberinfrastructure (OAC), and other core programs in addition to the Big Ideas. This funding would enable critical support for essential mathematical and computational science research, workforce development programs, and early career researchers.

NSF Division of Mathematical Sciences

The NSF Division of Mathematical Sciences (DMS) in the Directorate for Mathematical and Physical Sciences (MPS) provides the core support for all mathematical sciences. DMS supports areas such as algebra, applied and computational mathematics, foundations, geometry, mathematical biology, probability, statistics, and topology. In addition, DMS supports national mathematical science research institutes; infrastructure, including workshops, conferences, and equipment; and postdoctoral, graduate, and undergraduate training opportunities.

The activities supported by DMS and performed by SIAM members, such as modeling, analysis, algorithms, and simulation, underpin advancements across science and engineering and provide new ways of obtaining insight into the nature of complex phenomena, such as the power grid, software for military applications, and the human body.

Investment in DMS is critical because of the foundational and cross-cutting role that mathematics and computational science play in sustaining the nation's economic competitiveness and national security, and in making substantial advances on societal challenges such as energy and public health. NSF, with its support of a broad range of scientific areas, plays an important role in bringing U.S. expertise together in interdisciplinary initiatives that bear on these challenges. DMS plays a central role in cross-NSF efforts, with programs supporting the interface of mathematics with a variety of other fields. Other agencies rely on NSF research to advance their missions, and both agencies and foundations partner with NSF thereby leveraging federal funding for maximum impact, such as with the Joint NSF/National Institutes of Health Initiative Quantitative Approaches to Biomedical Big Data (QuBBB).

NSF Office of Advanced Cyberinfrastructure

Work in applied mathematics and computational science is critical to enabling effective use of the rapid advances in information technology and cyberinfrastructure. Programs in the NSF Office of Advanced Cyberinfrastructure (OAC) in the Directorate for Computer and Information Science and Engineering (CISE) focus on providing research communities access to advanced computing capabilities to convert data to knowledge and increase our understanding through computational simulation and prediction.

SIAM strongly endorses OAC's efforts to continue as a steward for computational science, building bridges across NSF to accelerate transformational science and engineering, and

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driving universities to improve their research and education programs in this multidisciplinary area.

The programs in OAC that support work on software and applications for the next generation of supercomputers and other cyberinfrastructure systems are critically important to enabling effective use of advances in hardware, facilitating applications that tackle key scientific questions, and to improving our understanding of increasingly complex software systems.

SIAM strongly endorses NSF's role advancing high performance computing to position the nation to meet critical national security needs, fully leverage computing technology for economic competitiveness and scientific discovery, and position the U.S. for sustained technical leadership.

Supporting the Pipeline of Mathematicians and Scientists

SIAM is concerned by proposals in the budget request to cut support for the ***Graduate Research Fellowships*** and ***CAREER awards***. These programs are crucial to the training and professional development of the next generation of leadership in mathematical sciences research and education as well as many other disciplines. Congress should provide sufficient NSF funding to ensure continued support for these programs. SIAM also supports ***Improving Undergraduate STEM Education*** (IUSE), which is essential for advancing STEM professional development as well as developing a STEM literate citizenry. SIAM notes that mathematical education is foundational to STEM learning across disciplines and NSF should continue to fund development of mathematical and computational skills, including at the undergraduate level when young scientists and engineers gain critical interests and competencies.

Conclusion

We would like to thank you again for your ongoing support of NSF that enables the research and education communities it supports, including thousands of SIAM members, to undertake activities that contribute to U.S. health, security, and economic strength. NSF needs sustained growth to maintain our competitive edge in science and technology, and therefore we respectfully ask that you continue robust support of these critical programs in FY 2019.

We appreciate the opportunity to provide testimony to the Committee on behalf of SIAM. SIAM looks forward to providing any additional information or assistance you may ask of us during the FY 2019 appropriations process.

**OUTSIDE WITNESS TESTIMONY OF
SISTER SIMONE CAMPBELL, SSS, EXECUTIVE DIRECTOR
NETWORK LOBBY FOR CATHOLIC SOCIAL JUSTICE**

**HEARING ON
FY 2019 APPROPRIATIONS**

**BEFORE
HOUSE COMMERCE, JUSTICE, SCIENCE AND RELATED AGENCIES SUBCOMMITTEE ON
APPROPRIATIONS**

APRIL 27, 2018

Thank you Chairman Culberson, Ranking Member Serrano, and members of the Subcommittee for the opportunity to submit written testimony on FY 2019 appropriations for the 2020 Census. My name is Sister Simone Campbell, a Catholic Sister of Social Service. I am the Executive Director of NETWORK Lobby for Catholic Social Justice and leader of the Nuns of the Bus campaign.

Founded in 1971, NETWORK is a leading faith-based organization devoted to creating a society that promotes justice and the dignity of all in the shared abundance of God's creation. NETWORK, with more than 110,000 supporters, is rooted in the Catholic Social Justice tradition and is open to all who share our passion.

Census: A Historical Tradition

The census is one of our key issues because it is a crucial part of our faith tradition. The story of Jesus starts with his parents journeying to be counted for the census. We also know that in the Hebrew Scriptures Moses counted the Israelites. And why did that happen? It happened because it is essential to know who we are. It helps to answer the important question, "Who is our neighbor?"

For us, it is a matter of faith. Most people know that business and industry use the federal census to determine trends or where to put services or retail. However, what people might not know is that many of our churches use the census to allocate future resources and define parish lines, or determine where new churches are needed. Everyone uses the census. It is not a partisan issue. We must count everyone, so that everyone counts. This is the constitutional mandate.

I am seriously concerned that the 2020 Census will fall short of meeting this constitutional and faith mandate. The teaching of Catholic Social Justice compels us to care for our nation's most vulnerable people, and providing adequate funding for an effective 2020 Census is a crucial prerequisite for doing so. But we cannot effectively serve people if we do not know who and where they are.

We use census data to allocate over \$675 billion for federal policies and programs to respond to the needs of all in our nation. Local community leaders use census and American Community Survey (ACS) data to make decisions about allocating resources for community needs like education, assistance for veterans, hospitals, and transportation. Census data can also help communities identify emerging problems that community leaders need to deal with. And state and local rebuilding and recovery efforts for areas impacted by recent natural disasters will need to utilize census data to help these devastated communities heal. An underfunded, inaccurate 2020 Census will skew the projections of needed resources and programs away from the communities that need them most.

FY 2019 2020 Census Funding Request

I applaud Congress and the Administration for taking steps to finally shore up funding for the 2020 Census. The \$1.344 billion increase above the FY 2017 enacted level included in the Consolidated Appropriations Act 2018 (P.L. 115-141) and \$3.015 billion included in the President's FY 2019 budget request are substantial investments. Both underscore the need to ramp-up funding significantly in the years leading up to the 2020 count. However, preparations for the 2020 Census have been so hampered by delayed funding in the FY 2017 and FY 2018 appropriations cycles that even these funding increases are inadequate to overcome the growing challenges to a fair and accurate census. Outstanding issues include: 1) preparation for address canvassing, 2) marketing and outreach, and 3) final end-to-end testing currently scaled back from three locations to one. We cannot risk failure and must substantially increase our investment in the 2020 Census.

Given our nation's constitutional mandate, funding for the 2020 Census should not be subject to budgetary caps imposed by the Budget Control Act of 2011 (P.L. 112-25). **To that end, NETWORK requests at least \$3.928 billion outside the caps for 2020 Decennial Census activities in the FY 2019 Commerce, Justice, Science Appropriations bill to support the volume of work needed.**

The Need: A Fair, Accurate and Modern Census

To be successful in 2020, the final and most critical years of preparations must include more presence in communities as well as in local and state organizations, including:

- Congress should provide funding for 2,000 Partnership Specialists who will engage, educate, and mobilize states, localities, and community-based organizations in support of the census;
- Increase funding for communications, in light of a lower projected self-response rate, to expand targeted and 'in-language' advertising to communities that are harder to reach and to address public fears about cyber-security;
- Expand the Census Bureau's "footprint" in the field by increasing the number of local ("Area") census offices to 300 (still far fewer than in 2010); and

- A contingency fund, as appropriated in past decennials and as requested by Secretary Ross. Unanticipated challenges, like counting populations in disaster-impacted areas, are bound to add to costs of the 2020 count.

Counting the Hard-to-Count

My deep concerns about the accuracy, reliability, and fairness of the decennial count are rooted in my faith commitment to social justice. Historically marginalized people in rural, immigrant, native, and renters have been disproportionately undercounted in the census. For example, the undercount of young children under 5 has been getting progressively worse. Now, additional populations – such as rural residents and older Americans – may experience new or increased likelihood of being undercounted due to major changes in methodology, such as relying on the Internet as the primary way for households to respond to the 2020 Census. Being hard-to-count can deprive individuals and communities of equal political representation and their fair share of vital public and private resources.

Count Everyone Regardless of Citizenship

NETWORK opposes the recent decision by the Department of Commerce to include a citizenship question to the 2020 Census questionnaire based on vote dilution concerns raised by the Department of Justice. NETWORK opposes this decision, particularly at this late stage of planning when the 2020 Census has already been identified as a high risk program. Asking a citizenship question increases the risk of failure due to diminished participation from immigrant households. A [recent study](#) by the Kaiser Family Foundation reports that there are nearly 20 million children that live in mixed immigrant status families. Without assurances from the federal government that these families would not face criminal prosecution or deportation for completing the survey truthfully answering the citizenship question, I am certain that adding a citizenship question would discourage their participation. Under the Constitution, the Census Bureau has an obligation to determine “the whole number of persons in each state” regardless of citizenship. Therefore, the citizenship the question should be eliminated.

Conclusion

My Catholic faith teaches that all humans possess inherent dignity – everybody counts. It is unacceptable to inadequately fund the census or include a question on citizenship. Either action renders the Census Bureau unable to carry out its responsibility. The Constitutional mandate to conduct a decennial census requires the Census Bureau to count everyone. We the People will defend our Constitution and demand that the federal government accurately and fairly counts everyone, so that everyone counts.

Once again, thank you for the opportunity to submit written testimony.



**Official Written Testimony in Support of
Fiscal Year 2019 National Science Foundation Funding**

Submitted to the House Subcommittee on Commerce, Justice, and Science, and Related
Agencies; Committee on Appropriations
United States House of Representatives
April 17, 2017

Submitted by
Dr. Fred Oswald, President, Society for Industrial and Organizational Psychology
Jeff Hughes, Executive Director, Society for Industrial and Organizational Psychology

On behalf of the Society for Industrial and Organizational Psychology (SIOP), we are pleased to provide this written testimony to the House Appropriations Subcommittee on Commerce, Justice, and Science, and Related Agencies for the official record. **SIOP urges the Subcommittee to provide \$8.45 billion for the National Science Foundation (NSF), including strong support for the Directorate for Social, Behavioral, and Economic Sciences (SBE), in the fiscal year (FY) 2019 appropriations process.**

SIOP and its members recognize and appreciate the challenging fiscal environment in which we, as a nation, currently find ourselves; however, we also have evidence that federal investment in social and behavioral science research directly and positively impacts the U.S. economy, national security, and the health and well-being of Americans.

Through SBE, NSF supports basic research to develop a scientific evidence base for improving the performance, effectiveness, management, and development of organizations and the workforce. The methods, measurements, and theories developed through this federal investment enhance business practices, policy-making, and interprofessional collaboration. The evidence base derived from basic research in the science of organizations is applied throughout the public and private sectors. For example, federal research agencies across the government, including the Department of Defense (DOD), National Aeronautics and Space Administration (NASA), the Department of Justice (DOJ), NSF, etc. invest in I-O research that enhances organizational effectiveness and human performance. Findings from that work also improve the effectiveness of the private sector and federal workforces.

Additionally, new pressures to address privacy, performance, and safety in the workplace have further expanded the need for federal investment in social and behavioral science research, especially in industrial and organizational (I-O) psychology, emphasizing the importance of the entire work system in addition to the individual. Cybersecurity threats, challenging economic circumstances, subtle and formal discrimination, talent shortages in technical jobs, and a host of other recent events and conditions have catalyzed the development and application of new methodologies for studying how people think and behave in the workplace.



SIOP also supports NSF's dedication to its "10 Big Ideas,"¹ including *Work at the Human-Technology Frontier*, which seeks to address and improve human-technology interactions as workplaces integrate and adapt to artificial intelligence, automation, machine learning, and beyond. In addition to developing these technologies, successful implementation relies on understanding human learning at various stages of life, and improving education and training to appropriately use these technologies.

With funding assistance from NSF and other federal agencies, the field of I-O psychology has developed data-driven methods to predict successful teams, address workplace dysfunction, improve the work experience of individuals, and enhance job performance and employee engagement. Use of this rich knowledge and understanding has informed and benefitted both private companies and the public workforce. Continued federal support for I-O psychology keeps its knowledge and expertise in the public domain and enhances shared workplace efficiency and understanding of worker well-being at all levels. Other applications of I-O psychology include: improving airline safety through Crew Resource Management, transitioning veterans and service members to civilian jobs, managing age diversity in the workplace, and mitigating the impact of furloughs on the federal workforce, among many others.

SIOP is a community of nearly 10,000 members worldwide with a common interest in promoting the research, practice, and teaching of I-O psychology to enhance human well-being and performance in organizational and work settings. SIOP provides a platform for scientists, academics, consultants, and practitioners to collaborate, implement, and evaluate cutting-edge approaches to workplace challenges across sectors.

Given NSF's critical role in supporting fundamental research and education across science and engineering disciplines, SIOP supports an overall FY 2019 NSF budget of \$8.45 billion. SIOP requests robust support for the NSF SBE Directorate, which funds important research studies, enabling an evidence base, methodology, and measurements for improving organizational function, performance, and design across sectors and disciplines.

Thank you for the opportunity to offer SIOP's support for NSF. Please do not hesitate to contact SIOP should you have any questions. Additional information is also available at www.siop.org.

¹ National Science Foundation-proposed "10 Big Ideas"
 (https://www.nsf.gov/about/congress/reports/nsf_big_ideas.pdf?dm_i=1Z1N.4FGWL.E29000.GB891.1)

Richard Haganir, PhD, President, Society for Neuroscience

Mr. Chairman and members of the Subcommittee, I am Richard Haganir, President of the Society for Neuroscience (SfN), and it is my honor to present this testimony on behalf of the Society in support of increased funding for the National Science Foundation (NSF) for fiscal year (FY) 2019. As a professor at, and the director of, The Solomon H. Snyder Department of Neuroscience at Johns Hopkins University, I understand the importance of federal funding for neuroscience research. I am offering this testimony in my capacity as President of SfN, an association of nearly 36,000 neuroscientists from all 50 states and around the world. Our members stand with the broader scientific community in requesting \$8.45 billion for NSF in FY19, which will continue to build our understanding of the most basic brain functions, allowing for further discovery. We also urge the committee to complete their appropriations work in advance of the September 30 deadline, to provide certainty to scientists that rely on federal funding to support their work.

NSF research significantly impacts scientific discoveries—exhibited by the fact that since 1952, 217 Nobel Prize recipients have received NSF funding. Providing robust funding for NSF allows for the investments needed in basic science to bring about the next breakthroughs in the health, education, and well-being for Americans. Supporting NSF is critical to continue broad scientific advancements, and increasing NSF's budget specifically allows for the development of new tools and technologies to advance neuroscience. As the incidence of brain diseases and disorders continues to grow, our ability to diagnose and treat disease becomes ever more critical. The basic science funded by NSF serve as the foundation for some of our most significant scientific advances. Advancements in our understanding of the brain and nervous system rely on continued discoveries and development of the tools that will allow us to observe the most “complex biological structure on Earth,”¹ the brain, in new ways. These endeavors rely on support from the federal government—in fact, 27% of the federal budget for basic science is funded by NSF.

As the Subcommittee continues its work for FY19, we also ask that Congress work to ensure that final FY19 funding is approved before the end of FY18. Reliance on continuing resolutions in place of regular appropriations has real implications for scientists working in the field, as it severely restricts NSF's ability to fund science. For some, this means waiting for a final decision on NSF's funding before knowing if their highly scored grant will be supported. This delays the launch of research, hiring of researchers, and otherwise causes meritorious science to sit on the shelf. For others, it means operating a lab at reduced funding levels until full-year appropriations are finalized—similarly impacting hiring and causing science to “stop and start”—resulting in wasted effort, data, and resources. There is no substitute for robust, sustained, and predictable funding for NSF.

We are also appreciative of the Committee's support for NSF's Understanding the Brain program, including the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative. This multi-agency, targeted portion of the overall federal investment in neuroscience, which includes NSF, will help develop the tools needed to look deeper into the brain to map functions for a plethora of applications.

The deeper our grasp of basic science, the more successful those focused on clinical and translational research will be. Basic research, like that supported by NSF, creates discoveries—sometimes unexpected—that expand our knowledge in unanticipated ways. Basic research in

¹ https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=128239

neuroscience is a critical function of the federal government as it builds the foundation for advancements in public and individual health, education, and workforce. Some recent, exciting advancements include the following:

The Impacts of Neuroscience Research

New technologies unlock the brain's mysteries

My own BRAIN Initiative supported research investigates how neurons communicate and coordinate with each other to form circuits. Neurons are constantly relaying information to each other through connections called synapses. Neuroscientists previously discovered that multiple kinds of internal cellular inputs influence the responsiveness of the receiving neuron, strengthening or weakening the connection of particular pathways. This process is essential for learning and memory and is impacted in neurological and psychiatric disorders like Alzheimer's disease, autism, and schizophrenia. Today monitoring more than one pathway at a time is a challenge, and consequently, we have a limited understanding of the complexities of how synaptic changes occur and are regulated.

My laboratory is developing new tools to simultaneously evaluate multiple types of cell signaling to better understand brain activity during learning in awake, behaving animals. These tools will enable us to develop a complex, and more complete, picture of how learning and other higher brain functions are achieved. Ultimately, the tools developed in my laboratory may inform how specific cell circuits involved in learning are affected by neurological diseases and disorders. My hope is that the tools generated will help other neuroscientists overcome some of the enormous challenges they face when studying the brain.

Improving noninvasive diagnostics

NSF supported research is also providing necessary foundations for additional transformative findings beyond the BRAIN Initiative. Over the last 25 years, optical coherence tomography (OCT) imaging has revolutionized ophthalmology by creating 3D images of the human eye at micrometer resolution. OCT is an effective diagnostic tool, capable of imaging a wide spectrum of conditions, from blood vessel blockages to early stage tumors, without harming surrounding tissue. Multiple fields of medicine, beyond ophthalmology, including cardiology, oncology, and dermatology, are now starting to use OCT given the sensitivity of the imaging. Numerous OCT applications were discovered through NSF funded research, and NSF continues to support improvements in the amount of tissue imaged, speed, and affordability of OCT. For example, an NSF funded project developed a photonic chip that both increases the speed of OCT and shrinks the device to the size of a U.S. quarter. A functional result in improving the speed of OCT imaging has the potential to multiply its clinical applications. For instance, improving the speed of OCT imaging allows clinicians to detect blood flow changes in even the smallest blood vessels.

Basic Neuroscience Research: A Key Investment for the Nation

Neuroscience, and basic research, is a critical federal investment with implications for not only health and well-being, but also for education, national security, and the economy. In 2017, nearly 353,000 Americans directly benefited from NSF programs through salaries, stipends, or participant support with millions of others impacted through educational and research related activities.² In 2011 alone, over 670 spin-off companies were formed from university research

² https://www.nsf.gov/news/news_summ.jsp?cntn_id=100595

efforts.³ In fact, one dollar of research money from NSF results in two dollars in economic output.⁴

Equally as critical to the future of U.S. scientific leadership, NSF trains the next generation of America's scientists and science educators through tools like the graduate research fellowships—over 50,000 since 1952.⁵ This training provides a foundation for a strong economy built on scientific advances and the pioneers driving innovation, spurring the development of new businesses and jobs. With a basic understanding of the environments we live in, we can transform the way we treat disease, learn, work, and engage with the world.

Thank you for the opportunity to testify today. SfN respectfully requests that the Committee provide \$8.45 billion to NSF so researchers can continue their important work. Additionally, we ask Congress to complete funding decisions on time, which will allow for the use of resources to be optimized.

³ Sparking Economic Growth 2.0. The Science Coalition. October 2013.

⁴ Gundaya, D. and Inazu, J.K. The Economic Impact of Federal Funds on a Local Community in Hawaii. June 2011.

⁵ <https://www.nsf.gov/pubs/2017/nsf17003/nsf17003.pdf>

Testimony of Research!America to the House Committee on Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies Concerning FY19 Appropriations for NSF
Submitted for the Record, April 24, 2018

Contact: James Taylor, Manager of Policy and Advocacy, Research!America
jtaylor@researchamerica.org

I appreciate the opportunity to submit testimony on behalf of Research!America, the nation's largest not-for-profit education and advocacy alliance working to accelerate medical progress and strengthen our nation's public health system. We are grateful for the Subcommittee's dedicated stewardship over such a critical subset of our nation's discretionary funding priorities. As you consider fiscal year 2019 (FY19) allocations, we request that the National Science Foundation (NSF) receive at least \$8.45 billion to support our nation in achieving its strategic objectives. Funding at this level will begin to reverse the trend that has left the United States on the verge of lagging behind our international competitors who continue to increase their investments in science research and development.

Over the past 65 years, the NSF has faithfully and successfully pursued its mission: promoting scientific progress that richly benefits Americans, strengthening the national defense, and advancing national health and prosperity. NSF's portfolio, which is intentionally diverse to maximize the returns on science investment, spans biology, economics, mathematics, computer science, the social and behavioral sciences, engineering, and other disciplines and areas of scientific focus. We firmly believe that robust funding for NSF is a sound strategy for advancing our nation's strategic interests in an increasingly complex global landscape.

What the NSF Provides

The NSF funds diverse basic and applied research in local universities and other research institutions located in all 50 states, the District of Columbia and three U.S. territories. An estimated 359,000 students, teachers, researchers and postdoctoral fellows were empowered by the NSF in FY 2017 alone. Approximately 90% of NSF funding is allocated to grants or cooperative agreements to researchers through a competitive merit review process. Since 1950, the NSF has supported more than 230 Nobel Prize winners, including four Nobel Laureates in 2017. The studies supported by the NSF bear on virtually every sector of our economy, support cyber- and other crucial areas of national security, and factor importantly into the productive use of "big data" and other highly promising avenues of research.

NSF Leverages American Ingenuity to Break New Ground in Science and Technology

The NSF supports high-risk, potentially transformative projects that resulted in groundbreaking discoveries in the last year. In an effort to store data more efficiently and securely, NSF-funded researchers at California Institute of Technology developed a new computer chip using nanoscale optical quantum memory. These findings are moving the field closer to using photons of light to transmit information more reliably. Much of this work would have never been possible without previous NSF investment in computer science, math and statistics.

Advancements continue to be found throughout NSF-funded research, often through

collaboration across multiple fields. This year, researchers at Brown University were able to create miniature 3-D tissue engineering molds, or “mini-brains”, that form networks and allow scientists to conduct biomedical research. Last year, the researchers discovered that the “mini-brains” can be used to study brain injuries and diseases such as stroke, concussions and Alzheimer’s. Through NSF’s continued support, fields can work together to produce cutting-edge research that continue to push the fields of neuroscience, engineering and biomedical science forward.

NSF is Crucial to Training the Next Generation of American Scientists and Innovators

Our nation’s continued global leadership is inexorably linked to our strength in the fields of Science, Technology, Engineering, and Mathematics (STEM). The NSF fosters future American leaders in these strategically important disciplines. Since 1952, the NSF has supported more than 53,000 students through Graduate Research Fellowships and has provided grant support to thousands of postdoctoral fellows and young investigators. The agency also engages in innovative educational initiatives such as NSF INCLUDES (Inclusion across the Nation of Communities of Learners of Underrepresented Discoveries in Engineering and Science). NSF INCLUDES is a new national initiative to make STEM education more inclusive of underrepresented and underserved populations. Efforts like this set the stage for future success as our nation seeks to accelerate the pace of medical progress.

These examples demonstrate the strategic importance of NSF. I encourage you to fund the agency with at least \$8.45 billion in FY19 to support our nation’s unrivaled scientific enterprise. Research!America appreciates the difficult and complex task facing the subcommittee as it seeks to prioritize funding in a manner that best serves the American people, and hope you will call on our organization if additional information would prove useful.

Thank you for your continued leadership and consideration.

Sincerely,



Mary Woolley
President and CEO
Research!America



Fiscal Year 2019 Appropriations
Funding for Legal Services Corporation
Written Testimony of Patricia McAllister,
Executive Director of the Texas Access to Justice Commission,
to the United States House of Representatives House Appropriations Committee
Subcommittee on Commerce, Justice, Science, and Related Agencies
April 27, 2018

The Texas Access to Justice Commission (Commission) was created by the Supreme Court of Texas in 2001 to serve as the umbrella organization for all civil access to justice efforts in Texas, and respectfully submits the following testimony on Fiscal Year 2019 appropriations to the Subcommittee on Commerce, Justice, Science and Related Agencies of the United States House of Representatives House Appropriations Committee.

Background on the Delivery of Legal Services to the Poor in Texas

Legal aid organizations funded by the Legal Services Corporation (LSC) preserve access to the justice system by providing civil legal services to the poor in matters of basic human needs, such as the preservation of housing and protection from domestic violence. They serve vulnerable populations like the elderly, who are often targeted in consumer scams; people affected by natural disasters; and veterans, who may be wrongly denied benefits. Only people who are truly struggling qualify for legal aid. An individual cannot earn more than \$15,175 per year and a family of four cannot earn more than \$31,375 per year to qualify.¹

In Texas, three entities receive funding from the Legal Services Corporation – Legal Aid of Northwest Texas, Lone Star Legal Aid and Texas RioGrande Legal Aid – and are responsible for providing legal services to the poor for the entire state. These LSC programs help more than 55,000 Texas families each year.²

¹ Dept. of Health and Human Services, Federal Register Notice, January 18, 2018

² Texas Access to Justice Foundation

Legal aid programs also provide the infrastructure for pro bono by conducting case intake, recruiting and training pro bono attorneys, placing cases with pro bono attorneys, and mentoring them as needed. In Texas, lawyers are doing their part. They provided over 1.87 million hours in free legal services to working people, valued at more than \$486 million. Additionally, attorneys give millions of dollars in private donations each year.³

In Texas, approximately 20% of the state's population, or 5.6 million people, qualify for legal aid at 125% of the federal poverty guidelines.⁴ In any given year, 71% of low-income households will experience at least one civil legal problem.⁵

Legal Services to Victims of Hurricane Harvey

In the wake of the biggest natural disaster in recent Texas history, LSC-funded legal aid programs are taking on thousands of extra cases in the span of only a few months following Hurricane Harvey. These cases are in addition to the typical 55,000 families assisted each year. More than 900,000 FEMA applications have already been submitted.

Lone Star Legal Aid lost its entire service area's network due to a fire that destroyed the Houston office during the storm. While dealing with its own affected areas, Texas RioGrande Legal Aid took over Lone Star's phone intake system and Legal Aid of Northwest Texas assisted by taking on cases from Disaster Recovery Centers located in otherwise unaffected areas. Within days, the Texas Supreme Court issued an order allowing out-of-state attorneys to take pro bono disaster cases through legal aid programs. The State Bar of Texas collected over 2,000 pro bono volunteers and funneled them to the legal aid organizations. Without this infrastructure, there would have been no way to effectively deploy these volunteers.

In the few short months since the storm, more than 5,000 cases have been taken by Texas LSC providers in the wake of Hurricane Harvey. Lone Star Legal Aid has closed more than 2,100 cases and 716 cases remain open. Texas RioGrande Legal Aid has completed almost 1,800 cases, with 410 cases remaining open. Legal Aid of Northwest Texas completed 140 cases so far.

LSC Funding and Economic Benefit of Legal Aid in Texas

In Fiscal Year 2018, the total appropriation for LSC was \$410 million. Texas will receive approximately \$33 million in LSC funding. Yet, Texas legal aid is nowhere close to meeting demand. Due to a lack of resources, less than 10 percent of the civil legal needs of working

³ State Bar of Texas Pro Bono Survey, 2015 and State Bar of Texas Hourly Fact Sheet, 2015

⁴ U.S. Census Bureau, American Community Survey, 2017

⁵ The Justice Gap Report, Legal Services Corporation, 2017

Texans are being met.⁶ Texas ranks 47th in access to civil legal aid lawyers, according to a recent study of the U.S., including D.C. and Puerto Rico.⁷ There is approximately one legal aid lawyer for every 8,000 working Texans who qualify for civil legal aid, compared to one private practice lawyer for every 312 Texans above civil legal aid eligibility.⁸

According to a report conducted by The Perryman Group in February 2013, for every direct dollar expended in the state for indigent civil legal services, the overall annual gains to the economy are found to be \$7.48 in total spending, \$3.59 in output (gross product), and \$2.22 in personal income. Moreover, this activity generates approximately \$47.5 million in yearly fiscal revenues to State and local governmental entities.⁹

Conclusion

“Access to justice for all is a righteous cause. It is humanitarian, it is good for the economy, and most importantly, it is essential to the integrity of the Rule of Law.”

-Chief Justice Nathan L. Hecht, Supreme Court of Texas

All citizens deserve fair and equitable access to our justice system. It is a fundamental tenant of our society and underscored by the Rule of Law in our Nation, a basic Federal issue and value. Please support justice for all by funding civil legal aid adequately. The Texas Access to Justice Commission respectfully requests that LSC funding be increased above the current \$410 million.

⁶ Texas Access to Justice Foundation

⁷ The Justice Index Findings Report, 2016

⁸ Texas Access to Justice Foundation

⁹ *Current and Potential Economic Benefits of Legal Aid Services in Texas: 2013 Update*, The Perryman Group, February 2013, page 11.

Outside Witness Written Testimony of the Interfaith Immigration Coalition

Hearing on Fiscal Year 2019 Appropriations before the House Commerce, Justice, Science and Related Agencies Subcommittee on Appropriations

April 27, 2018

On behalf of the Interfaith Immigration Coalition (IIC), a network of over 50 national, faith-based organizations, thank you Chairman Culberson and Ranking Member Serrano for the opportunity to submit outside written testimony on fiscal year 2019 (FY19) Appropriations for several programs that impact immigrant communities. We, the undersigned members of the IIC, are brought together across many theological traditions with a common call to seek just policies that lift up the God-given dignity of every individual. In partnership, we work to protect the rights, dignity, and safety of all refugees and migrants.

Pertaining to Commerce, Justice, Science, and related agencies funding for FY19, we write to lift up two areas of concern that we urge the subcommittee to robustly fund and provide oversight for in the interest of protecting immigrants and other vulnerable members of our shared nation.

Legal Orientation and Legal Representation for Detained Immigrants

We urge members of Congress to focus on expanding funding streams for the Executive Office of Immigration Review (EOIR), and other avenues through which immigrants can successfully navigate the immigration court system with due process and access to justice.

People of faith who accompany or represent immigrants in detention facilities witness firsthand the toll incarceration takes on those detained, their families, and our communities. If individuals do not have the information that they need to navigate their legal proceedings, this adds to the stress and length of unjust incarceration. Lack of legal knowledge undermines due process rights and the integrity of the U.S. judicial system. As the administration continues to expand the automatic use of detention during immigration proceedings, tens of thousands of immigrants will suffer on a daily basis without access to basic legal orientation, let alone representation.

We request the subcommittee appropriate:

- **\$40 million to expand Legal Orientation Programs to all detention facilities.**

LOPs give critical information to detainees on the immigration court process, promote court efficiency, and foster due process for non-citizens in removal proceedings. Our request includes **\$25 million** for the LOP and **\$15 million** for the Legal Orientation Program for Custodians of Unaccompanied Children (LOPC). Current levels of congressional funding leave approximately three-quarters of detention centers with no program.

In a troubling development, the Department of Justice announced in early April 2018 that they were putting LOPs and help desk programs on an indefinite pause. Due to congressional pressure, they later announced they would continue these programs throughout an internal review process. LOP currently enables over 50,000 individuals each year to access critical information about how the U.S. immigration court system operates. A 2012 DOJ report found that this program saved money over time. We are deeply grateful to the members of Congress who defended the continuance of these crucial programs.

We urge the subcommittee to not only hold the administration accountable for maintaining the LOP and helpdesk program at current levels, but also push for an expansion of LOP to all detention centers in FY19.

- **\$50 million for expanding the Pilot Program for Legal Representation.**

We are gravely concerned that the majority of unaccompanied children do not have representation in their court proceedings, which stands in stark contrast to our faith values and leads to inefficiencies and wasted resources in our immigration court system. This pilot program would leverage federal funds to help to improve the quality and level of pro bono legal representation for vulnerable populations, as well as helping to protect children from mistreatment, exploitation, and trafficking.

2020 Decennial Census Funding and Accuracy

We believe that no individual or community should be disenfranchised by federal policy. The 2020 Decennial Census is a critical tool that enables federal policies and programs to respond to the needs of everyone in the country, especially marginalized communities. We applaud the subcommittee for the \$2.814 billion appropriation in FY18, a \$1.344 billion increase above FY17, for the 2020 Census. However, greater funding is needed to support preparation to address canvassing, marketing and outreach, and final end-to-end testing currently scaled back from three locations to one.

We urge the subcommittee to robustly fund the 2020 Census in FY19 by appropriating at least:

- **\$3.928 billion for the 2020 Decennial Census activities** in order to complete the volume of work needed to ensure a modern, accurate, and equitable process.

An inaccurate 2020 Census will skew the projections of needed resources and programs away from the communities that need them most—particularly hard to count populations which include children under 5, communities of color and immigrant households. **We therefore stand opposed to the inclusion of a question pertaining to citizenship on the 2020 Census questionnaire, which would discourage maximum participation from immigrant households.**

Immigrants in our communities may already be hesitant to engage in the Census because they fear that their data may be used against them or their communities. Including a citizenship question will destroy any chance for an accurate count because immigrant communities and mixed status families would likely forego participation. We are joined by others in this stance, including 10 leading Jewish organizations, 600 faith leaders from around the country, 22 national faith-based organizations from various traditions, and hundreds of organizations that seek to promote and protect the civil and human rights of all persons in the United States.

We pray you will consider these requests, and better align our federal spending to ensure each person is counted, and given the tools and resources they need for our communities to thrive.

INTERFAITH IMMIGRATION COALITION

Member Organizations

African American Ministers in Action	Maryknoll Office for Global Concerns
American Baptist Home Mission Societies of the	Mennonite Central Committee U.S.
American Baptist Churches, USA	Muslim Public Affairs Council (MPAC)
American Friends Service Committee	National Advocacy Center of the Sisters of the
American Jewish Committee	Good Shepherd
Bend the Arc Jewish Action	National Council of Churches
Bread for the World	National Council of Jewish Women
Christian Church (Disciples of Christ)	National Justice for Our Neighbors
Christian Community Development Association	NETWORK, A National Catholic Social Justice
Christian Reformed Church	Lobby
Church of the Brethren	Pax Christi USA
Church World Service	PICO National Network
CLINIC Catholic Legal Immigration Network, inc.	Presbyterian Church USA Office of Immigration Issues
Columban Center for Advocacy and Outreach	Scalabrinian International Migration Network
Conference of Major Superiors of Men (CMSM)	(SIMN) /Center for Migration Studies (CMS)
Daughters of Charity	Sisters of Mercy of the Americas
The Episcopal Church	Sojourners
Evangelical Lutheran Church in America (ELCA)	T'ruah: The Rabbinic Call for Human Rights
Faith in Public Life	Union for Reform Judaism
Franciscan Action Network	Unitarian Universalist Association of
Friends Committee on National Legislation	Congregations (UUA)
HIAS	Unitarian Universalist Service Committee
Ignatius Solidarity Network	United Church of Christ, Justice and Witness
Interfaith Worker Justice	Ministries
Irish Apostolate USA	United Methodist Church, General Board of
Jesuit Refugee Service/USA	Church & Society
Jewish Council for Public Affairs	UNITED SIKHS
Leadership Conference of Women Religious	U.S. Jesuit Conference
Lutheran Immigration and Refugee Service	World Relief

For questions or follow-up please contact IIC co-chairs:

Tammy Alexander (TammyAlexander@mcc.org - 202-544-6564, x62113)

Hannah Evans (Hannah@fcnl.org - 202-903-2537)

THURSDAY, APRIL 26, 2018.

DEPARTMENT OF JUSTICE

WITNESS

HON. JEFF SESSIONS, ATTORNEY GENERAL

Mr. CULBERSON. The Commerce, Justice, Science Appropriations Subcommittee will come to order.

Attorney General Sessions, it is my pleasure to welcome you to testify today on your fiscal year 2019 budget request. This committee has always made it a priority to support the work of the Justice Department. We honor our Federal, state, and local law enforcement officers for their tireless and invaluable service to our country, to protect our communities, and we will continue to work together on this committee to do everything we can to ensure that law enforcement officers across the country and the Department have the money and the resources they need to protect this great Nation.

In the final fiscal year 2018 appropriations bill, this subcommittee provided the Department significant increases above your request to be sure that you had the resources that were necessary to conduct the investigations and prosecutions of terrorism, human trafficking, gun crimes, and immigration crimes, and to fight the growing epidemic of opioid abuse. However, the fiscal 2019 budget request was submitted prior to the budget agreement and, therefore, as a result, Office of Management and Budget (OMB) submitted a request for 2019 for Federal law enforcement that would actually result in significant cuts for all of these critical law enforcement agencies, and I want to make it clear that this committee will not support OMB's proposal to cut the resources available to our law enforcement officers that are so important to protect this country and our communities.

Mr. Attorney General, you and I have discussed many times the treatment of sanctuary cities. I have worked with the previous administration to ensure that Department of Justice (DOJ) policy was changed in the summer of 2016, so that state and local law enforcement agencies understood very clearly that if they expect to receive federal dollars, they must follow federal law and cooperate with Federal law enforcement agencies in identifying and deporting individuals in the country illegally who have been convicted of a crime and are housed in a state prison or county jail, so that they can be deported immediately upon their release.

That is just common sense. These agencies, these local governments and states should not ask for federal dollars unless they comply with Federal law. And, as we all know, the most fundamental tenet of good law enforcement is cooperation. Sharing infor-

mation, working together as a team is the only way to really fight crime and protect this great Nation.

So I look forward to working with you to effectively implement the policy that I succeeded in persuading your predecessor to implement in the summer of 2016 for the Edward Byrne Memorial Justice Assistance Grants (Byrne JAG) programs for State Criminal Alien Assistance Program (SCAAP) and Community Oriented Policing Services (COPS), and I want to ensure that this is done as promptly as possible, so that those state and local law enforcement agencies that are doing their job and are cooperating receive their Federal grant money as quickly as possible, and those that refuse to cooperate understand that you cannot ask for Federal money unless you comply with Federal law.

As the fiscal year 2019 appropriations process moves forward, the committee will work together to ensure that Federal law enforcement agencies have the support, the resources they need above what the Administration proposes, so they can sustain the activities funded in the fiscal year 2018 bill and build on them.

I in particular, Mr. Attorney General, want to encourage the Department to do all that you can to fight human trafficking and drug trafficking. I am very grateful to see your initiative to implement a zero-tolerance policy on the border, so that the border is secure. I have found that the most zealous supporters of border security are the people who live right on the river, right on the border, because they suffer the most from gangs and drugs and thugs coming across the border, and interfering with the peace and safety and security of their communities. And we also have to do it, frankly, on a humanitarian level. It is a catastrophe and it is heartbreaking to see the human trafficking and the dangers that people face in coming to the United States. If we enforce the law, the problem will resolve itself.

So, I am very grateful to you, Mr. Attorney General, for the work that you are doing, and we will look forward to working with you to provide you the resources that you and your officers need to protect this great Nation.

And I am at this time glad to recognize my good friend Mr. Serrano from New York for any opening comments he would like to make.

Mr. SERRANO. Thank you, Mr. Chairman, and welcome, Mr. Attorney General.

Although you have been in office for 15 months, this is your first time testifying before this subcommittee. Last year, you broke tradition by refusing to appear before us, the first time in decades that an Attorney General declined to appear before this committee. I would note that during the same period you managed to testify before the authorizing committees, as well as the Senate Intelligence Committee. Suffice it to say, you are operating with a deficit of goodwill on this side as a result.

Unfortunately, this treatment has been par for the course in this committee's dealings with the administration. Just recently, the Department ignored clear direction from Congress by bringing to an end the Legal Orientation Program and the Immigration Court Helpdesk programs. As announced yesterday, it appears that your views on this subject have changed, but I remain concerned that

such an action was contemplated despite clear instructions from this committee.

That announcement was just one in a long line of troubling actions taken by this Department and this Administration to undermine fairness, due process, and civil rights in this Nation. The announcements of the past 16 months are almost too many to comprehend: efforts to undermine public safety in sanctuary cities by reducing law enforcement funding, attempts to impose case quotas on our immigration judges, proposing to eliminate the Community Relations Service in this year's budget, ending police/community collaborative reform efforts, the list goes on and on.

A clear theme emerges from all of this, an intentional effort to minimize and ignore the concerns of large segments of the American population: minorities, immigrants, LGBTQ community, and those that have suffered discrimination in this country.

For generations, the Department of Justice has been at the forefront of the fight to prevent discrimination and to uphold the constitutional values of all Americans. This proud legacy is under threat from the choices you make in your budget.

Looming over all of these issues are the ongoing investigations by the Special Counsel and now the U.S. Attorney's Office for the Southern District of New York into Russia's interference in our 2016 elections and possible collusion by the Trump campaign. Our country needs a full accounting of Russia's actions to undermine our democracy, so that we can effectively work to prevent interference in the 2018 election and beyond. You and a small group of senior level officials in the Department stand at the nexus of ensuring the White House does not interfere further in these investigations.

I am worried that the President's ongoing attacks on the Department, in tandem with the retreat from some of the core missions of the agency, are doing a terrible disservice to the tens of thousands of DOJ employees that maintain justice, at the Federal Bureau of Investigation (FBI), the Drug Enforcement Administration (DEA), and the Bureau of Alcohol, Tobacco, Firearms and Explosions (ATF), and elsewhere. These individuals are committed to the hard and selfless work of serving and improving our Nation. There is a real fear there and throughout this Nation that many of the norms of our democracy are falling by the wayside, and that your agency's leadership is doing little to stop this decline.

I look forward to discussing these issues with you today, Mr. Attorney General, and I thank you, Mr. Chairman.

Mr. CULBERSON. Thank you, Mr. Serrano.

It is my pleasure to introduce the full committee chairman, the gentleman from New Jersey, Mr. Frelinghuysen.

The CHAIRMAN. Good morning. Thank you, Mr. Chairman, for the time and for your strong leadership in the committee, working very closely with your ranking member, Mr. Serrano of New York.

I also want to welcome our Attorney General to the Appropriations Committee. I look forward to your testimony, and hearing your frank and candid views on a wide range of issues.

I say at every meeting, the power of the purse lies in this building. It is the constitutional duty of Congress to make spending decisions on behalf of the many people we represent at home, and

certainly I would obviously urge your continued active engagement with the bill payers, which this committee represents.

And I work very closely with Mrs. Lowey from New York, who I assume will join us shortly, and we look forward to getting our appropriations bills through. I think you may know, we did your bill in July of last year and it was packaged up in September, and then there was a huge hiatus. We like to blame it on the other body, but we did come together, and hopefully have given you the resources that you need.

Mr. Attorney General, I am pleased you are sitting here this morning as the 84th Attorney General of the United States, representing the people of the United States. It is your responsibility as our Nation's chief law enforcement officer to enforce the laws and defend the interests of the United States against all threats, foreign and domestic, ensuring a fair and impartial administration of justice for all Americans.

I am especially proud of the work of your Department's law enforcement agencies, which the chairman has invoked, including the FBI, the good work of the DEA, the U.S. Marshals Service, and others. I have gotten to know and respect those in the New York/New Jersey region that do some remarkable things, sometimes under the radar screen, and they do it well and we are hugely proud of their professionalism.

It is abundantly clear our Nation needs you and the men and women of your Department to protect our Nation as we face mounting and complex challenges, some of which the chairman has mentioned: the opioid epidemic; cyber-related attacks on private and public information technology infrastructure; human trafficking, which the chairman has mentioned; and heightened threats. I come from a 9/11 community where New Jersey lost 700 of its citizens on September 11. We are acutely aware, even though time has passed, of the vulnerabilities we have.

I would like to focus on and applaud your dedication to attacking the opioid epidemic. In the fiscal year 2018 spending bill, this committee has made a substantial investment, actually the largest to date—and this is not only in your committee, but across a variety of different committees—providing your Department, along with many other agencies across the Federal Government, with increased funding to respond.

Further, as you are fighting the deadliest drug epidemic in our recent memory, I share your concerns that our Nation will face additional consequences with the growing availability of marijuana. As we march down that road, it appears, of greater legalization, and I know it is not without controversy, really in direct contradiction of current law, I fear and certainly I speak for myself primarily, we don't fully understand the consequences and impacts of actions we take on our children and potentially our grandchildren. I am concerned about that very much, sir, as you are.

Saying that, Mr. Attorney General, Mr. Chairman, thank you for having this hearing. I want to thank you and your staff for the remarkable work you have been doing to pull this bill together and provide the Department of Justice the resources they need, and I yield back.

Mr. CULBERSON. Thank you, Mr. Chairman.

Mr. Attorney General, we are pleased to have you here today, and your statement will be entered into the record in its entirety, if there is no objection. And we would welcome your summary of your testimony and we look forward to hearing from you, sir. Thank you.

Mr. SESSIONS. Thank you very much, Mr. Chairman, and I appreciate very much the opportunity to be with you.

And, Chairman Frelinghuysen, I thank you for your support and for the committee in the 2018 budget. You are correct, it was a strong affirmation of the efforts we have on opioids and other matters.

It is an honor of a lifetime to serve as Attorney General of the United States, to sit here representing the men and women of the Department of Justice. You can be sure I understand the importance of the office I hold and the responsibilities I face, and that I strive every day to be worthy of that challenge.

Every single day, the 115,000 men and women of the Department work to protect national security, defend civil rights, reduce violent crime, stop deadly drug dealers and their organizations, and to strengthen the traditional, important, critical rule of law in our country.

I would like to lay out some priorities that are reflected in our budget request.

First, the Department has rapidly moved to improve partnerships with our State and local officers. If you want to reduce crime in America—and the President, in his first executive order to us, said reduce crime in America—you have to work with the 85 percent of the law enforcement officers who are State and local, the people in your communities. That is where the action really is and we can help them in many ways.

And just recently we were reminded of their sacrifice and all of the sacrifices we ask of our men and women in blue. Officers Crystal Almeida and Rogelio Santander responded to a routine call at a Home Depot in Dallas, but they did not return home, and today we mourn with the families of Santander and Almeida, and the men and women of law enforcement who suffer with them. They deserve our support. They are out there every day, they are the key to reducing crime in America, their morale and affirmation that we give them are critical to the success of their work.

So, after two decades of declining crime in our country, we have done some really good things and it takes time to alter the dynamics, the crime rate went up by nearly 7 percent in 2015 and 2016, the violent crime rate did. Assaults went up nearly 10 percent, rape went up nearly 11 percent. Murder increased in this country in 2015 and 2016 by 20 percent, the highest increase as we have seen since 1968. So, President Trump, our Federal officers, our local law enforcement partners, are determined this increase will not continue.

Our prosecutions of illicit gun, gun violators, violent crime, gangs, opioids, and immigration offenses are going up. In 2017, we brought cases against more violent criminals than in decades. We charged the most Federal firearm prosecutions in a decade. We convicted nearly 500 human traffickers, 1200 gang members.

Your strong support, your strong support for our work is appreciated and it means that we can sustain our Project Safe Neighborhoods Program where our United States Attorneys out in America, where crime is occurring every day, will meet with local police and law enforcement and community leaders to develop crime-reduction plans based on local needs. This is the program that has been proven scientifically in the past to work, we believe, and know really it will be successful again.

Indeed, there are some good signs that we are seeing already in the preliminary data for 2017. The increases in murder and violent crime appear to have slowed, and violent crime may actually have gone down in 2017.

We also embraced the President's goal of reducing prescription drugs. Too many are out there. He proposes that we reduce the amount of prescription drugs actually being moved into our country by one third. I believe that is a reasonable amount and we are determined to do our part to achieve it; it will reduce addiction, it will reduce overdose deaths. We are simply prescribing too many.

This Department is going after drug companies, doctors, pharmacists, and others who violate the law using civil, criminal, and sound regulatory powers.

I have directed that every United States Attorney establish an opioid coordinator to focus on this deadly activity. Indeed, we have already charged hundreds of people suspected of contributing to the ongoing opioid crisis, including over 50 doctors, for opioid-related crimes. Sixteen of these doctors prescribed more than 20 million pills illegally.

Our Organized Crime and Drug Enforcement Task Forces (OCDETF) have also arrested more than 6,500 defendants in opioid-related investigations and forfeited more than \$150 million.

And let me just note, I think you probably all know that the leading cause of death in America for people 50 and below is drug overdoses. This is a stunning statistic. The leading cause of death for people 50 and below. So I think you are correct, the President is correct, to declare this a national health emergency and say we have got to do something different. And we are not waiting 3, 4, 5 years down the road, we need to get moving now to change these trends.

Amazingly, in the last month alone the DEA has seized a total of more than 90 kilograms of suspected fentanyl, 2.2 pounds per kilogram. They were seized from Detroit to New York to Boston. Fentanyl is 50 times more powerful than heroin. It is so powerful that an amount equivalent to a pinch of salt is enough to be deadly.

We must acknowledge the vast majority of fentanyl, methamphetamine, heroin, and cocaine first come across the Southern Border, that is where it is all coming from. It used to be many sources, now almost all is coming across the border. And we are working with our Department of Homeland Security partners to reduce and ultimately end illegal immigration, which also will help us take on transnational criminal organizations and reduce the drugs pouring across the border.

We are streamlining and increasing prosecutions, we are targeting criminal aliens, and Congress provided enough funding for

100 new immigration judges in the recent omnibus. It will help us reduce the backlogged caseload that is out there. We needed that, thank you for that.

Mr. Chairman, I would like to address another matter I know is important to the committee, the Legal Orientation Program. I have expressed some concerns about the program and the Executive Office for Immigration Review has expressed its intent to pause two parts of that program pending the results of a formal review of the program. I recognize, however, that this committee has spoken on the matter. I have reviewed your report language and, out of deference to the committee, I have ordered that there be no pause until that review is conducted and completed. And I look forward to evaluating the findings with you and communicating with you about that.

Our explicit goal at the Department of Justice, let me be clear, is to reduce violent crime, not to preside over increases; to reduce the surging increase in homicides, to reduce drug overdose deaths, and reduce opioid prescriptions, among other things. I believe these priorities are your priorities, I believe they are the American people's priorities.

So, finally, let me say with all the strength I can muster that no nation has a finer group of law officers than those who comprise the FBI, the DEA, the ATF, and United States Marshals Service (USMS). They are right now, 24 hours a day, in every corner of America, working courageously and faithfully to protect this Nation and our people. And when we face criticism, and it is a free country, we will not be defensive when questions arise. Even if misplaced, we will take necessary action to establish that the concerns are either not true or take strong action against any wrongdoing.

This Department, above all others, can never get too big for its britches or think itself in any way above the law, as we must apply the law to others, so we know the Government always wins when justice is done.

Mr. Chairman, I look forward to discussing the matters with you today that are on your mind.

Mr. CULBERSON. Mr. Attorney General, thank you very much for appearing today and for your work to enforce our laws on behalf of the American people.

OPERATION STREAMLINE

I am particularly interested in and supportive of your work to expand Operation Streamline across the Southern Border, and I have visited with you before about this, but I am going to bring to your attention in particular, Judge Alia Moses in Del Rio sector, who has had great success in enforcing existing law, trusting the good hearts and instincts of the law enforcement officers there on the border. And this is fundamentally a law enforcement issue. By simply enforcing the laws that we have on the books, you can make a dramatic difference in reducing illegal immigration, stopping the flow of drugs and gangs across the Southern Border. In the Del Rio sector, Judge Moses implemented existing law, called in all the law enforcement officers in that sector and, as a result, the border crossings at the Del Rio sector are at the lowest level they have seen since they started keeping statistics. She has also been inno-

vative in creating a system of loading her docket with those that were picked up by the Border Patrol.

And the great thing about this, again, is that we have wonderful young men and women in uniform defending this country, and by trusting their good hearts and their instincts as law enforcement officers in enforcing existing law, you restore respect for the rule of law, the border becomes secure, you protect communities. And it is also the humanitarian thing to do, because she is also able to help fight the scourge of human trafficking and keep these poisonous and dangerous drugs out of our country. As you pointed out, almost all the fentanyl and heroin and all these poisons that are coming across the border are coming across the Southwest border.

On April 6, Mr. Attorney General, you notified all U.S. Attorneys on the Southwest border of a zero tolerance policy that you had begun to implement and I wanted to ask you, what are your plans to enforce this zero tolerance policy, and to further deploy law enforcement assets and ramp up prosecutions?

Mr. SESSIONS. Thank you, Chairman Culberson, and thank you for introducing me or urging me to meet Judge Moses. She is a remarkable person who fully understands what is happening. She provided me outstanding information on how they have been successful in a number of techniques that you have championed and she is executing, really. So I felt that to be helpful.

We are determined to make a difference. We believe that we have the capacity under existing law to do better than we are doing. And recently in Albuquerque and New Mexico we talked at length, they are achieving a zero tolerance policy there. Every case brought to them is being prosecuted. No longer are people entering the country illegally, given a pat on the back and a bus ticket and a sack of lunch and sent back home; they are prosecuted. Probably the first offense is a misdemeanor offense and they are required to plead guilty. And if they come back, reenter, they are facing a felony charge. And if they are a coyote or a hauler or transporter or enabler, they will be charged for that, which is an additional felony. And we are going to continue to send this message.

Friends, the most important thing is that we send a message to South and Central America in particular, and the whole world now, because others are coming across the Mexican border, but you will not be successful. Don't come illegally; apply lawfully to enter America and wait your time. That is what America is all about. We admit 1.1 million people every year to permanent legal residency with a fast, few-year pathway to citizenship. No country is close to that.

So we want to achieve this zero tolerance across the border and we are redirecting resources. I have personally talked with the United States Attorneys about it. The President has made it clear to me that is his agenda, which I knew from the beginning and I share, and we are going to make it happen if there is any way possible.

THE RULE OF LAW

Mr. CULBERSON. One of the most important things that our President and you have initiated is to restore respect for the rule of law. It is fundamental to our prosperity and freedom. It is essen-

tial that the rule of law be respected on the Southern Border and so we sincerely appreciate that.

In fact, in order to learn more about what was going on on the border, I volunteered as a law clerk in Judge Moses' courtroom under an assumed name. So they didn't know who I was for a couple of days, the U.S. Attorneys down there. You learn a great deal that way. They had no idea I was coming.

I found out, for example, that human traffickers, the Judge cannot seize their assets; if you are smuggling humans, she cannot seize their assets. When someone is smuggling drugs, their assets can be seized. I mentioned this to you. We need to change that law, so we can hit them in the pocketbook.

Anyway, we deeply appreciate the work you are doing. I think it is essential for the safety and security and prosperity of this country to restore respect for the rule of law.

Thank you, Mr. Attorney General.

I am pleased to recognize my friend Mr. SERRANO from New York.

Mr. SERRANO. Thank you, Mr. Chairman. You know that you and I have a very good relationship, but I can't help myself in your comment that we want to restore the rule of law. We just need to remind ourselves that the rule of law has to be in every State, in every territory, in every agency, and inside the White House, not just at the border. If we do it just at the border, then we would do a great disservice to the rule of law.

IMMIGRATION JUDGES

Mr. Attorney General, the Department recently notified immigration judges that their job performance will be evaluated based on how quickly they close cases. I am not aware of any court in the Nation that has instituted this model of judicial evaluation and this decision raises serious due process concerns.

Can you name any other court or judges that have been subjected to quotas as a basis for their personal performance evaluations?

Mr. SESSIONS. Mr. Serrano, we had conferences with the judges, and they agreed that metrics were appropriate for the Department of Justice to establish. The metric that we established was 700 cases per year. It does not mean, if you don't achieve that, you are fired. There may be good reasons why those caseloads are down. We have got people doing over a thousand a year and we have got people doing less than 700 a year, which I think is around the average. So we would like to see a certain degree of productivity.

The taxpayers are not paying for people who don't perform every day. We need high-performing judges; I don't apologize for it. I think this is a reasonable standard or request or a metric for them to achieve, but certainly if they have—when they are evaluated in their performance, if they have good reasons for not meeting that goal, we would consider it.

Mr. SERRANO. Well, I am certainly not going to change your mind. I just want you to remember what you already know, that on a daily basis—not a daily basis, but every so often we hear of cases where a person spent 20, 30 years in prison for something they didn't do. And so when you begin to pressure people, not you,

but the Department, to come up with results—to me the word “judge,” juez, in Spanish, has the same meaning, it is a wonderful word that says that you will judge what the outcome shall be, and if that judgment takes a while, then so be it in a democracy. So I get worried about the fact the Department is basically saying you must complete it by a certain time.

I am not running away from the fact that you need productivity, of course, and maybe productivity is more judges in certain cases to handle the caseload, but the idea of “do it by a certain time,” it is also—Touching on another subject, I may be the only person who thinks gridlock is not a bad thing in Congress. Do you know why? Because there are countries where the budget is always on time because somebody says the budget will be on time. When you have two parties, when you have philosophies, when you have a democracy, gridlock means people are trying to figure out what to do. It is the same thing here, judges are trying to figure out what to do. It is a big caseload. And just keep that in mind that some people are worried that we may not do what we are supposed to do.

LEGAL ORIENTATION PROGRAM

In the issue with the Legal Orientation Program (LOP), I am glad that we seem to have made a change, which will be good for everybody. Has the contractor providing the LOP service provided DOJ with any data or other information on the cost-effectiveness of the program? Can you please submit that information for the record?

How will your planned cost-benefit analysis differ from what has already been done?

Mr. SESSIONS. This is what I understand about that. We have asked them for various bits of information, which has not been provided. They may well have provided the data you have mentioned; if we have it, we will provide it to you. The program should help make the system work better. It costs 11 or so million dollars a year and we would like to make sure it produces the results the taxpayers are paying for.

Mr. SERRANO. On a local level—if I may, Mr. Chairman? I am over the time? OK.

Mr. CULBERSON. Thank you, Mr. Serrano. We will come back, we will come back.

Chairman Rogers is chairing the committee hearing next door, so it is my pleasure to recognize—

Mr. SERRANO. Well, you should have told me Chairman Rogers was here, I would have stopped 10 minutes ago. [Laughter.]

Mr. CULBERSON. I am pleased to recognize the gentleman from Kentucky.

Mr. ROGERS. Mr. Chairman, thank you very much for the privilege. My subcommittee is meeting next door with testimony, but I wanted to come here, briefly at least, and salute the Attorney General for his position on the drug problem.

OPIOID EPIDEMIC

Mr. Attorney General, you could not do a better job, in my opinion, than elevate this issue in the minds of the public and law enforcement especially, because the opioid epidemic, as the Centers

for Disease Control and Prevention (CDC) calls it, it is a calamity, as you have said. We are losing more people to opioid deaths than car wrecks and gun violence combined, and yet it seems the country just doesn't grasp this or want to admit to it. That is part of the problem is in the past there has been a stigma attached to addiction. We now know it is a disease and has to be treated as such, but the law enforcement end of the problem is a huge piece of the puzzle.

My district, east Kentucky, was ground zero for the Oxycontin explosion 15 years ago. I suddenly found myself going to emergency rooms and seeing kids dying of overdoses, and it just blossomed, unfortunately, there. I started a group called UNITE, Unlawful Narcotics Investigations, Treatment, Education, a holistic, three-pronged attack on the problem, and it works. Drug courts, law enforcement officials, treatment centers, addiction control centers, and so on. That holistic approach is what you are doing here on a major scale and it is the exact right way to go, it has been proven.

And the Congress, as you know, passed the Comprehensive Addiction and Recovery Act (CARA Act), as well as the Cures Act, both of which provide huge grant opportunities for local communities to do things like UNITE in their area, where citizens grab hold of the problem and seek an answer. But an essential part of it, of course, is law enforcement; it is not the only piece, but it is very, very important.

We are making progress on prescription pills. The UNITE organization I mentioned now puts on an annual national summit in Atlanta. We had 3,300 people there a month ago. The CDC, National Institutes of Health (NIH), Food and Drug Administration (FDA), DEA, drug czar prosecutors, treatment people, all aspects of the problem in one big, 4-day meeting, the seventh in a row annual summit, and the enthusiasm there for what you are doing on the drug problem was palpable.

So I am here to tell you that from all aspects of the problem, whether it be treatment and prosecution, or research and whatever, the three-pronged effort that the Government is spearheading is the right way to go. Cutting off the supply of illicit drugs, reducing demand here at home, and then treatment for those who are addicted, that is the proven way and you are on to it, and you are elevating the issue publicly and that is all important.

There is still a stigma that people attach to addiction, even though science says that it is a disease. The head of the NIH that deals with drugs tells us that there are physical changes in the brain with addiction, making it a disease and which we have to treat it that way, but we have made some progress on reducing the prescription pill abuse some, not much—in my state, in my district quite a bit—but it is being replaced by heroin, which is cheaper, in many cases easier to obtain now that we are cracking down on pills.

But the real problem, Mr. Attorney General, as you know, with heroin and now fentanyl, an elephant sedative from China by way of Mexico, as you say, one speck of salt-sized piece of fentanyl is fatal. And the heroin users now are realizing that the heroin they are perhaps using is laced with fentanyl, so the users don't know

the dosage and die. And the fentanyl problem with heroin is the new fatal twist.

What can you tell us about trying to stop the flow of fentanyl from China through Mexico, through the drug cartels in Mexico, into the distribution system in the U.S., what can you tell us about that and are we making any progress on fentanyl prevention?

Mr. SESSIONS. Mr. Chairman, I think you have summed up that very well. That is basically the situation we are facing today in America and around the world.

China is the main source of fentanyl. The President has raised it with the Chinese leaders personally. Deputy Attorney General Rod Rosenstein has been to China and talked to them, DEA and FBI have presence there, and I have raised it with two different Chinese delegations to the United States and they have made promises. They have actually taken some steps, it has not I don't think yet impacted us successfully, but we are urging them and I think we have a right to expect them to be cooperative in a matter of this importance to the United States.

It does come through Mexico. I understand we can have soon a situation in which labs can be built in Mexico. It is harder, I am told, than building a meth lab, which are all over Mexico. So we could have fentanyl made there.

In Boston, I understand that you have inert substances and basically pure fentanyl, even heroin, it is not being mixed with heroin now, and it does remain a deadly disease. We are cracking down, the FBI has doubled its team. They have figured out a way to handle these dark websites where people order it through the mail. I am more confident now that we can make progress in that area than I was a few months ago. We have had some real success, but it is going to be a continuing problem.

So, I believe you are correct, there are three prongs of this effort. You have got to prevent, people need not to start. This is a powerful addiction. Any thought that you can get addicted and just walk away from it easily is just totally false. We need for people not to start these drugs, good prevention can help us do that. Then we have got our role is primarily enforcement and Congress, under your leadership, Mr. Chairman, under the President's leadership, this is the biggest expenditure we have probably ever had to deal with treatment and prevention in the \$6 billion that Congress has set aside for the project.

So I think our goal should be clear. I think our goal is reduce this problem; not just preside over a continuing problem, but to go at it hard. And based on my experience as a prosecutor and on the judiciary committee, I think we can do it.

Mr. ROGERS. Mr. Chairman, I thank you very much for being so nice to me to allow me to do this.

Mr. CULBERSON. Thank you.

Mr. ROGERS. And I think, Mr. Attorney General, when the history books are written, this fight that you are leading will be the most important part of your career and I thank you for what you are doing.

Thank you, sir.

Mr. CULBERSON. Thank you, Chairman Rogers.

I am pleased to recognize the ranking member of the full committee, the gentlelady from New York, Mrs. Lowey.

Mrs. LOWEY. Thank you. And I want to thank Chairman Culberson and the Ranking Member Serrano for holding this hearing.

Attorney General Sessions, thank you for joining us. There are multiple hearings this morning, as you probably know, so I am really sorry that I missed your testimony, but thank you, thank you for being here today.

ATTORNEY GENERAL SESSIONS' RECUSAL

Attorney General Sessions, you recused yourself from the Russia investigation led by Special Counsel Mueller; however, it is my understanding that this week you decided not to recuse yourself from the investigation into President Trump's personal lawyer, Michael Cohen. The investigation into Mr. Cohen was opened in part on a referral from Mueller's team. In fact, Deputy Attorney General Rosenstein approved an FBI raid of Mr. Cohen's home, office, and hotel room.

We know that President Trump had a very strong reaction to the raids, denouncing them, quote, "as an attack on what we all stand for." He also took that opportunity to reiterate what a terrible mistake it was for you to recuse yourself from the Russia investigation.

I am a little puzzled. Why have you decided not to recuse yourself from the Cohen investigation when it appears to be so closely linked, if not rooted in, the Russia investigation.

Mr. SESSIONS. Presumably, you read that in the media somewhere. The media are often—

Mrs. LOWEY. Not Fox 5.

Mr. SESSIONS [continuing]. It is often inaccurate and much of what I see in the print is inaccurate.

Let me just say this quite clearly to you: I will honor the commitment I made to recuse myself from matters that I should recuse myself from and I intend to do that faithfully. I have made that commitment and I have done so. I have not violated any commitment in that regard.

I am not able to comment about any ongoing investigation or investigations, certainly that are within the ambit of the Special Counsel.

Mrs. LOWEY. Well, I appreciate your response, and I will assume that the news reports are not true and you have not recused yourself from this investigation, and you have not decided that you will not recuse yourself from the investigation into President Trump's personal lawyer. But I will just . . .

Mr. SESSIONS. I am just not able to discuss any of the details, because the policy of the Department I think is correct that when you start talking about matters detailed and you are talking about investigations, and our policy is not to discuss investigations until it is appropriate.

Mrs. LOWEY. Well, I will read the paper more carefully and I hope I can get some additional information, because I think this is very important and important for our democracy, important for you, important for the agency and, if I am mistaken and the news reports are mistaken, I will accept that response.

Mr. SESSIONS. Can I say one thing to the whole committee? One of the things that I felt we should do is to reestablish discipline in the Department. I feel like the Attorney General has to set the example.

When I was prosecuting cases, corruption cases, a number of them, quite a number of them in Alabama, and I was attacked every day or somebody on my staff was, and we just adhered to the view you don't respond every day even if they are false. The more you get into this, the deeper you get embroiled in it, and the harder it is to conduct an objective and fair investigation. If charges are brought, you take your case to the jury.

So I just would say, we are not going to be in the business of responding to every allegation in the media that may not be accurate. I think that is a mistake, and it is contrary to our traditions and policies.

Mrs. LOWEY. Well, I thank you for your response and I will check the media. And in fact then I am assuming that the information is wrong concerning your recusing yourself from one part, but not recusing yourself from the investigation into President Trump's personal lawyer. I will go on.

Mr. SESSIONS. You will have to choose to decide and believe what you decide. I am just telling you, I know what the recusal means and I am complying with it, as I promised to do.

Mrs. LOWEY. I am not sure what that means, but does that mean you have not recused yourself from the investigation into President Trump's personal lawyer, Michael Cohen?

Mr. SESSIONS. It means that I will not be able to describe any matters, the parameters of matters that might be under investigation, the subjects of any investigation, because it is an ongoing investigation and I am not at liberty to discuss it. And it is the policy of the Department that delineating or talking about recusals in fact does reveal that and you shouldn't talk about it publicly. That is all I am saying.

Mrs. LOWEY. Why don't I move on and I hope we get just an accurate response, whether it is private or publicly. I think the public is entitled to understand how this very important investigation is proceeding and your involvement in the investigation. So I will move on to another question. Thank you, sir.

Mr. CULBERSON. Thank you. Thank you, Mrs. Lowey.

Mrs. LOWEY. If I may ask one other question, Mr. Chairman, since we had such a busy day?

CONCEALED CARRY RECIPROCITY ACT

The House passed H.R. 38, known as the Concealed Carry Reciprocity Act. This bill mandates national reciprocity for concealed carry permits issued under state law. Now, while all States allow some form of concealed carry, legal standards vary. If this misguided, in my opinion, and dangerous provision were to become law, a State's ability to consider important factors like age or criminal history would be compromised by other States' weaker requirements. And, as I understand it, 11 States grant permits to people who have not undergone safety training, 20 States grant permits for people convicted of violent crimes, and a dozen States do not re-

quire any kind of permit or license to carry a concealed firearm. These weak laws would particularly harm New York State.

If you can discuss that with me, I would be most appreciative. You are the top law enforcement officer in the country. Do you agree with the Major Cities Chiefs, International Association of Police Chiefs, and 17 State Attorney Generals that Concealed Carry Reciprocity would be a dangerous threat to safety for the public and law enforcement alike?

Mr. SESSIONS. Look, Congress has opined and written past statutes in that regard, so in substance it is in your hands. I would just say that in the past I have been sympathetic to these rules, but I am not prepared to express any new view today.

Mrs. LOWEY. Well, Mr. Chairman, I just want to conclude and I thank you for your time, because we simply, in my judgment, cannot have a system wherein concealed guns from Kansas or Arizona can be freely carried in Times Square, in any other densely populated destination. That is in part why the Law Enforcement Partnership to Prevent Gun Violence opposes this measure. And I don't know if you have been in Times Square lately, it is people-to-people, it is beautiful all over the world, all over the country, but I wouldn't want to see concealed carried weapons.

Thank you very much for your generosity.

Mr. CULBERSON. Thank you.

Mrs. LOWEY. Thank you.

Mr. CULBERSON. Thank you, Mrs. Lowey.

And please recognize the gentleman from Texas, Judge Carter.

Mr. CARTER. Thank you, Mr. Chairman. And, General Sessions, welcome.

Mr. SESSIONS. Thank you.

Mr. CARTER. We are really glad to have you here.

JUSTICE SERVED ACT

I want to first talk about something I call the Justice Served Act, it is something I have introduced in Congress. We have spent \$1.5 billion working on the backlog of the rape kits and DNA evidence. It is a national tragedy. Your office has addressed it and gone aggressively into getting rape kits processed, but what we have discovered is it is overloading our prosecutors with additional cases, some of those are old, cold case files going back a long time, and they need more resources.

So I am basically raising the issue that we need to get more resources for the local prosecutors once these rape kits are processed and in their hands. I want to ask if you are satisfied that they are getting enough resources, and do you think these Debbie Smith grants and the sexual assault kit initiatives of DOJ are doing enough to reduce the DNA evidence backlog across the country, and are prosecutors going to have the resources they need to add that to their currently overwhelmed docket?

Mr. SESSIONS. It is a challenge, when crime rises, then everything is stressed. It is much better to be on the virtuous cycle of a declining crime rate.

Mr. CARTER. You bet.

Mr. SESSIONS. I think it is really important for us to understand that. So then when crime rate rises, homicides rise 20 percent and

you have the same number of prosecutors, same number of forensic scientists, then you have got a problem.

Judge Carter, thank you. You and I have talked about this and some other matters that I believe are notable. I have been one that favors assistance to forensic sciences from the Federal Government. Often across our state the criminal justice system is in a bottleneck waiting on scientific reports for the prosecutor. The case can't go forward until you get the report. And for a smaller amount of money, you may get bigger bang for your buck by fixing that bottleneck. So I definitely appreciate your leadership on it and look forward to working with it.

GOLDEN STATE KILLER

We just saw the arrest, what, yesterday——

Mr. CARTER. Yes.

Mr. SESSIONS [continuing]. Of the California 40-year-old case solved by DNA.

Mr. CARTER. It is a great example.

Mr. SESSIONS. Yeah.

JUVENILE JUSTICE ON MILITARY BASES

Mr. CARTER. Another question. We have discovered at Fort Hood that there is a loophole in our law, of juvenile sexual assault claims are coming up on Fort Hood and yet the Federal Government does not have juvenile law, does not have a juvenile law section in their code. The military code of justice does not address civilians on posts. And we have done some research and discovered this is a clear issue all over, at every base and post, military post. And, therefore, the consequences are something as serious as aggravated sexual assault, there are no consequences.

I am one who believes that there is a real deterrent factor in having consequences for bad behavior and illegal behavior. This is a loophole. We came up with a solution back in '15 when I found out about it. I made a deal with our local prosecutors and we worked with your Department, transferred jurisdiction over to local prosecutors at the State level and, therefore, they are going forward, although they are now saying we are overloading their caseload and they are worried about funds on that issue.

But the real issue is, we need to figure out how to fix this. I have got a bill that suggests that everybody look at making a contract with local prosecutors to cover these uncovered criminal activity. I would like your opinion on that.

Mr. SESSIONS. That may be the best solution, some sort of contract, even some sort of compensation to them for picking up what would normally be a Federal crime prosecuted in Federal court.

Most of you may know, but it is a long-established and understandably practical solution that Federal prosecutors seldom prosecute juvenile cases. We always defer to locals, because we don't have enough juvenile criminals to justify having a juvenile prison in Montgomery, Alabama. And so that is the big problem and it creates a real problem. I years ago dealt with it in foreign countries where the prosecution had to go to the German government, because we didn't have the military jurisdiction over non-military people.

So my people have worked on it, have heard your proposal. We think we have got that cleared with support from the Department of Justice and maybe we can get something done, Congressman.

Mr. CARTER. Well, let me know, because I am real serious about this.

Thank you very much.

Mr. SESSIONS. Thank you.

Mr. CARTER. Thank you, Mr. Chairman.

Mr. CULBERSON. Thank you, Judge. Thank you, Mr. Attorney General.

I recognize the gentleman from Washington State, Mr. Kilmer.

Mr. KILMER. Thank you, Chairman.

And thanks, Mr. Attorney General, for being with us. It was a pleasure to get to meet your family out in Washington State. I know they were residents of my district for a spell.

Mr. SESSIONS. And they did love it, I have got to say.

Mr. KILMER. It is a great place.

MARIJUANA ENFORCEMENT POLICY

I want to actually follow up on something that Chairman Frelinghuysen touched on in his opening comments. He referenced marijuana policy and some of the complexities around this issue where you now have states, including Washington State, where in our state voters passed an initiative to legalize adult use, I know there are other states that are in a similar circumstance.

The last Administration issued what was known as the Cole Memo to try to set some rules of the road, to provide some certainty not just to States, but to small business owners in a state like mine, to tribal enterprises that have now started businesses. The decision to rescind that memo has created tremendous uncertainty.

I read in a press release from Senator Gardner from Colorado that the Department's rescision of the Cole Memo, that he was assured from the President that Colorado's legalized industry would not be targeted. I am hoping you can help us understand what accommodations are going to be made for States like Colorado and Washington. I am not clear on what the commitment from the President was to the Senator, but my constituents sure would like to know.

Mr. SESSIONS. My view is that marijuana is not a healthy substance. Whenever we talk about legalization and other such issues, we need to make clear that we are not in any way suggesting that the consumption of marijuana is not harmful. The American Medical Association is crystal clear on it, the American Pediatric Association is, and the psychosis connection is clear, and we have got to determine some other matters.

So, first, I think we want to say that. Secondly, the State of Washington and other States have either eliminated or virtually eliminated marijuana restrictions, some for medicine only and some for recreational, so-called recreational use. It remains a violation of Federal law. That is not off the books. The Federal law is still enforceable throughout the country and I have felt it not appropriate for me to somehow give a safe harbor or protection to

areas around the country where it still remains a violation of Federal law.

Now, you know, we know that the threats that we are focused on in the Department of Justice are fentanyl, heroin, methamphetamine, cocaine, prescription abuses in large amounts that are leading to addiction and death, those are clearly where we are moving. I think I saw like one percent of Federal prisoners might be in custody for marijuana, it is probably a plea bargain on that. So the United States Attorneys in your home State and every state have been instructed to use their financial resources and capabilities and their judgment, after meeting with local law enforcement and local leaders, to pursue the cases they think are important and worthy and I can't exclude marijuana from that, I don't think it is appropriate for me to do so.

Mr. KILMER. Based on the President's commitment to the Senator, is there any further guidance to states like mine that are just looking for clearer parameters?

Mr. SESSIONS. I know—look, let's be frank, what they would like is a statement that they have been provided safety, a safe harbor, I don't believe I can give that. They will just have to look and make their own decision about how they conduct a marijuana enterprise.

OPIOID EPIDEMIC

Mr. KILMER. Let me shift gears, because you talked about where the Department's energy ought to be focused and that is battling the opioid epidemic. It is costing a tremendous amount of human suffering, human life, a tremendous amount of money.

I would love to just get in the time that I have left your sense of where the Department's resources are best focused. Do you see it as primarily a public health issue, a criminal justice issue, both? And as someone who represents some areas that are often left behind in securing Federal resources, tribal communities, some rural areas where this is an enormous problem, but they struggle to apply for grant funds and things like that, can you talk about what steps you will take to ensure that some of these at-risk communities are getting the resources that they need to effectively fight this.

Mr. SESSIONS. Well, I was appointed United States Attorney by Ronald Reagan in 1981 and drug use had been increasing steadily. It took more than a decade, but the University of Michigan study showed that over half of high school seniors in 1981 acknowledged using an illegal drug. That dropped by 50 percent in 10, 12, 13 years later. That was huge. I mean, we need to get the message out, don't start. This is dangerous business. You get addicted, it grabs you with a power that so many people are never able to break free, their lives are lost. It is a death sentence, one expert told me.

So we start with that. This funding that you have passed will help us have a much more robust PR prevention campaign. Then you have got the treatment that many people can be saved and treatment can be helpful, there is a lot of money that you have passed to do that, and then we are going to do our part to focus on it.

What are the key things we believe? The prescription drugs, the overuse of prescription drugs are addicting people and, when they can't get enough prescription drugs, they tend to go to heroin and fentanyl, and cocaine or other drugs too. And so we need to bring that down and we are going to succeed in that. We are going to tighten up dramatically the amount of prescription opioids out there that often create the addiction. And then we are going to focus heavily on fentanyl, because it is such a killer, it is a killer. One little mistake in how much you take and you are lost.

Our Deputy Attorney General's staff was in another city in the country last week and they found a lady on the floor. Her face and lips were blue, she was not breathing. They were able to save her, a Narcan injection came quickly and they saved that lady. People are dying all over the country from fentanyl overdoses. So that is part of what we are doing.

We have got to tighten up at the border. We have got to continue to press the Chinese and focus on precursor chemicals and the Chinese production system. They need to do more. We have every right to ask them to tighten up on what they are doing.

So there a lot of things we can do on the opioid front, but the biggest and best thing, if we can convince more people to not start—

Mr. KILMER. Thank you.

Mr. SESSIONS [continuing]. That would be the winner.

Mr. KILMER. Thank you, Attorney General.

Mr. CULBERSON. Thank you, Mr. Attorney General.

The gentleman from Alabama, Mr. Aderholt.

Mr. ADERHOLT. Thank you, Mr. Chairman.

Thank you, Attorney General, for being here.

Mr. SESSIONS. Thank you.

Mr. ADERHOLT. Welcome to the subcommittee. And Congresswoman Roby and I are happy to have a fellow Alabamian before us, especially as Attorney General. So we are glad you are here today.

MS-13

Let me focus a little bit on MS-13. You have taken strong and decisive action against MS-13 and certainly that has been the right decision to do, but your designation last fall as a target for the DOJ's Organized Crime and Drug Enforce Task Forces add an important component of how the criminal elements of MS-13 can be prosecuted and dismantled.

What are your thoughts on deportation versus long-term prison sentences in the United States for these and other criminals who are not U.S. citizens? We deport them, but our unsecured borders, as you know, we seem to have a revolving door of the criminals coming in and out of our country. I would just like to hear your thoughts on that.

Mr. SESSIONS. Thank you, Congressman Aderholt, and I appreciate the opportunity over the years to work with you and Congress on so many issues, and you know my admiration for you is so high.

We have added about \$147 million to the MS-13 and violent gang initiative. We believe that this gang is a finite number, that it can be attacked and reduced. In fact, it was reduced a number

of years ago, and somehow we took the pressure off and they have come back. President Trump cares about it deeply. There was this brutal murder of two 16-year-old girls in New York and so we all probably know about that incident. So it is a priority of ours, it is a top priority. We intend to dismantle this gang and we have got prosecutions all over the country; they are not in every district, but many.

So, we believe that focusing on MS-13, dismantling and prosecuting them vigorously. Many of them have been involved in murders, multiple murders, the murders are approved by the highest officials in the group. They are the most violent gang in America, I think by far, and it is incompatible with peace and safety and justice. Their philosophy involves murder and rape as an open statement of what they believe they are entitled to do, and it is an affront and a direct challenge to the rule of law and we intend to meet our responsibility to defeat that challenge.

Mr. ADERHOLT. So you feel like long-term prison sentences would be probably—

Mr. SESSIONS. Yes. On the specific question, that is a good question. What we found is that people can reenter the country and, if someone murders an American, it is not sufficient just to deport them and hope they don't come back. They have got to serve substantial prison sentences. We would like to think maybe we wouldn't have to do that, but we do. So it is a combination. Then when they serve their sentence, they will be deported.

OCDETF HEROIN TASK FORCES

Mr. ADERHOLT. Can you expand on your testimony regarding the establishment of these co-located strike forces within the Organized Crime and Drug Enforcement Task Force?

Mr. SESSIONS. We are having tremendous success forming task forces around the country to focus on these gangs, on drug distribution networks, cartels, and major distribution networks within cities, in areas like Kentucky or West Virginia or Dallas. And so we are focusing on that. And New York has proven, in my opinion, that if you smartly target the main criminals, the alpha criminals, they explained to me, and you do that over a period of years, and you take out these gang leaders and promoters and the people who seduce others to join the gangs and join these illegal enterprises, you can make your city safer. And they have a remarkably low, compared to other major cities, murder rate, for example.

So these are proven policies and our Project Safe Neighborhoods and these task forces will be executing throughout the country similar principles.

Mr. ADERHOLT. You mentioned in your written testimony about six heroin enforcement teams that were created in 2017 and that the Administration requests funding for eight more in this fiscal year. Offhand, where are the six existing teams located and where do you anticipate the eight new teams being located?

Mr. SESSIONS. We are working hard to be rigorous about applying our resources to the most serious spots. For example, there are spots in the Northeast, Ohio, Kentucky, West Virginia, even Alabama has a high prescription abuse rate. And so we are trying to do that based on facts, not politics, but where the crisis is greatest.

I could get you the information on——

Mr. ADERHOLT. OK, yes, if you can forward that.

Mr. SESSIONS [continuing]. Where we are now and what our plans are for the future.

The information follows:

The Department's current six heroin task forces are located in: New Bedford, Massachusetts; Charleston, West Virginia; Cincinnati, Ohio; Cleveland, Ohio; Raleigh, North Carolina; and Long Island, New York.

The locations for the eight heroin task forces proposed in the FY 2019 budget are still to be determined. However, they will be based in communities facing significant challenges with heroin and fentanyl.

Mr. ADERHOLT. That will be appreciated. Thank you.

Thank you, Mr. Chairman.

Mr. CULBERSON. Thank you, Mr. Aderholt.

I am pleased to recognize the gentleman from Pennsylvania, Mr. Cartwright.

Mr. CARTWRIGHT. Thank you, Mr. Chairman.

General Sessions, I come from Scranton, Pennsylvania, the birthplace of Vice President Joe Biden, and one thing that Vice President Biden loves to repeat is the line, people talk about values, but don't talk to me about your values, show me your budget and I will tell you what your values are.

CIVIL RIGHTS PROGRAMS

We are here to talk about your budget request and the first part I want to talk about is there is a growing salience and bipartisan support, General Sessions, for a wide array of civil rights issues, but you have steered the DOJ away from prioritizing civil rights issues and this has led a number of states, including my own home state, the Commonwealth of Pennsylvania, to sue the Department of Justice. The most recent suit against you and your department came after you revoked legal guidance designed to protect the disabled, minorities, and the poor.

At the time, Reuters quoted you as saying that this guidance was, quote, "unnecessary, inconsistent with existing law, or otherwise improper," unquote. But part of this guidance was intended to ensure state and local governments accommodate disabled employees and integrate them into the workplace. In fact, I note your budget proposal makes no mention whatever of fighting discrimination against people with disabilities.

As a matter of fact, your proposed budget request would eliminate 27 positions, including 11 attorneys, from the Civil Rights Division, and by incorporating the Community Relations Service into the Civil Rights Division with no additional funding, you are exacerbating the burden placed on the Civil Rights Division. You are doing all of this at a time when the FBI has reported a rise in hate crime in this country, incidents, in each of its past three annual reports.

BOP STAFF AUGMENTATION

So I didn't want to let this day go by without commenting that I am troubled by that, but I want to move quickly to the Bureau of Prisons (BOP). General Sessions, it is about augmentation. As you know, augmentation is the Bureau of Prisons' practice of using

administrative staff like nurses, plumbers, teachers, accountants, social workers, cooks as correctional officers when understaffed. In fact, Senator Manchin asked you about BOP augmentation in the Senate hearing you attended yesterday, and you said you think everybody who participates in augmentation is also trained in incarceration management and that eliminating augmentation completely would be highly expensive.

Well, this is why it is important to me, General Sessions. I am from Northeastern Pennsylvania. A few years ago we had a fellow named Eric Williams and he was a correctional officer in the USP Canaan in Wayne County, Pennsylvania, he was stabbed over 200 times by a violent inmate, an attack that took over 10 minutes. A friend of mine was the coroner's medical examiner and he talked to me about it on the phone, and he said as part of his investigation into the cause of death he had to watch the video from that and it turned his stomach. Not just the attack, General Sessions, but watching the other inmates stand around as this happened, as Eric Williams was brutally murdered.

We have to talk about keeping our Federal prisons safe. There are other stories. Officer Alberotti who was shot 20 times while traveling home to his children from the prison. Or Officer Rivera, an Iraq war veteran, who was murdered while simply doing his job trying to keep inmates safe.

As the head of DOJ, it is your duty to keep our corrections officers and prison employees safe, and we have seen far too many correctional officers lose their lives in the line of duty. And the question is, why have you decided to ignore explicit congressional direction to end augmentation before eliminating even more corrections officers from our already overworked and understaffed facilities? Your budget proposes eliminating nearly 1,200 correctional officer positions. How does this make sense at all, General Sessions?

Mr. SESSIONS. Well, first, let me assure you we have no intention to cease to protect the civil rights of the American people. The budget for the Civil Rights Division is the same as it has been for the last three years in our request and Congress has given additional funds also. So we are prepared to use whatever funds we are given and to protect the civil rights of all Americans.

On the augmentation situation, non-correctional officer staff are all Federal law enforcement officers who have received law enforcement training, and so they can be utilized at times where you need extra staff like at a meal or some other event, and they augment the people who do it full time. Now, that has been done for many, many years. It would be exceedingly costly if you had to have full-time people just for maybe certain events that require extra staffing.

We are going to protect our law officers, those in prisons, our Immigration and Customs Enforcement (ICE) officers who have to deal with the violent, illegal immigrants, and our police officers on the street will be protected by this Department of Justice.

And one thing I would like to call everyone's attention to, you may not know that the BOP inmate population has decreased since 2013 by 35,000. The Federal prison has dropped from about 220,000 to 183 or so thousand. And this is a dramatic change and it coincides, of course, with some increase in crime rate in America,

but regardless, the BOP staffing level is the same today as it was in 2009 and there were 20,000 fewer prisoners then. So the Bureau of Prisons answered to the taxpayers too and when the prison population drops substantially, they need to figure out how to use the resources they have effectively, and we have got a lot of other money that needs to be spent.

So I am prepared to review any situation that is dangerous and may need more than normal staffing, but we are talking about a 3 percent reduction in staff when the population of the prison has dropped 16 percent.

Mr. CARTWRIGHT. Mr. Chairman, I would note that when you focus on high-security prisons, over 50 percent of them are still dangerously overpopulated, and I yield back.

Mr. CULBERSON. Thank you, Mr. Cartwright.

I am pleased to recognize the gentleman from Mississippi, Mr. Palazzo.

Mr. PALAZZO. Thank you, Mr. Chairman.

Mr. Attorney General, thank you for being here today. Last month, I had the pleasure of meeting with you to discuss important topics that are affecting our Nation and I thank you for that.

PROJECT SAFE NEIGHBORHOODS

Of those many issues, you mentioned how the Department of Justice is working to reduce gun and gang crime within America with Project Safe Neighborhoods. After seeing how weak the previous Administration was on crime, I am happy to see this Administration makes steps to toughen up on criminal and gang activity.

When I speak with local police chiefs and sheriffs in South Mississippi, they all agree, we need to organize and deploy programs that fund street-level outreach, education, and employment opportunities to combat gun and gang violence.

To that point, could you please tell me, what is your request for the Project Safe Neighborhoods Program, and how will it help to address the ongoing violence in neighborhoods throughout our country?

Mr. SESSIONS. Well, thank you. It is \$140 million. It will be money not going to the Federal Government, but be going to your local law officers in the form of a grant, and the goal of it would be to help our local grant recipients create task forces and partnerships to be more effective in their neighborhood. We have got professors who have reviewed the program in its previous existence and have established, to my clear conviction, that it worked and we are going to make it even better now.

And the key to success in making our communities safer is this seamless partnership between the Federal resources. We are not bound by county and city jurisdictions or State lines, even sometimes we can go internationally, which the local police aren't able to do. So we have an opportunity to have partnerships in a good way.

DEA, after you have given us 2018 additional money, we have met with Rob Patterson, the Acting Director, and he has already added 400 task force positions where we subsidize local law officers to participate in a task force to deal with that local community's problem. So we want to help South Mississippi deal with its prob-

lem and it might be quite different than a problem somewhere else in America, and we will help them deal with their problem.

Mr. PALAZZO. Well, thank you for that, and I think the Project Safe Neighborhoods is a great program.

NAVAL INTERDICTION EFFORTS

And real quickly, I know you mentioned that a majority of the drugs entering our country is coming through our Southern Border, but the drugs aren't just being manufactured in Mexico, but it is coming from South and Central America. And we have National Security cutters out there every day. I think at least count the Coast Guard was responsible through the NSEs for taking off more than half of the cocaine seizures throughout our U.S. Government.

Do you have any thoughts or ideas? I know we need to surge to the border, using every resource we have, National Guard, CBP, other agencies, Federal agencies collaborating, but how do we stop those drugs from making their way into Mexico perhaps from a naval perspective?

Mr. SESSIONS. Thank you. I know you have raised that with us before and you are aware of some of the situations that are important.

We believe the Coast Guard and perhaps the Navy too—not perhaps, the Navy also can play a big role in this. We know that a large amount of drugs is leaving from Colombia and south of Colombia and it is brought by boat, often, mostly—some comes directly to the United States, but mostly it is unloaded in Mexico and taken across our border unlawfully.

And so we have an opportunity to really make a breakthrough, in my opinion, in focusing on that opportunity, and the main limitation of our ability to be successful in making even more big seizures is simply the number of boats and helicopters in the region. So they are coming up through the Caribbean, some from Colombia and Venezuela, and some is probably more coming up the Pacific side.

So it is very much an opportunity, as you and I discussed, to make a breakthrough.

Mr. PALAZZO. Well, thank you for that as well.

And, sadly, we know, we have visibility on a lot of the smuggling of drugs, but we don't have the resources to capture and take all of it off the water. And with more resources, we could do that, and once again making our neighborhoods safer here in America.

Thank you, Mr. Attorney General.

Mr. SESSIONS. Thank you.

Mr. CULBERSON. Thank you, Mr. Palazzo.

We recognize the gentlelady from New York, Ms. Meng.

Ms. MENG. Thank you, Mr. Chairman.

OFFICE OF ACCESS TO JUSTICE

Mr. Attorney General, I wanted to ask about the Office of Access to Justice. It has played a vital role in proactively addressing barriers to justice and improving the criminal justice system, particularly for vulnerable communities. As a U.S. Senator, you supported resources for public defense.

Do you still plan to close down this office and, if so, what is your plan to continue proactively addressing barriers to counsel for vulnerable populations such as veterans and low-income individuals?

Mr. SESSIONS. Thank you. We are doing everything we can to make the Department more productive and effective. That was a fairly new office, small office, that we believe better operates under the Office for Legal Policy (OLP). That is basically what it focused on and we think it would be better operated out of there.

So we are committed to being creative in helping us deal with legal challenges that the Nation faces, but traditionally that has been the center of it in the Department of Justice and this was a small, stand-alone office that I think is better in the Office of Legal Policy.

Ms. MENG. And that new office will continue to try to bridge the relationship between many of the organizations and the communities that we serve with the DOJ?

Mr. SESSIONS. Well, one of the goals of that office, as I understand it, was to strengthen access to legal services and that will certainly be one of the OLP's goals.

Ms. MENG. Thank you.

COMMUNITY RELATIONS SERVICE

My other question you mentioned briefly was the Community Relations Service or CRS. It was created by the Civil Rights Act of 1964 and over the past 50-plus years it has been instrumental in addressing tensions associated with allegations of discrimination in communities across the country. CRS also helps communities develop the capacity to more effectively prevent and respond to violent hate crimes. I have had the privilege of having representatives from the Northeast Regional Office come to our district to talk to various communities who have been common targets of hate crimes, and they have provided government resources to victims and to even students who are dealing with discrimination and bullying at school.

In your budget proposal and in your testimony you call for eliminating CRS and moving it to the DOJ's Civil Rights Division, but have provided no specifics as to how this will be accomplished. How will you reconcile combining the functions of CRS with the Civil Rights Division when statute prohibits the CRS from participating in investigative or prosecutorial functions?

Mr. SESSIONS. We believe that moving that responsibility to the Civil Rights Division is the right step. We now have some eight, I believe, offices around the country—ten—with two to three or maybe even one CRS employee. There are only 39 CRS employees in the program. So we think that is rent and so forth that is probably not the best way to organize the resources, so we didn't ask for funding to continue it. It has been a matter that has been discussed for years.

Sometimes it is helpful that representatives from the Department of Justice can enter into a community where there is some real tension and problems. I remember one time many years ago that it was helpful to have a CRS employee on the scene. But I think we have within each of our 94 U.S. Attorney's Offices civil rights-trained attorneys now that work with the Civil Rights Divi-

sion out of main Justice and we think this activity can be better supported in that way.

Ms. MENG. I am just concerned because the precise function of the civil rights division is investigative and prosecutorial function, statute prohibits CRS from participating in those functions. So I just want to make sure a lot of these needs are still being met, including the community work that had been done in the past.

Mr. SESSIONS. Thank you. I think that is good advice. I mean to make sure that we do have people that can help calm waters in certain communities around the country.

Mr. CULBERSON. Thank you, Ms. Meng.

Mr. MENG. I yield back.

Mr. CULBERSON. The Chair recognizes the gentleman from West Virginia, Mr. Jenkins.

Mr. JENKINS. Thank you, Mr. Chairman. Mr. Attorney General, welcome. It is an honor to have you here.

Mr. SESSIONS. Thank you.

Mr. JENKINS. And thank you for the good work you do. One of the things I have learned in my short time here in Washington is a lot of people say one thing but they do another, or they don't follow up on what they promise. And if there is one thing I have seen from you and from President Trump is you do what you say.

OPIOID EPIDEMIC/ENFORCEMENT EFFORTS

And have referenced several times recent raids. And one of those raids was in my hometown, a town I grew up in, a town that because of Mike Stuart, and Michael Baylous, and some great folks, whether it be U.S. Attorney, the Marshals Services, and others, working in a coordinated fashion just as you suggested, we rounded up over 40 drug dealers, drug king pins. The amount of heroin and Fentanyl that was taken in that raid was enough to kill every man, woman, and child five times over in my hometown of 50,000 people. Thank you.

What I want to make sure of, because this is about resources and giving you and your team the resources you need, I want to make sure we keep this up. I want to make sure not only do we round them up, but we also lock them up. And there is a real concern, and I know it is in the hands of the courts, but I want to make sure that your prosecutors and your law enforcement officials have the resources to make sure that we put these people behind bars. Because I will tell you, there is a real concern from the public that the criminals get out faster than the reports are filed.

We want them rounded up. We want them locked up.

Mr. SESSIONS. Thank you. Revolving doors are not acceptable. I am hearing too much of that where people are being released too quickly. You catch a major criminal, a major drug gang member that has for years done nothing but move illegal drugs, maybe using intimidation and violence to carry out their schemes. These are not addicts, and users, and losers that we try to help in many ways. They need a certain amount of time in prison or you don't have respect and you don't break the trends that are out there.

So I was so proud of Mike Stuart and his work. He sent me a letter the other day, you know, it just made my day. I mean, he is determined. His people are determined. The local law enforce-

ment are great partners. And they are going after these gangs. Some say law enforcement doesn't make a difference. I disagree.

You continue it, like you said, sustain this effort. And people who have committed very serious crimes get serious punishment. You can reverse these trends and make your hometown a safer and better place to live in.

Mr. JENKINS. The President also made a bold statement when he was up, I think, in New Hampshire. He talked about the death penalty. And you have made comments in support of his reference to particularly heinous crimes, using the laws we already have on the books. And I want to join you and the President in saying let's prosecute to the fullest extent possible. And yes, the law already allows it. That could include the death penalty.

Mr. SESSIONS. It can include the death penalty. And many of these gangs also responsible for just murder, murder of people who haven't paid them money, murder of people who try to come into their territory, murder of innocent people in shootouts. I am amazed how many innocent people have been killed in shootouts among some of these violent gangs.

So you are correct. The President is right. We need to be tough. He said that several times in New Hampshire. He can be pretty clear in what he wants to say and I think he is correct about it. We are going to—we are sending a new message throughout the department that these violent gangs, these serious organized crime groups have to be taken down. They are a direct challenge to law, order, peace, security, and prosperity for America.

PHYSICIANS WHO OVERPRESCRIBE

Mr. JENKINS. One final comment. The DEA and so many people in entities under your orb of influence, I have one community in the district I represent, a population of 392 people. Not thousand. Not 3,900. 392 people. During a period of time, we had 9 million highly addictive opiate painkillers pumped into that community. That is wrong.

And I appreciate your work. And I challenge you to do exactly what you are saying. We must go after not only the drug thugs, but also after the pushers of these pills in our communities and eradicate them to free up the opportunity to have a healthy environment in our communities that will get our lives back in order.

Mr. SESSIONS. Congressman, thank you for saying that. That can never happen again. That should never have happened. And we have the capability to do something about it before it gets so bad. We now have discovered or undertaken and developed a new method to identify over-prescribing, over-distributing opioids in America. And we have got a computer analytics program that pops out the numbers directly. And it shows the outliers. And we are seeing outlier physicians all over America with incredibly high numbers, where the normal physician is a fraction of that. And we are prosecuting more.

We can identify that better using existing technology that our Department of Justice has figured out how to use last year. And we are going to keep using it and we can never let that happen again. What happened in southern West Virginia cannot happen again.

Mr. JENKINS. It is criminal.

Mr. SESSIONS. It is.

Mr. JENKINS. Thank you, Mr. Attorney General.

HUMAN TRAFFICKING

Mr. CULBERSON. Thank you, Mr. Jenkins. Mr. Attorney General, I want to direct your attention again to human trafficking which is such a terrible problem across the country and unfortunately, my hometown, Houston, Texas, is the worst in the country in terms of the number of people that have been sold into slavery. The scale of catastrophe is just—is really heartbreaking. It is a problem in public events at any large urban area, along major travel routes, and the internet compounds the problem here and abroad.

And notwithstanding the takedown of trafficking organizations through efforts like the FBI's Operation Cross-Country or seizures and prosecution of the notorious Backpage.com website, which we deeply appreciate, the traffickers just seem to be proliferating. And I note that the Bureau of Justice Assistance to date has funded at least 42 human trafficking task forces to help bring together federal, state, and local authorities, Mr. Attorney General, including victim service providers to identify the perpetrators of these crimes, to assist victims, and prosecute offenders.

Fiscal year 2018 appropriations bill increased human trafficking grant funding from 45 million to 75 million. If you could talk to us, Mr. Attorney General, about how many task forces is the department currently supporting, and what success you are having, and how do you measure it, and what—anything else can this committee do to help you fight human trafficking?

Mr. SESSIONS. Mr. Chairman, as you know,—we submitted, the President did, a frugal budget and I supported it. And it did request 45 million for this project. I believe you are at 70 now in 2018. We are going to use that money as wisely and aggressively as we can to achieve the goals this committee wants us to achieve.

The human trafficking problem is too severe. It has happened too much. The American people are sick of it. They want it stopped and we are going to do so.

Thank you for mentioning the Backpage thing. This was really an open, visible, illegal enterprise in many ways. It just laid out what they were doing involving minor—underage children and criminal activities. So we have returned an indictment on that. I believe it is some 94 counts and a number of seven individuals. So we have hammered that group.

So we have some 290 positions working on this effort and I would be glad to answer any more questions on the details on it, either in writing. But we take it very seriously. The department made it a priority early on in my tenure and we are going to keep at it.

Mr. CULBERSON. I would encourage you to expand the use of these task forces and encourage cooperation between federal, state, and local authorities. They are very effective in combating human trafficking. And it illustrates also the value of good communication between local, state, and federal law enforcement officers.

IMMIGRATION COURTS BACKLOG

Let me also ask you, Mr. Attorney General, about something that Mr. Serrano had mentioned and that is the terrible backlog of cases in the Immigration Courts. We note that you had hired 64 new immigration judges in fiscal year 2017, but that was offset by retirements and separations. So your net increase was just 43 and the case backlog has continued to grow.

And in particular, we are concerned about the delay in hiring new immigration judges. And the committee has funded a significant increase in the number of judges to help reduce the backlog of immigration court cases. What are you doing to speed up the hiring of immigration judges and when will we begin to see meaningful results from your efforts to speed up the processing of immigration cases?

Mr. SESSIONS. Thank you. It was taking way too long, as much as two years to get a judge brought on board. We have completely reordered that without cutting the training period that they undergo. So they get the same amount of training, but the process of starting, and announcing, and having this go on is way too long. We still are not as strong as I would like us to be, but Mr. Chairman, I know it is a matter you have been concerned about and we have made tremendous progress and we are going to keep making more. So that is a key for us.

Mr. CULBERSON. What specific steps are you able to take to help speed up the processing of the cases and make sure, as Mr. Serrano said, that we protect everybody's due process right? I know that Judge Moses, for example, has had great success in bringing in a large number of defendants at a time and reading everybody their rights at the same time and processing them as a grouping. What could be done to speed up the processing while protecting everyone's due process rights?

Mr. SESSIONS. There are all kinds of policies and a lack of intensity of interest in my view, even under the existing policies, it shouldn't have taken as long as it was taking. So we have eliminated procedures that do not aid in the selection process, do not help us quickly find a qualified judge, and be able to evaluate their capabilities and leadership and productivity. So we have made tremendous progress there.

And now we know the number we we have got to meet, that you have told us to meet, and we will continue to work to be even more expeditious.

Mr. CULBERSON. Thank you, Mr. Attorney General. Mr. Serrano.

ERIC GARNER CASE

Mr. SERRANO. Thank you, Mr. Chairman. Mr. Attorney General, for years, many have looked to the department as a resource of last resort in addressing serious civil rights challenges involving law enforcement. This includes many in my hometown of New York where we are still seeking justice in the death of Eric Garner.

Just last week, articles emerged that civil rights investigators, at the Department, are recommending charges against the officer involved in Mr. Garner's death. But the top Department officials were not sure about whether to proceed. Will the Department move

forward on charges against the officer at fault for Mr. Garner's death, as recommended by investigators? And have you been briefed on this case and what are your thoughts?

Mr. SESSIONS. Thank you. We take these matters very seriously and have wrestled with quite a number of them. And I would just say that we intend to do the right thing as we are given the ability to decide on this matter as ongoing—I am not able to comment on ongoing investigations.

Mr. SERRANO. I understand. Let me just ask you a question because I am not a lawyer and I don't understand some of these things. So the investigators are members of the department who recommend to the higher ups, if you will, that there should be a proceeding. Is that what is going on now, without getting into a—

Mr. SESSIONS. In general, investigators investigate cases. They consult with the local prosecutors, state and federal, and decisions are made. Sometimes it can reach the level of main justice in Washington and then whatever division, the criminal division, the civil rights division, evaluates the evidence and can make a recommendation also.

Mr. SERRANO. All right. Thank you. Well, there are a lot of folks in New York and in other places that would like to see some conclusion that speaks about justice and the—you are the Justice Department and I can tell you that a local level—this is interesting. And I don't know if you know this, and you probably do.

Whenever there is a rally somewhere about justice, people don't denounce the Justice Department. They usually say let's bring this to the Justice Department, because they feel they can get justice. They get fairness. And so keep that in mind with this and other issues because you are still—your department, you are still seen as the place where folks at the local level, the have nots in many cases, can have justice. That is important.

Mr. SESSIONS. Thank you for sharing that and we value that. Thank you.

EMINENT DOMAIN SOUTHWEST BORDER

Mr. SERRANO. Thank you. Let's talk about something that is not—doesn't get much publicity these days, the border wall. The issue of eminent domain is going to come into play. People are going to be, I guess, forced to sell land, or give it up, or so on. Some people, like myself, claim the wall may never get built because it would take a long, long time to resolve those cases. How do you see that picture? What does the Department think will happen?

Because I hear, and I am not familiar with Texas, but I hear just along, the Texas area alone, the wall would take so much land that is privately owned now. And we, in this country, try not to force people out of their places.

Mr. SESSIONS. Well, thank you. Of course, eminent domain is used by state and local governments for highways everyday. This is, I believe, a critical matter of national security. We have certain properties on the border now that we might need more, but at this point, I don't believe there are any eminent domain cases that have been filed. So obviously, it is a possibility. To protect the United

States and we certainly can't be prohibited from obtaining property at our border if it is necessary to defend the border.

CITIZENSHIP QUESTION ON THE CENSUS

Mr. SERRANO. OK. Very briefly, I have just a few seconds left here. The big issue on the census is the citizenship question. A big question is why are we asking this time if a person is a citizen. And for me, personally, I am a little troubled, a lot troubled, since I was born in a territory, in Puerto Rico, that it also goes on—the possibility exists that it will go on to say, “Are you an American citizen?” And then say, give you a choice, “Born in the United States.” We thought it was all the United States. Then it says, “Born in Puerto Rico, Guam, the Virgin Islands,” and so on. Why would you—first of all, why would you ask the question? And why would you separate the territories from the United States, if you will?

I have spent a whole career, 44 years, telling people, and the Chairman knows this, that the territories are part of the United States. And this question kind of allows for people to say, you see those 10 million people, or whatever that number is, are not part of this country.

Mr. SESSIONS. I am not familiar with the territory part of it. I will look at that.

Mr. SERRANO. It is a possible question. It has been——

Mr. SESSIONS. Possible, OK.

Mr. SERRANO [continuing]. Put in the box and so on, and I don't know how far they have gone with it. But please keep in mind that they don't ask you on the census, “Were you born in Texas? Were you born in California? Were you born in New York, Florida?” Why in the territory?

Mr. SESSIONS. I will look at that. Fundamentally, we believe that it is helpful for the government to know the number of citizens in the country. I am a bit baffled by the push back that that has received. It is one of a number of questions. It was on the census for many years. Then it is now on the survey census that is done periodically now and not the 10 year census. So it will go back on that. The Department of Commerce has put it on there.

We are now—by the way, it is the last question on the list, I understand, but it—we are in litigation now. I am not prepared to really discuss the details of it. Before we get started, lawsuits have been filed. So we will be going to court and defending the Department of Commerce.

Mr. SERRANO. Just a question. Was it you or was it someone else in the Department who said if you don't fill that question out, you will still be counted?

Mr. SESSIONS. Well, I think that is what the policy is on other questions that are not filled out. So I believe that would be so. And, of course, you know that an answer on that question can't be used to prosecute you or anybody who is here unlawfully. And it is a statistical data, informative question. But I do note that I suggested it because as I understand it, you will fill out a lot of questions before you get to this one. So if it scares somebody, they have already filled out most of it.

Mr. SERRANO. Yeah, well, that is the problem——

Mr. SESSIONS. I don't see any need for people to be concerned about it. Frankly, I think it is a perfectly normal thing to ask.

Mr. SERRANO. And I will close with this. That is the question that a lot of people in this climate we are living today, these last X amount of years with the immigration issue, and the Deferred Action for Childhood Arrivals (DACA) children, and everything else that is happening around immigration, the question of are you a citizen scares a lot of people into not replying. And we have spent too many years convincing certain communities, I have, and many others, to fill the census form. And we are still saying that, but that question scares people because they don't know the motives behind it.

Mr. SESSIONS. Thank you. Well, we should—

Mr. SERRANO. And the other one scares me. The territory one.

Mr. SESSIONS. We need to convince more people to apply to enter the country lawfully and not come unlawfully, in my opinion.

Mr. CULBERSON. That is absolutely true. Thank you, Mr. Serrano. As we restore respect for the rule of law, I am confident that is going to happen.

Mr. SERRANO. Yeah, but there is rule of law in the territories too.

Mr. CULBERSON. I am pleased to recognize the gentledady from Alabama, Ms. Roby.

Ms. ROBY. Thank you Mr. Chairman, Attorney General Sessions, thank you for being here this morning. And thank you and your family for your service to this country and all you do for our great country.

I am proud to see that under your direction, the Department of Justice has taken a strong stance to uphold and protect the laws of this nation. Specifically, the Department of Justice has been active in defending against sanctuary city policies around our country for localities that fail to impose and enforce our nation's immigration laws.

And I think you would agree that Congress, and only Congress, has the power to change or alter our immigration laws, and not various local and state governments acting on their own beliefs. Having said that, I want to discuss another issue regarding the actions of States and local governments interfering with private companies who are only following federal contracts.

BLACKLISTING OF FEDERAL CONTRACTORS

Specifically, state and local government discrimination against Federal contractors undermining the constitutional supremacy clause of the federal government. As has been widely reported, city and State governments are passing laws and ordinances to blacklist Federal contractors for doing their jobs. It is these companies from our State of Alabama, and all across the country, who have the opportunities to work on Federal contracts, whether it is bolstering infrastructure for our southern border, maintenance on an Army Corp. of Engineer project, or new construction on a military base.

And I know you agree with me that it is vital that we secure our southern border and put an end, as you just stated, put an end to individuals crossing into our country illegally. We must also have a qualified workforce and experienced businesses that can operate

without discrimination or retaliation for simply following Federal government contract directives of building a secure system, including a wall, along our southern border.

Unless checked, emboldened State and local officials will further discriminate against companies that perform any number of critical national security tasks for the federal government. Similarly, discriminatory measures could easily multiply as State and local officials seek to deter the construction of anything they consider offensive to their own beliefs. So threatened by discrimination with these various types of legislation, private companies would understandably hesitate to play the many roles that the Federal government ask them to play in delivering on the goods and services necessary to protect national security interests, specifically securing our southern border.

So my question to you this morning, Attorney General Sessions, is when and how does the Department of Justice plan to respond to State and local governments on this issue of discriminatory behavior?

Mr. SESSIONS. We made clear that is not acceptable. We will not accept it. Your letter, I appreciate it very much and the other members who signed it with you is valuable to us, and we will get a response to you shortly. I guess we have had it within a week maybe.

And, but no this is an unbelievable assertion of power that a government of the United States, city, county, or State can refuse or blacklist the United States of America to make the country safer. I mean, how can this possibly be? We don't believe it is sustainable legally and we will challenge it wherever there is a case to be proven. A lot of talk about passing these laws, but some have passed. And so it cannot be accepted.

We are looking at what the legal remedies would be.

Ms. ROBY. We appreciate your work on that. And the last thing I want to say to you in my short time left, I just want to thank you for your openness and willingness and desire to want to focus on sex and human trafficking in our country. As we know, this is not a Third World country problem, although it is happening globally, it is also happening in our own backyards.

And so I just want to thank you here today at this hearing for the work that you continue to do with the Congress to do everything that we can to eradicate this modern day slavery. And so thank you again for your service to our country. It is great to have you here today.

Mr. SESSIONS. Thank you.

Mr. CULBERSON. Thank you, Ms. Roby. I am going to recognize Mr. Kilmer.

OPIOID EPIDEMIC

Mr. KILMER. Thanks, Chairman. I just wanted to follow up, even with the Chairman's indulgence. I went a little over last time, but I didn't get a chance to follow up on the specific issue of— for communities as they grapple with the opioid crisis, we have got some communities that are, as Mr. Jenkins said, real small towns who don't have a lot of capacity to navigate the Federal grant system

to try to figure out how they get these resources to combat this problem.

Can you give us a little bit of insight into how the department is going to work with at-risk communities, small towns, tribal communities that are really suffering from this opioid epidemic, and need those resources but might not have tremendous capacity to navigate the grant making and whatnot?

Mr. SESSIONS. Mr. Kilmer, it is a very important issue. Of course, fundamentally, the Department of Justice and our DEA, and FBI, and ATF investigators and marshal officers, they do focus on where the problem is biggest and where the gangs are the business. So if the network is in Seattle and it goes out to a smaller town, but those small towns, I am very familiar with it in Alabama. They can be devastated by this, like the little town in West Virginia.

And so we just have to use good judgment. Often, the evidence discovered in a small town can help take down a gang in a big city or even a cartel. So the Project Safe Neighborhoods and our grant program that creates task forces does help meet that need. A small town could dedicate one of his officers to DEA's task force, which would deal with the whole region. They would have the intelligence and the information that could help them understand where the drugs are coming from that impact their community and maybe even work out arrangements so that the whole team could focus on that group.

It does work. It is part of the essential improvement in law enforcement we have seen over the last two or three decades.

Mr. KILMER. Thank you.

Mr. SESSIONS. So there is no perfect solution, but that is the best answer I think I can give you.

Mr. KILMER. Well, I am hoping maybe the committee can, you know, put our heads together and think about how we can be a partner to the department as you acknowledged. There are small towns that really need the attention too.

STOP SCHOOL VIOLENCE ACT

Let me ask, with the time I have got left, Congress did something, I think important and unique in passing bipartisan legislation focused on the issue of school violence, the Stop School Violence Act, which was a bill I was one of the lead sponsors of, was incorporated into this spending bill. I met with a lot of school kids. You know, I have got little kids. When I drop them off at school, I want them to be excited about the day ahead, not fearful for their safety.

What role do you see yourself and the DOJ playing in our national effort to make our schools and our community safer? And what steps are you prepared to take to help prevent mass shootings?

Mr. SESSIONS. Thank you. We have altered our COPS grants to encourage the use of COPS grant money for school resource officers. We have taken a number of other steps. We have tightened up our National Instant Criminal Background Check System (NICS) system, where you—before you get a firearm, you have to check the computer system. But some cities aren't putting in information. The military was not doing so prior to the shooting in

Texas and now they are. Some are putting in the arrest but not the final conviction. So you can't deny them a gun without that. So there are a lot of things we have done there.

But I would say to you the most difficult thing, and when you talk to law enforcement officers about it and I have, it comes back to this situation. Some people are mentally ill and dangerous. And if they go to juvenile court, often those records are kept secret in the juvenile court. If they are taken to a mental health hospital, the regulations keep the doctors from telling anybody. If they are found even adjudicated mentally defective or needing some short term incarceration or detention, I guess is the right—better word, then that is often held close.

The schools feel like they can't talk about their students to the police, even if they have concerns. And the school resource officers also feel some constrictions on them. Resource officers in schools tend to break that down, but there are silos out there that—if we put this information all together, we could say this young person is really troubled. They are really dangerous. And somehow, we need to intervene. And you talk to law enforcement and mental health professionals, school people, I think that is one of the things they would like to see us do. And they are afraid to be sued if they make a mistake. And they develop policies that don't share information.

So if we could make a breakthrough there, it might be really important.

Mr. KILMER. Thank you.

Mr. CULBERSON. Thank you, Mr. Attorney General.

Mr. KILMER. Thanks, Chairman.

Mr. CULBERSON. Mr. Jenkins.

SECOND SPECIAL COUNSEL

Mr. JENKINS. Thank you very much. Mr. Attorney General, there has been a considerable amount of attention paid to the question of second special counsel relating to everything from the Hillary Clinton e-mail scandal to—abuse and so many issues.

I am referencing in particular your letter of March 29th to Chairmen Grassley, Goodlatte, and Gowdy. And I want to say, I could not agree with you more on the sentence on the first page that reads, "It is important that Congress and the American people have confidence in the Department of Justice."

My concern, however, is while we share the same goal, the question is do we have the same path to get to that goal? As a representative of the people of West Virginia, to be able to be here 20 feet from you, I feel like I am compelled to just raise this question—and I know you can't talk much about it because of the ongoing investigation, but West Virginians are frustrated. They are proud of this President. They see what has happened and the evidence regarding Uranium-1. They see the evidence and are concerned about FISA warrant abuses. They see what is happening and are frustrated about raids on lawyers' offices. They are frustrated and see the evidence of top FBI officials involved with the Clinton e-mail scandal. They are concerned and frustrated about FBI officials having communications with foreign agents and former foreign agents. And we are frustrated that we have had a

special counsel in Mueller investigating supposed collusion for over a year with not a scintilla of evidence of collusion between the Trump campaign and Russia.

And you came to the conclusion that a special counsel was not warranted. But you set forth here when a special counsel should be established and it says, "in extraordinary circumstances."

Again, I know you can't comment much, but I just wanted to share with you the deep-seated frustrations and concerns that the people of my district and of my state see regarding what occurred and happened. And I understand this has been referred to the Inspector General for investigation, and understand we have a prosecutor from Utah looking into it. But at the very root of this, I think my constituents are frustrated, and angry. They see a double standard and want justice.

And as the head of the Department of Justice, I just hope you will reassure us that the path that you have decided to take, that a special counsel is not warranted at this point, that maybe in the future as the Inspector General and others find more information, that if we feel it is necessary that yes, we can cross that bridge, that a special counsel can be appointed. While I think it is needed now, can we get to that point if you, through your process and your investigators and your Inspector General, deem it necessary?

Mr. SESSIONS. Look, I think the American people are concerned and the President is concerned. He is dealing with France, and North Korea, and Syria, and taxes, and regulations, and border, and crime every day. And I wish this—this thing needs to conclude. So I understand his frustrations and I understand the American people's frustrations.

I would say to you that we are being very open in the Department, more open than we have ever been. We are allowing some 12 members of Congress staff to look through records; I don't know if we have ever done anything like that before. I am sure we haven't. And so if there is wrongdoing, we are going to take action about it. I have already taken action.

I would say to you that the American people need to know, we have entirely new top leadership at the FBI. We have got a highly competent, capable man of integrity in Chris Wray, the director. We have got a new deputy director. We have got a new legal counsel. We have got a new press person, a new chief of staff. So if there is wrongdoing uncovered, we will act on that.

But we have got to be careful we don't smear everybody if somebody made some errors. And some of the errors, it could be disciplinary matters rather than prosecutorial matters. But I would just say to you we are determined to be disciplined. Stay within our classical procedures and rules. I do not think we need to willy nilly appoint special counsels. And as we can see, it can really take on a life of its own.

So I think that we are going to evaluate it, the facts as they go forward. The Inspector General will have a report before long, a few weeks maybe. And we will do our duty at the Department of Justice to ensure that justice is done as the Lord gives me the ability to do so.

Mr. JENKINS. Thank you.

Mr. CULBERSON. Thank you, Mr. Jenkins. Mr. Attorney General, as you know, the Proverbs tell us our good name is our most valuable possession, worth more than all of the gold and silver in the world. And you have an impeccable reputation for fairness for justice, for honesty and integrity, and the FBI has always had superb reputation for being independent—

Mr. SESSIONS. Yes.

Mr. CULBERSON [continuing]. And trustworthy. And an essential part of the restoration of respect for rule of law is to ensure its fair and impartial administration. That is why Lady Justice is blindfolded holding the scales. So I think Mr. Jenkins raises an important point. I do hope that the—I know that my constituents are concerned about the open-ended nature absolutely seemed wide open and unending open-ended nature of the special counsel's work. And I think that anyone who would—that you discover in the course of your investigation, anyone under the Department of Justice or the FBI that would use the legal processes of the United States for political purposes has to be prosecuted and brought to justice.

And I hope you will do all that you can to reassure the American people that these investigations are not open-ended and they are not searching for anything under the sun they can find. But we are going to narrow this down and be sure that we are looking for actual evidence of any collusion. We are looking for actual evidence of anyone using the legal processes of this country for political purposes will be prosecuted to preserve and protect the respect for the rule of law, to preserve and protect the respect for the good name of the FBI and the Department of Justice. It is very, very important.

And we deeply appreciate your service to the country. Deeply appreciate the commitment of the men and women of law enforcement who work every day quietly and tirelessly to protect us. Every day that goes by and we don't have another terrorist attack. Every day that goes by and ends quietly and safely, we are grateful to you and the men and women of the Department of Justice, and the FBI, and the ATF, and the DEA, and the Marshals Service, and the Bureau of Prisons, and everyone that is responsible for protecting us. We are grateful to you for your work to ensure the impartial and fair administration of justice to keep us safe.

I know you have got the support of this committee in helping you do your job and protecting the most precious possession you have and the department has, and that is the good name that all of the men and women in law enforcement have worked so hard for so long to preserve. And I hope you will continue to do so.

Mr. Serrano, if you have any closing remarks, we will go ahead and wrap up.

Mr. SERRANO. Yes, I do. I want to thank the Attorney General for coming before us today. As we wrap up, I can't help but maybe sound a negative note again. You know, it is not something I enjoy doing, but it has to be done. I am amazed at how many members of Congress go to the House floor and single out some newspaper article that may indicate that some lady or some fellow somewhere misused properly, improperly, on purpose or not on purpose, by mistake, \$50 in food stamps. And that becomes a big, big issue.

And yet what I keep hearing is that an investigation that may talk about collusion, an investigation that may talk about people in this government and in this country helping the Russians hack us and interfere with our elections, and everything else that has come from that, that that should be shut down. That that should be put away. That that should not grow anymore.

And it just troubles me, but it shouldn't amaze me by now in the years that I have spent in Congress that some people go crazy over some things that we should pay attention to, but certainly want to make sure that person who took \$50 somewhere and misused it in government funds gets the full extent of the law on their shoulders. But whatever happened over here with a foreign government interfering in our elections, well that we should shut down as soon as possible. Thank you.

Mr. CULBERSON. I know Mr. Serrano joins me, as all the committee members do, in praying for their safety and security of the men and women in law enforcement and how much we appreciate the great work that you do.

Mr. SESSIONS. Thank you. Mr. Chairman, I just know and I think when I said the BOP has the same staff today as in 2009 when they had 20,000 more inmates than today, I inadvertently said fewer inmates. We actually had 20,000 more inmates in 2009 than we have today.

Thank you all for your support. I really do feel it. I think our men and women in law enforcement know that Congress has been supportive and we will do our best to use the resources you give us wisely. And we recognize that we have to account to you for the wise utilization of those resources.

Mr. CULBERSON. Thank you, Mr. Attorney General, for your service to the country and the hearing is adjourned. Thank you.

[Material submitted for inclusion in the record follows:]

The Honorable John Culberson
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
Department of Justice FY 2019 Budget Request

1. Since you have been Attorney General, the House has sent two criminal referrals for contempt of Congress to the Department of Justice. However, I understand no action has been taken on them. It is important for the Department of Justice to carry out its responsibility to act on such referrals. Could you please review this matter, and report to the Committee on the status of the Department's response to the referrals?

RESPONSE: While longstanding Department policy prevents me from confirming or denying the existence of any investigation, such requests are referred for investigation to the proper investigative agency or component which then makes a determination whether any action by the Department is appropriate. All allegations are reviewed in light of the Principles of Federal Prosecution (*see* United States Attorneys' Manual § 9-27.000).

The Honorable Robert B. Aderholt
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
Department of Justice FY 2019 Budget Request

1. **Violent Crime.** Thank you for your work deporting dangerous illegal aliens.
- a. With the recent Supreme Court decision regarding the definition, or application, of the category “violent crime,” what do you need in order to continue common sense deporting of dangerous illegal aliens? For example, actions such as rape, and murder, as well as physical assaults resulting in injury, are violent crimes.
 - b. Do you need legislative language or simply a restatement of your policy?

RESPONSE: The Department of Justice is committed to closing judicially-created loopholes that prevent criminal aliens convicted of serious crimes from being removable, as their convictions can no longer qualify as an aggravated felonies as Congress intended. For example, in California, a criminal alien found guilty of voluntary manslaughter, robbery, or child abuse would not necessarily be considered an aggravated felon. In Texas, a criminal alien convicted of aggravated assault, deadly conduct, or causing injury to a child, elderly individual, or disabled individual would not necessarily qualify as an aggravated felon. In Oklahoma, a criminal alien convicted of forcible sodomy or assault and battery on a police officer would not necessarily classify as an aggravated felon. Additionally, in its decision in *Sessions v. Dimaya* earlier this year, the Supreme Court voided the residual clause of the federal definition of “crime of violence” because of its vagueness. The immigration ramifications of this decision are immense as scores of criminal aliens may be shielded from removal as their convictions no longer constitute an aggravated felony. Due to these judicially-created loopholes, which have gutted the INA’s aggravated felony removal provisions as Congress intended them to apply, criminal aliens convicted of these egregious crimes could potentially remain in the country. Accordingly, Congress should rewrite the aggravated felony provisions at 8 U.S.C. § 1101(a)(43) to restore these critical removal grounds for criminal aliens.

2. **Uncollected debt.**
- a. How much uncollected debt, for which the Department has obtained judgments, is currently owed to the government?

RESPONSE: As of June 28, 2018, of the cases that either originated within DOJ or were referred to DOJ for litigation, there is approximately \$159 billion owed to the Federal Government. Of this amount, \$136.5 billion is for criminal fines and restitution, and \$22.7 billion is for civil fines and penalties.

- b. How much of that would be collectible if the Department were given adequate resources?

RESPONSE: The government can only collect from those individuals and entities who have the resources to pay their debts, whether that payment comes voluntarily or involuntarily. For the amounts listed in Answer 2a, \$109.1 billion of the criminal debt has been deemed uncollectible by the Department. The factors determining whether a debt may be collectible (either now or in the future) vary, but can include the status of a defendant's incarceration, their assets, employment status, and ability to pay.

Where it has been determined that a debt is collectible, Department personnel must locate assets and wages, prepare and submit the appropriate court documentation, and monitor the defendant's wages and assets over time to ensure that the government is collecting the full amount the defendant can pay.

c. What additional resources does the Department need to collect these judgments?

RESPONSE: Currently, the Department's Three Percent Fund provides resources to the U.S. Attorney's Offices, litigating divisions, and the Justice Management Division that are used to collect on monies owed to the Federal Government.

d. How many attorney hours were spent obtaining judgments which the Department now deems uncollectable?

RESPONSE: The vast majority of uncollectable debts consist of restitution amounts ordered in criminal cases in which the defendant is incarcerated and/or lacks assets or income sources from which the United States Attorneys' Office (USAO) can collect the debt. The *Mandatory Victims Restitution Act of 1996* made restitution mandatory for most criminal offenses for the full amount of the victim's losses, regardless of a defendant's ability to pay. Thus, if the USAO determines that, in accordance with the Department's *Principles of Federal Prosecution*, a criminal case should be brought, the fact that restitution may ultimately be deemed uncollectible should not deter the Federal government from bringing the case. Oftentimes, at the outset of a criminal prosecution, neither the restitution amount nor the defendant's ability to pay has been determined. Thus, the USAOs must pursue the criminal cases regardless of the collectability of a judgment at the outset, because without the judgment, the victim will never receive restitution. That said, attorney hours are not tracked by individual case, such as a billable hours model. Consequently, there is no way to determine how many attorney hours were spent obtaining judgments that the Department now deems uncollectable.

3. **Banking services for gun manufacturers.** On the Citigroup blog, CEO Mark Corbat stated that Citigroup would coordinate with other businesses regarding restrictions on the sale or manufacture of certain guns, and sales of guns to persons under the age of 21. Bank of America has also announced their intent to implement similar trade constraining policies in legal products as well as refuse banking services to manufacturers and/or sellers of legal products.

- a. What reviews have been initiated by the Department of Justice regarding the legality of this multi-company dialogue to restrain the sale of a legal product to a person of legal age? If the answer is none, please initiate one.
- b. If it is determined that Bank of America has announced their policies as a result of Mr. Corbat's initiation of dialogue among a consortium of banking executives, does that behavior qualify as the kind of action described in the Sherman Anti-Trust Act? (15 USC 1). Specifically, the phrase, "conspire to restrain trade."

RESPONSE: Consistent with the longstanding policies of the Department of Justice, it would be inappropriate to confirm or deny the existence of an investigation (see Department of Justice, United States Attorneys' Manual, Sections 1-7.400 B and 1-7.410). The Department acknowledges your request for a review of the alleged conduct.

4. **NICS/VA issue.** The Department of Veterans Affairs (VA) has been required to report the names of all beneficiaries determined to be unable to manage their financial affairs to the FBI for inclusion in the NICS as a result of a 1998 request from the then Attorney General Janet Reno, pursuant to the 1993 Brady Handgun Violence Prevention Act. It is my understanding that the VA's decisions in these cases are determined by a VA disability rating specialist without any consideration of whether the person is considered to have a propensity for violence or is considered a threat to himself or herself or others. This is very troubling given the potential for veterans to have their second amendment rights restricted, despite the absence of any evidence that their condition would impair their ability to safely own or handle a firearm, or that they are a threat.
 - a. It is my understanding that you could eliminate this requirement for the VA to supply information about their beneficiaries to the FBI; is that correct?

RESPONSE: Congress has established ten categories of persons who are prohibited from receiving or possessing a firearm, and one of these categories is persons "adjudicated as a mental defective." 18 U.S.C. § 922(g)(4). Regulations issued by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) after notice and comment rulemaking further define persons "adjudicated as a mental defective" to include persons determined to "[l]ack the mental capacity to contract or manage his own affairs." 27 C.F.R. § 478.11(a)(2). My understanding is that the Department of Veterans Affairs (VA) has concluded that persons the VA determines, after certain processes are followed, to be incompetent to manage his or her own affairs fall within these statutory and regulatory definitions. I am not aware that the VA has changed its conclusion.

- b. I request that you review this matter promptly and consider suspending this requirement until you have received information from the VA regarding their process

and whether the second amendment rights of our veterans are being protected. Can you provide an initial response to the Committee in 90 days?

RESPONSE: The Department takes seriously its duties to comply with federal law and to protect the constitutional rights of all citizens, including their second amendment rights. We will work with the Department of Veterans Affairs to review this issue and the intersection with the Second Amendment.

5. Special Counsel and other ongoing investigations within DOJ.

- a. What is the current status of U.S. Attorney John Huber's investigation of allegations of abuse within the FBI?

RESPONSE: Mr. Huber's review remains ongoing, and he is providing regular updates to Department leadership as appropriate.

- b. What is the scope of his investigation?

RESPONSE: Mr. Huber's assignment is to make recommendations to the Department's leadership, as appropriate, concerning the issues outlined in correspondence from the House Judiciary Committee to the Department, dated July 27, 2017 and September 26, 2017. Mr. Huber's review of those issues does not include matters that are within the scope of the investigation conducted by Special Counsel Robert Mueller.

- c. Will Mr. Huber's investigation include alleged wrongdoing such as the mishandling of classified information by Sec. Hillary Clinton and Huma Abedin (as well as the simultaneous public sector and private sector salaries received by her, as investigated by Senator Grassley), as well as the Uranium One deal?

RESPONSE: Please see response to Question 1.b above.

- d. If not, why?

RESPONSE: Please see my response to Question 1.b above.

- e. Do you anticipate the appointment of a second special?

RESPONSE: Mr. Huber will report directly to the Department's leadership, as appropriate, and will make recommendations as to whether any matter not currently under investigation should be opened, whether any matters currently under investigation require additional resources, or whether any matters merit the appointment of a special counsel.

- f. Is there any effort to ensure that Mr. Mueller's staff is not biased politically?

RESPONSE: The Department of Justice does not ask employees about their political views or positions. All employees are bound by the Hatch Act.

- g. How many of Mueller's staff are registered Republicans? How many of Mueller's staff are registered Democrats?

RESPONSE: The Department of Justice does not inquire into the political party registration of its employees.

- h. What is a standard timeline for an investigation conducted by a special counsel?

RESPONSE: The Department of Justice conducts all investigations fully and completely in accordance with Federal law, Department regulations, and long-standing policies.

6. Status of appointments.

- a. Please list all non-career appointment slots that do not require Senate approval and which are currently vacant.

RESPONSE: The number of non-career positions that do not require Senate approval will vary from administration to administration, and as a result, there is no set number. While there are some positions that will carry the same title and will carry over from administration to administration, others will not.

7. Large cases.

- a. Please identify all matters to which 16 or more attorneys are assigned.

RESPONSE: The Department is committed to ensuring all matters are staffed appropriately. Staffing decisions are primarily made by the leadership teams within the various components who are in the best position to make resource allocations. The number of attorneys assigned to a particular matter may vary through the lifespan of the matter. Due to this natural fluctuation, any response provided could prove to be out of date. In addition, the Department has a long standing policy of not confirming or denying active investigations. As such, it would be inappropriate for me to disclose the staffing levels of any specific, not-yet public investigation.

8. Senior Executive Service.

- a. How many SES slots are there at the Department of Justice?

RESPONSE: OPM approved 509 SES allocations for FY 2017; 510 for FY 2018/FY 2019.

- b. How many SES personnel received the highest possible rating this past performance rating cycle?

RESPONSE: For the FY 2017 rating cycle, 413 SES received ratings; 335 received "Outstanding" the highest rating.

- c. How did that impact salary costs?

RESPONSE: For the FY 2017 rating cycle, "Outstanding" ratings contributed to approximately \$1,157,696 in cumulative additional salary costs.

- d. How many SES personnel were removed from SES service?

RESPONSE: In FY 2017, no SES personnel were removed.

9. **DOJ/ED Policy – "Rethink School Discipline"**. In the wake of the shooting at Parkland's Marjory Stoneman Douglas High School, there have been reports that under the "Rethink School Discipline" guidance, Broward County law enforcement officials may have made an agreement with school officials under the NOT to arrest students [**DOJ note: some words appear to be missing from the question as submitted**], even if violent crimes were being committed. The apparent intent of this Obama Administration policy was to reduce crime statistics and thereby enable school systems to qualify for more grants. Failing to arrest violent students exposes innocent students to further violence.

- a. Are applicants for DOJ grants using this program to refuse to arrest violent students?

RESPONSE: The Department of Justice does not currently ask this question in its grant solicitations and does not currently collect this information from grantees.

- b. Do these refusals to arrest students include incidents which occur off school property?

RESPONSE: The Department of Justice does not have this information in its possession and does not currently ask grantees for this information.

- c. It is my understanding that the Department of Education is reviewing this policy for possible elimination. Is the Department of Justice participating in this review?

RESPONSE: The Department of Justice is a member of the Federal Commission on School Safety, along with the Departments of Education, Health and Human Services, and Homeland Security. The Commission has been tasked with considering this precise issue.

The Honorable Steven Palazzo
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
Department of Justice FY 2019 Budget Request

1. The recent DOJ Inspector General report on the San Bernardino investigation lays bare some very troubling facts. For instance, the report finds that the FBI's lead forensics team working the shooter's iPhone did not consult with other FBI experts or third-party vendors to determine what capabilities or relationships could be leveraged to unlock the phone. In addition, and most surprising, the report finds that some FBI officials were more interested in litigating against Apple than unlocking Farook's iPhone. What changes have you made to ensure this lack of coordination and candor do not happen again?

The FBI's Operational Technology Division (OTD) exhausted all efforts to find an internal capability that could unlock and exploit Farook's phone at the time of the Congressional testimony and the Department's court filings. The solution that was eventually used to unlock the phone came from a vendor who was developing the engineered solution on their own.

The DOJ Inspector General specifically found that ". . . neither [FBI leadership's] Congressional testimony nor the [Justice Department's] submissions to the Court" during the San Bernardino matter "were inaccurate when made." Nevertheless, the FBI has publicly acknowledged that the problems noted in the Inspector General's report were due to communication issues between the relevant FBI unit chiefs, and it is my understanding that the problems have been addressed through a change in leadership in the units involved.

2. The recent DOJ OIG report on the San Bernardino investigation finds that senior FBI personnel made misstatements to Congress about the bureau's efforts to unlock the shooter's iPhone. Though the IG stopped short of stating that FBI personnel intentionally misled Congress, it appears that material information was not disclosed to them by FBI investigators. Are you considering disciplinary action against those implicated by the report?

RESPONSE: Please see my response to Question 1 above.

The Honorable José E. Serrano
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
Department of Justice FY 2019 Budget Request

Travel by the Attorney General

1. Please list all travel by the Attorney General from his first day in office through the date of receipt of this question, including both official and political travel and categorizing each trip (or segments of a trip) as official or political.

RESPONSE: Please see attached file titled, "AG Travel". Note that all travel is categorized as "official".

2. Please indicate the date of departure and return to Washington, D.C., for each trip; the purpose of trip; the number of DOJ staff persons accompanying the Attorney General; the total cost of the trip, including all costs incurred by all persons accompanying the Attorney General; the total cost for all trips by person; and whether the cost of the trip was borne by DOJ, another agency, or a non-governmental entity.

RESPONSE: Please see attached file titled, "AG Travel".

3. If the trip was paid by DOJ, indicate from which DOJ account the funding was drawn.

RESPONSE: Please see attached file titled, "AG Travel".

4. If any costs were initially borne by DOJ or another federal agency for a political trip, please indicate when DOJ or the other agency was reimbursed for its expenditures, by whom, and whether reimbursement in full has been received.

RESPONSE: Please see attached file titled, "AG Travel".

Travel by the Political Appointees

5. Please provide the same travel information as in the first question for all political appointees, by name, on the DOJ roster as of the date of receipt of this question.

RESPONSE: Please see attached file titled, "DOJ Political Appointee Travel". Note that all travel is categorized as "official".

Immigration Judges

**Attorney General Session's Travel History
March 2017 thru June 2018**

#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
1	MEETINGS WITH POTUS AT MAR-A-LARGO	3/4/2017	3/4/2017	Palm Beach, FL	\$ 18,359.49	\$ -	Joseph "Jody" Hunt	\$ -	OAG	N/A
							Noel Francisco	\$ -	OSG	N/A
							Curtis Gannon	\$ -	OLC	N/A
							AG Security Detail	N/A	N/A	N/A
2	DELIVERED REMARKS AT THE NEW HAMPSHIRE YOUTH SUMMIT ON OPIOID AWARENESS	3/7/2017	3/7/2017	Manchester, NH	\$ 13,441.81	\$ -	David Rybicki	\$ -		N/A
							AG Security Detail	N/A	N/A	N/A
3	LAW ENFORCEMENT TOUR. VISIT/MEET WITH LOCAL LAW ENFORCEMENT AND USAO	3/15/2017	3/15/2017	Richmond, VA	\$ 10,578.75	\$ -	Danielle Cutrona	\$ -	OAG	N/A
							Dana Boente	\$ -	ODAG	N/A
							James Crowell	\$ -	ODAG	N/A
							Steven Cook	No Claim Filed	ODAG	N/A
							Zachary Terwilliger	\$ -	ODAG	N/A
							Sarah Isgur Flores	No Claim Filed	PAO	N/A
							Silas Darden	\$ 594.63	OAG	GA
AG Security Detail	N/A	N/A	N/A							
4	LAW ENFORCEMENT TOUR. VISIT/MEET WITH LOCAL LAW ENFORCEMENT AND USAO	3/31/2017	3/31/2017	St. Louis, MO	\$ 38,068.50	\$ -	David Rybicki	\$ -	OAG	N/A
							Sarah Isgur Flores	\$ -	PAO	N/A
							Zachary Terwilliger	\$ -	ODAG	N/A
							Steven Cook	\$ -	ODAG	N/A
							Robin Thiemann	No Claim Filed	OLP	N/A
							Silas Darden	\$ 632.04	OAG	GA
AG Security Detail	N/A	N/A	N/A							
5	THE AG MET WITH USAO, FED AND STATE LAW ENFORCEMENT	4/7/2017	4/9/2017	Birmingham	\$ 23,520.49	\$ -	AG Security Detail	N/A	N/A	N/A

¹ All Attorney General travel is official. No political travel is taken.

**Attorney General Session's Travel History
March 2017 thru June 2018**

#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
6	TUCSON: TOUR BORDER PHOENIX (LUKE AFB AND LITCHFIELD PARK): SPEECH TO LUKE AFB SERVICE MEMBERS, IACP SPEECH AT LITCHFIELD PK	4/10/2017	4/11/2017	Tucson and Phoenix, AZ	\$ 103,571.00	\$ 170.56	David Rybicki	\$ 170.56	Counselor to AG	GA
							Zachary Tenwilliger	\$ 167.50	ODAG	GA
							Iris Lan	No Claim Filed	ODAG	N/A
							Steven Cook	\$ 131.31	ODAG	GA
							Sarah Isgur Flores	\$ 196.56	PAO	GA
							Silas Darden	\$ 2,085.65	OAG	GA
							AG Security Detail	N/A	N/A	N/A
							David Rybicki	\$ 295.50	CRM	GLA
7	MEETING WITH LAW ENFORCEMENT, CUSTOMS AND BORDER PROTECTION TOUR; CROSS-BORDER TOUR	4/20/2017	4/21/2017	El Paso, TX and San Diego, CA	\$ 50,225.00	\$ 280.50	Iris Lan	No Claim Filed	ODAG	N/A
							Sarah Isgur Flores	\$ 359.50	PAO	GA
							Silas Darden	\$ 1,662.89	OAG	GA
							AG Security Detail	N/A	N/A	N/A
							David Rybicki	\$ 460.00	CRM	GLA
							Zachary Tenwilliger	\$ 460.00	ODAG	GA
8	REMARKS TO LAW ENFORCEMENT, PROSECUTORS, DISTRICT COURT JUDGES MEET/GREET USAO EDNY	4/27/2017	4/28/2017	Long Island, NY	\$ 16,055.25	\$ 460.00	Sarah Isgur Flores	\$ 460.00	PAO	GA
							Steven Cook	\$ 442.00	ODAG	GA
							AG Security Detail	N/A	N/A	N/A
							David Rybicki	No Claim Filed	CRM	N/A
							Zachary Tenwilliger	\$ -	ODAG	N/A
9	MEET/GREET USA, DEA SAC AND SENIOR STAFF; SPEECH AT DEA360 HEROIN AND OPIOID RESPONSE SUMMIT	5/11/2017	5/11/2017	Charleston, WV	\$ 21,862.75	\$ -	Sarah Isgur Flores	No Claim Filed	PAO	N/A
							Peter Carr	\$ 797.66	PAO	GA
							Silas Darden	No Claim Filed	OAG	N/A
							AG Security Detail	N/A	N/A	N/A
							David Rybicki	No Claim Filed	CRM	N/A

**Attorney General Session's Travel History
March 2017 thru June 2018**

#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
10	MEET WITH MEMPHIS CITY LEADERSHIP; MEET/GREET USAO; MEET WITH STATE AND LOCAL LAW ENFORCEMENT; FAITH LEADERS LISTENING SESSION	5/24/2017	5/25/2017	Memphis, TN	\$ 19,015.18	\$ 223.56	Sarah Isgur Flores	\$ 223.56	PAO	GA
							Gary Barnett	\$ 223.56	OAG	GA
							Zachery Terwilliger	\$ 223.56	ODAG	GA
							Steven Cook	\$ 206.56	ODAG	GA
							Peter Carr	\$ 430.30	PAO	GA
							Devin O'Malley	\$ 240.20	PAO	GA
							Silas Darden	\$ 380.38	OAG	GA
							AG Security Detail	N/A	N/A	N/A
11	ATLANTA: SPEECH AT THE NATIONAL LAW ENFORCEMENT CONFERENCE ON HUMAN EXPLOITATION; MEET AND GREET WITH USAO NDGA; FAITH LEADERS LISTENING SESSION; REMARKS TO FEDERAL LAW ENFORCEMENT AGENTS COLUMBIA: APPELLATE CHIEFS' CONF. SPEECH AT THE NAC	6/6/2017	6/7/2017	Atlanta, GA and Columbia, SC	\$ 37,982.75	\$ 292.56	Rachael Tucker	\$ 292.56	OAG	GA
							Gustav Eyster	\$ 292.56	OAG	GA
							Sarah Isgur Flores	\$ 303.58	PAO	GA
							Devin O'Malley	\$ 568.67	PAO	GA
							Steven Cook	\$ 277.56	ODAG	GA
							AG Security Detail	N/A	N/A	N/A
12	BILATERAL MEETING WITH MALTA AG, SPEECH - INTERNATIONAL INSTITUTE FOR JUSTICE AND RULE OF LAW; ATTEND AND PARTICIPATE IN THE EU/US HOME AFFAIRS MINISTERIAL.	6/13/2017	6/16/2017	Valletta, Malta	\$ 126,531.84	\$ 1,159.46	Rachael Tucker	\$ 1,179.74	OAG	GA
							Dana Boente	\$ 1,055.88	NSD	GA
							Bruce Swartz	\$ 1,105.41	CRM	GLA
							Sarah Isgur Flores	\$ 1,224.20	PAO	GA
							Devin O'Malley	\$ 1,213.94	PAO	GA
							Thomas Burrows	\$ 3,316.55	OIA	GLA
							Silas Darden	\$ 3,633.95	OAG	GA
							AG Security Detail	N/A	N/A	N/A

**Attorney General Session's Travel History
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#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
13	THE ATTORNEY GENERAL PARTICIPATED IN THE QUINTET OF ATTORNEYS GENERAL AND FIVE COUNTRY MINISTERIAL.	8/25/2017	8/27/2017	Ottawa, Canada	\$ 16,188.80	\$ 640.03	Rachael Tucker	\$ 738.27	OAG	GA
							Bruce Swartz	\$ 600.49	CRM	GLA
							Sarah Isgur Flores	\$ 747.29	PAO	GA
							David Warner	\$ 2,318.91	CRM	GLA
							Paul Moore	\$ 2,807.49	OAG	GA
							AG Security Detail	N/A	N/A	N/A
14	VISIT GTMO; TOUR BASE	7/7/2017	7/7/2017	Guanlanamo Bay, Cuba	\$ 52,895.04	\$ 27.75	Rod Rosenstein	\$ 27.75	DAG	GA
							Rachael Tucker	\$ 27.75	OAG	GA
							John Hill	\$ 61.04	ODAG	GA
							Sarah Isgur Flores	\$ 38.77	PAO	GA
							Paul Moore	\$ 2,056.97	OAG	GA
							Silas Darden	\$ 92.50	OAG	GA
							AG Security Detail	N/A	N/A	N/A
							DAG Security Detail	N/A	N/A	N/A
15	DALLAS: MEET W/ MAYOR, POLICE CHIEF, SHERIFF, USA; MEET/GREET USAO LOCAL LAW ENFORCEMENT; REMARKS AT DARE CONFERENCE CA: SPEECH AT ALLIANCE DEFENDING FREEDOM CONF. LAS VEGAS: MEET/GREET USAO; REMARKS STATE/LOCAL LAW ENFORCEMENT; MEET W/ MAYOR, SHERIFF, POLICE CHIEF, LISTENING SESSIONS W/ FAITH LEADERS	7/10/2017	7/12/2017	Dallas, TX, Dawn Point, CA, and Las Vegas, NV	\$ 116,368.25	\$ 424.85	Rachel Brand	\$ 682.53	ASG	GA
							Gary Barnett	\$ 424.65	OAG	GA
							Sarah Isgur Flores	\$ 435.67	PAO	GA
							Zachary Terwilliger	\$ 424.65	ODAG	GA
							Stephen Cox	\$ 883.20	ODAG	GA
							Paul Moore	Cancelled	OAG	GA
							Silas Darden	\$ 1,688.48	OAG	GA
							AG Security Detail	N/A	N/A	N/A

**Attorney General Session's Travel History
March 2017 thru June 2018**

#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
18	MEET/GREET STATE AND LOCAL LAW ENFORCEMENT; REMARKS AT NATIONAL ASSOC. OF DISTRICT ATTORNEYS SUMMER SUMMIT	7/17/2017	7/17/2017	Minneapolis, MN	\$ 26,117.00	\$ -	Gary Barnett	\$ -	OAG	N/A
							Sarah Isgur Flores	\$ 11.02	PAO	GA
							Zachary Terwilliger	No Claim Filed	ODAG	N/A
							Steven Cook	\$ -	ODAG	N/A
							Paul Moore	\$ 1,355.28	OAG	GA
							AG Security Detail	N/A	N/A	N/A
17	MEET W/USAO; MEET/GREET STATE AND LOCAL LAW ENFORCEMENT SPEECH RE VIOLENT CRIME AND SANCTUARY CITIES	7/21/2017	7/21/2017	Philadelphia, PA	\$ 10,966.76	\$ -	Gary Barnett	\$ -	OAG	N/A
							Sarah Isgur Flores	\$ 11.02	PAO	GA
							Steven Cook	No Claim Filed	ODAG	N/A
							Paul Moore	\$ 413.08	OAG	GA
							AG Security Detail	N/A	N/A	N/A
							18	MS-13 EVENTS; BILATERAL MEETINGS WITH AGS OF HONDURAS, EL SALVADOR, AND GUATEMALA, MET W/ EL SALVADOR PRESIDENT; REMARKS AT INTERNATIONAL LAW ENFORCEMENT ACADEMY GRADUATION	7/27/2017	7/28/2017
Gary Barnett	\$ 273.90	OAG	GA							
Zachary Terwilliger	\$ 273.90	ODAG	GA							
Sarah Isgur Flores	\$ 284.92	PAO	GA							
Devin O'Malley	\$ 273.90	PAO	GA							
Ken Blanco	\$ 1,103.82	CRM	GA							
David Rytbicki	\$ 273.90	CRM	GLA							
Silas Darden	\$ 2,041.88	OAG	AG							
AG Security Detail	N/A	N/A	N/A							

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March 2017 thru June 2018**

#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
19	ATLANTA: MEETING/SPEECH W/ NATIONAL ORG. OF BLACK LAW ENFORCEMENT EXECUTIVES COLUMBUS: MEET/GREET USAO; SPEECH AT COLUMBUS POLICY ACADEMY; MEET W/ FAITH BASED COMMUNITY LEADERS	8/1/2017	8/2/2017	Atlanta, GA and Columbus, OH	\$ 20,042.89	\$ 296.84	Sarah Isgur Flores	\$ 307.88	PAO	GA
							Gary Barnett	\$ 298.84	OAG	GA
							Zachary Tenwilliger	No Claim Filed	ODAG	N/A
							Paul Moore	No Claim Filed	OAG	N/A
							Devin O'Malley	\$ 872.62	PAO	GA
							AG Security Detail	N/A	N/A	N/A
20	MIAMI: REMARKS TO MIAMI BASED POLICE/ICE, DHS AGENTS, AND OFFICIALS; MEET/GREET USAO LEADERSHIP AND STAFF; PRESS INTERVIEWS; WORKING DINNER W/ FED. LAW ENFORCEMENT WINSTON SALEM: REMARKS TO NC GANG INVESTIGATOR'S ASSOC. SYMPOSIUM; MEET/GREET USAO LEADERSHIP AND STAFF; MEET W/ FEDERAL LAW ENFORCEMENT CHARLESTON: WORKING DINNER WITH SEN. TIM SCOTT, STATE AND LOCAL LAW ENFORCEMENT	8/16/2017	8/17/2017	Miami, FL, Winston, NC, Salem, NC, and Charleston, SC	\$ 87,804.75	\$ 237.00	Sarah Isgur Flores	\$ 248.02	PAO	GA
							Gary Barnett	\$ 237.00	OAG	GA
							Zachary Tenwilliger	\$ 237.00	ODAG	GA
							David Rybicki	\$ 297.19	CRM	GA
							Paul Moore	\$ 1,736.16	OAG	GA
							Devin O'Malley	\$ 1,464.28	PAO	GA
							AG Security Detail	N/A	N/A	N/A
21	REMARKS AT FRATERNAL ORDER OF POLICE NATIONAL CONF.; MEET/GREET USAO; MEET/GREET LOCAL LAW ENFORCEMENT, FED. LAW ENFORCEMENT, FAITH-BASED COMMUNITY LEADERS	8/27/2017	8/28/2017	Nashville, TN	\$ 13,235.74	\$ 265.03	Sarah Isgur Flores	\$ 270.54	PAO	GA
							Gary Barnett	\$ 265.03	OAG	GA
							Steven Cook	\$ 316.50	ODAG	GA
							Zachary Tenwilliger	\$ 423.78	ODAG	GA
							AG Security Detail	N/A	N/A	N/A

**Attorney General Session's Travel History
March 2017 thru June 2018**

#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
22	REMARKS AT NATL ALLIANCE FOR DRUG ENDANGERED CHILDREN; MEET/GREET USAO AND STATE/LOCAL LAW ENFORCEMENT	8/28/2017	8/29/2017	Green Bay, WI	\$ 16,261.05	\$ 182.00	Gary Barnett	\$ 182.00	OAG	GA
							Sarah Isgur Flores	\$ 187.51	PAO	GA
							Steven Cook	\$ 420.85	ODAG	GA
							Zachary Terwilliger	\$ 425.50	ODAG	GA
							AG Security Detail	N/A	N/A	N/A
23	REMARKS AT 30TH ANNUAL AL STATEWIDE LAW ENFORCEMENT COORDINATING COMMITTEE; MEET W/ ALABAMA USAS.	8/31/2017	9/4/2017	Orange Beach, AL	\$ 19,864.53	\$ -	Gary Barnett	\$ 485.85	OAG	GA
							AG Security Detail	N/A	N/A	N/A
24	SEATTLE: MEET/GREET USA LEADERSHIP AND USAO, FED. AND STATE LAW ENFORCEMENT PORTLAND: MEET/GREET USAO, FED. AND ST. LAW ENFORCEMENT SAN DIEGO: PARTICIPATE IN FEDERAL LAW ENFORCEMENT ANNOUNCEMENT W/ COAST GD	9/18/2017	9/20/2017	Seattle, WA, Portland, OR, and San Diego, CA	\$ 54,455.62	\$ 585.55	Gary Barnett	\$ 1,067.97	OAG	GA
							Sarah Isgur Flores	\$ 980.02	PAO	GA
							Devin O'Malley	\$ 2,817.67	PAO	GA
							Paul Moore	\$ 3,375.04	OAG	GA
							Zachary Terwilliger	\$ 994.09	ODAG	GA
							AG Security Detail	N/A	N/A	N/A
25	CHARLESTON: REMARKS AT AM. CONSERVATIVE UNION FOUND. AND CARDINAL INST. EVENT BOSTON: MEET/GREET USAO, FEDERAL AND STATE LAW ENFORCEMENT, MS-13 BRIEFING HARRISBURG: MEET/GREET USAO, FAITH LEADERS LISTENING SESSION	9/21/2017	9/22/2017	Charleston, WA, Boston, MA, and Harrisburg, PA	Unavailable	\$ 424.50	Gary Barnett	\$ 424.50	OAG	GA
							Sarah Isgur Flores	\$ 435.52	PAO	GA
							Zachary Terwilliger	\$ 531.28	ODAG	GA
							Devin O'Malley	\$ 978.49	PAO	GA
							Silas Darden	\$ 1,882.24	OAG	GA
							AG Security Detail	N/A	N/A	N/A

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#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
28	OK REMARKS AT OK SHERIFFS' ASSOC. EVENT, TOUR OK CITY NAT'L MEMORIAL AND MUSEUM, MEET/GREET USAO AND ST/LOCAL LAW ENFORCEMENT TX MEET/GREET USAO AND ST/ LOCAL LAW ENFORCEMENT. PA REMARKS AT MAJOR CITIES CHIEFS ASSOC. (US AND CANADA)	10/19/2017	10/21/2017	Oklahoma City, OK, Austin, TX, and Philadelphia, PA	\$ 86,315.45	\$ 634.25	Matthew Whitaker	\$ 841.44	OAG	GA
							Gary Barnett	\$ 834.25	OAG	GA
							Paul Moore	\$ 2,087.07	OAG	GA
							Silas Darden	\$ 2,081.84	OAG	GA
							Zachary Terwilliger	\$ 426.80	ODAG	GA
							Steven Cook	\$ 634.25	ODAG	GA
							Sarah Isgur Flores	\$ 845.27	PAO	GA
							AG Security Detail	N/A	N/A	N/A
							27	REMARKS AT ANNUAL INTL ASSOCIATION OF CHIEFS OF POLICE CONFERENCE	10/23/2017	10/23/2017
Sarah Isgur Flores	\$ 11.02	PAO	GA							
AG Security Detail	N/A	N/A	N/A							
Gary Barnett	\$ -	OAG	N/A							
28	TOUR AND REMARKS AT JFK AIRPORT POSTAL FACILITY	10/27/2017	10/27/2017	New York, NY	\$ 13,235.74	\$ -	Paul Moore	\$ 722.78	OAG	GA
							Sarah Isgur Flores	\$ 11.02	PAO	GA
							AG Security Detail	N/A	N/A	N/A
							29	MEET/GREET NYPD 13TH PRECINCT/NYPD COMPSTAT BRIEFING	11/1/2017	11/2/2017
Gary Barnett	\$ 480.00	OAG	GA							
Paul Moore	\$ 2,824.12	OAG	GA							
Zachary Terwilliger	\$ 460.00	ODAG	GA							
Rachael Tucker	\$ 460.00	OAG	GA							
Sarah Isgur Flores	\$ 471.02	PAO	GA							
AG Security Detail	N/A	N/A	N/A							

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#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
30	MEET/GREET USAD; MEET/GREET ST., LOCAL, AND FED. LAW ENFORCEMENT; REMARKS AT TEN POINT COALITION BOARD MEETING	11/6/2017	11/6/2017	Indianapolis, IN	\$ 28,763.55	\$ -	Gary Barnett	\$ -	OAG	N/A
							Paul Moore	No Claim Filed	OAG	N/A
							Sarah Isgur Flores	\$ 11.02	PAO	GA
							AG Security Detail	N/A	N/A	N/A
31	ACCOMPANIED VPOTUS AND SECOND LADY TO SUTHERLAND SPRINGS, TX TO RECEIVE LAW ENFORCEMENT BRIEFINGS AND ATTEND A MEMORIAL SVC AND MEET W/ VICTIMS AND FAMILIES	11/8/2017	11/9/2017	San Antonio, TX	Unavailable	\$ 96.00	Matthew Whitaker	\$ 96.00	OAG	GA
							AG Security Detail	N/A	N/A	N/A
32	ATTEND FUNERAL SERVICE FOR CBP AGENT REGELIO MARTINEZ	11/25/2017	11/25/2017	El Paso, TX	\$ 28,801.52	\$ -	Gene Hamilton	\$ -	OAG	N/A
							Paul Moore	\$ 577.85	OAG	GA
							AG Security Detail	N/A	N/A	N/A
33	TRILATERAL MEETING OF ATTORNEYS GENERAL (US, COLUMBIA, MEXICO) AND TRILATERAL DECLARATION AND BRIEFING	12/6/2017	12/7/2017	Cartagena, Columbia	\$ 58,553.80	\$ 348.88	Matthew Whitaker	\$ 350.11	OAG	GA
							Rachael Tucker	\$ 348.88	OAG	GA
							Gary Barnett	\$ 348.88	OAG	GA
							Paul Moore	\$ 2,853.13	OAG	GA
							John Cronan	\$ 361.45	DAAG	GLA
							Devin O'Malley	\$ 270.38	PAO	GA
							Kenneth Blanco	\$ 369.28	CRM	GLA
							Taylor Cole	\$ 940.64	CRM	GA
AG Security Detail	N/A	N/A	N/A							

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#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
34	MEET/GREET USAOS, STATE/LOCAL LAW ENFORCEMENT IN EACH CITY	12/17/2017	12/19/2017	Milwaukee, WI, Toledo, OH and Charlotte, NC	\$ 54,732.25	\$ 406.62	Gary Barnett	\$ 406.62	OAG	GA
							Paul Moore	\$ 1,805.60	OAG	GA
							Zachary Terwilliger	\$ 568.16	ODAG	GA
							Steven Cook	\$ 1,042.38	ADAG	GA
							Sarah Isgur Flores	\$ 417.84	PAO	GA
							Kelly Laco	\$ 1,930.53	PAO	GA
							AG Security Detail	N/A	N/A	N/A
35	REMARKS AT DEA GRAD CEREMONY, SPEECH IN NORFOLK ON NAT'L SEC. AND IMMIGRATION PRIORITIES OF THE ADMIN.	1/26/2018	1/26/2018	Quantico and Norfolk, VA	\$ 9,832.26	\$ -	Gary Barnett	\$ -	OAG	N/A
							Sarah Isgur Flores	\$ 11.22	PAO	GA
							AG Security Detail	N/A	N/A	N/A
36	BOTH PA & KY: MEET/GREET USAO; MEET W/ ST/LOCAL LAW ENFORCEMENT, DISTRICT OPIOID BRIEFING	1/29/2018	1/30/2018	Pittsburgh, PA and Louisville, KY	\$ 40,735.15	\$ 225.46	Gary Barnett	\$ 225.46	OAG	GA
							Paul Moore	\$ 1,910.71	OAG	GA
							Patrick Bumstey	\$ 239.06	ODAG	GA
							Sarah Isgur Flores	No Claim Filed	PAO	N/A
							Kelly Laco	\$ 555.43	PAO	GA
							AG Security Detail	N/A	N/A	N/A
37	TAMPA: MEET/GREET USAO; ROUNDTABLE W/ ST/LOCAL LAW ENF.; DISTRICT OPIOID BRIEFING	2/7/2018	2/8/2018	Tampa, Key West, and Miami, FL	\$ 23,818.85	\$ 272.00	Matthew Whitlaker	\$ 272.00	OAG	GA
							Gary Barnett	\$ 272.00	OAG	GA
							Patrick Bumstey	\$ 272.00	OAG	GA
							Paul Moore	\$ 2,382.00	OAG	GA
	KEY WEST: COMMAND BRIEFING, JIATFS, NAVAL AIR STATION						Sarah Isgur Flores	\$ 283.22	PAO	GA
							Kelly Laco	\$ 851.04	PAO	GA
							John Cronan	\$ 570.89	CRM	GLA
							AG Security Detail	N/A	N/A	N/A
MIAMI: OPIOID SUMMIT REMARKS, BRIEFINGS AT SOCOM										

**Attorney General Session's Travel History
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#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
38	AG TO RECEIVE LINCOLN AWARD FROM THE UNION LEAGUE CLUB OF PHILADELPHIA	2/12/2018	2/12/2018	Philadelphia, PA	\$ 15,432.70	\$ -	Brian Morrissey	\$ -	OAG	N/A
							Sarah Isgur Flores	\$ 11.22	PAO	GA
							Suzanna McKinney	\$ -	OAG	N/A
							Kelly Laco	\$ 18.28	PAO	GA
							AG Security Detail	N/A	N/A	N/A
39	REMARKS AT CA PEACE OFFICERS' ASSOC. MEET/GREET USAO; MEET W/ FEDS/ST/LOCAL LAW ENFORCEMENT.	3/6/2018	3/7/2018	Sacramento, CA	\$ 104,260.45	\$ 297.38	Matthew Whitaker	\$ 297.38	OAG	GA
							Gary Barnett	\$ 297.38	OAG	GA
							Rachael Tucker	\$ 297.38	OAG	GA
							Paul Moore	\$ 2,130.37	OAG	GA
							Sarah Isgur Flores	\$ 308.60	PAO	GA
							Kelly Laco	\$ 1,109.34	PAO	GA
							Chad Readler	\$ 297.40	CIV	GLA
							AG Security Detail	N/A	N/A	N/A
40	NASHVILLE: REMARKS AT IACP MIDYR MTG; MEET/GREET W/ USAO/ST/LOCAL/FED LAW ENF. LEXINGTON: MEET W/ FAMILIES OF OPIOID OVERDOSE VICTIMS; MEET/GREET W/ USAO AND ST/LOCAL/FED LAW ENFORCEMENT	3/15/2018	3/15/2018	Nashville, TN, Lexington, KY	\$ 19,079.57	\$ 44.25	Gary Barnett	\$ 44.25	OAG	GA
							Patrick Bumetay	\$ 44.25	OAG	GA
							Paul Moore	\$ 1,481.13	OAG	GA
							Suzanna McKinney	\$ 504.33	OAG	GA
							Sarah Isgur Flores	\$ 55.47	PAO	GA
							Kelly Laco	\$ 1,378.93	PAO	GA
							AG Security Detail	N/A	N/A	N/A
41	ACCOMPANY OTHER CABINET SECRETARIES TO NH TO PARTICIPATE IN POTUS/FLOTUS OPIOID EVENTS	3/19/2018	3/19/2018	Manchester, NH	Unavailable	\$ -	Gene Hamilton	\$ -	OAG	N/A
							Mary Daly	\$ -	ODAG	N/A
							AG Security Detail	N/A	N/A	N/A

**Attorney General Session's Travel History
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#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
42	FL: MEET/GREET USAO; DISTRICT OPIOID BRIEFING; MEETING W/ ST/FED/LOCAL LAW ENF. AL: MEET/GREET USAO, MTG W/ FED/ST/LOCAL LAW ENF.; MTG W/ NOBLE LEADERSHIP/SPEECH TO NOBLE SPRING MTG, TOUR UAB NEO-NATAL UNIT	3/22/2018	3/23/2018	Tallahassee, FL and Birmingham, AL	\$ 38,195.50	\$ 207.18	Matthew Whitaker	\$ 207.18	OAG	GA
							Gary Barnett	\$ 207.18	OAG	GA
							Rachael Tucker	\$ 207.18	OAG	GA
							Patrick Bumatay	\$ 207.18	OAG	GA
							Paul Moore	\$ 1,896.74	OAG	GA
							Devin O'Malley	\$ 240.13	PAO	GA
							Kally Laco	\$ 1,234.24	PAO	GA
AG Security Detail	N/A	N/A	N/A							
43	ALBUQUERQUE: IMMIGRATION BRIEFING; MEET/GREET USAO AND STATE/LOCAL/FED LAW ENF. LAS CRUCES: TX BORDER SHERRIFF'S COALITION ANNUAL SPRING MTG REMARKS, REMARKS/PHOTOS DHS PERSONNEL	4/10/2018	4/11/2018	Albuquerque and Las Cruces, NM	\$ 91,699.95	\$ 182.06	Matthew Whitaker	\$ 182.06	OAG	GA
							Gary Barnett	\$ 182.06	OAG	GA
							Gene Hamilton	\$ 182.06	OAG	GA
							Paul Moore	\$ 3,022.49	OAG	GA
							Devin O'Malley	\$ 215.67	PAO	GA
							Kally Laco	\$ 722.30	PAO	GA
							AG Security Detail	N/A	N/A	N/A
44	COLUMBIA: MEET W/ NAC LEADERSHIP; REMARKS AT BORDER SECURITY COORDINATOR'S CONFERENCE RALEIGH: MEET/GREET USAO AND FED/ST/LOCAL LAW ENF.	4/16/2018	4/17/2018	Columbia, SC and Raleigh, NC	\$ 28,891.45	\$ 292.56	Gene Hamilton	\$ 292.56	OAG	GA
							Patrick Bumatay	\$ 292.56	OAG	GA
							Paul Moore	\$ 803.41	OAG	GA
							Kally Laco	\$ 554.44	PAO	GA
							AG Security Detail	N/A	N/A	N/A

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#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²				
							Name	Voucher Cost	Component	Funding Source	
45	FARGO: MEET/GREET USAO AND FEDIST/LOCAL LAW ENF.; LAW ENFORCEMENT ANNOUNCEMENT; REMARKS ON DRUG CRISIS BILLINGS: MEET/GREET USAO AND FEDIST/LOCAL LAW ENF.; REMARKS ON DRUG CRISIS	4/26/2018	4/26/2018	Fargo, ND and Billings, MT	\$ 85,238.75	\$	336.01	Matthew Whitaker	\$ 336.01	OAG	GA
								Gary Barnett	\$ 336.01	OAG	GA
								Patrick Bumstay	\$ 336.01	OAG	GA
								Paul Moore	\$ 1,981.17	OAG	GA
								Ian Prior	\$ 414.77	PAO	GA
								Kelly Laco	\$ 755.08	PAO	GA
								AG Security Detail	N/A	N/A	N/A
46	SCOTTSDALE: REMARKS AT ASSOC. OF ST CRIMINAL INVEST. AGENCIES' SPRING MTG SAN DIEGO: BORDER TOUR GATLINBURG: REMARKS AT GATLINBURG LAW ENF. CONF; MEET W/ FEDIST/LOCAL LAW ENF.	5/6/2018	5/8/2018	Scottsdale, AZ; San Diego, CA; and Gatlinburg, TN	\$ 117,539.75	\$	407.63	Gary Barnett	\$ 407.63	OAG	GA
								Gene Hamilton	\$ 407.63	OAG	GA
								Paul Moore	\$ 2,902.19	OAG	GA
								Sarah Igaur Flores	\$ 407.63	PAO	GA
								Kelly Laco	\$ 1,605.98	PAO	GA
								AG Security Detail	N/A	N/A	N/A
47	SOFIA: PARTICIPATE IN EUJUS HOME AFFAIRS MINISTERIAL. BILATERAL MTGS W/ COUNTERPARTS ZAGREB: REMARKS AT DOJ TRANSNATIONAL ORGANIZED CRIME WKSH/P; BILATERAL MTGS	5/20/2018	5/25/2018	Sofia, Bulgaria and Zagreb, Croatia	\$ 100,608.17	\$	1,280.79	Matthew Whitaker	\$ 1,231.97	OAG	GA
								Danielle Cultrona	No Claim Filed	OAG	N/A
								Gary Barnett	\$ 1,231.99	OAG	GA
								Rachael Tucker	\$ 1,233.58	OAG	GA
								Patrick Bumstay	\$ 3,086.07	OAG	GA
								Paul Moore	\$ 4,551.45	OAG	GA
								Devin O'Malley	Unavailable	PAO	N/A
								Taylor Cole	\$ 3,080.97	CRM	GLA
								AG Security Detail	N/A	N/A	N/A

**Attorney General Session's Travel History
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#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
46	DETROIT: MEET W/ USAO AND FEDIST/LOCAL LAW ENFORCEMENT; REMARKS AT MI CHAPTER OF THE FEDERALIST SOCIETY'S ANNUAL DINNER AND GRANT AWARD PRESENTATION	5/31/2018	6/1/2018	Detroit, MI	\$ 27,455.85	\$ 212.45	Gary Barnett	\$ 212.45	OAG	GA
							Rachael Tucker	\$ 212.45	OAG	GA
							Paul Moore	\$ 1,073.57	OAG	GA
							Steven Stafford	\$ 222.53	PAO	GA
							Kelly Laco	\$ 655.48	PAO	GA
							AG Security Detail	N/A	N/A	N/A
49	BOZEMAN: MEET USAO AND FEDIST/LOCAL LAW ENF.; ADDRESS POLICE PROTECTIVE ASSOC DENVER: MEET W/ USAO AND FEDIST/LOCAL LAW ENF.; REMARKS AT 2018 WESTERN CONSERVATIVE SUMMIT	6/7/2018	6/8/2018	Bozeman, MT and Denver, CO	Unavailable	\$ 487.98	Gary Barnett	\$ 487.88	OAG	GA
							Gene Hamilton	\$ 487.88	OAG	GA
							Patrick Bumatay	\$ 487.88	OAG	GA
							Paul Moore	\$ 1,842.92	OAG	GA
							Sarah Isgur Flores	\$ 498.90	PAO	GA
							Kelly Laco	\$ 1,849.62	PAO	GA
AG Security Detail	N/A	N/A	N/A							
50	FT. WAYNE: MEET/GREET USAO AND FEDIST/LOCAL LAW ENF.; DELIVER REMARKS ON IMMIG. PRIORITIES OF THE ADMIN. SCRANTON: MEET/GREET USAO AND FEDIST/LOCAL LAW ENF.; OPIOID BRIEFING; REMARKS ON IMMIG. AND LAW ENF. ACTIONS	6/14/2018	6/15/2018	Ft. Wayne, IN and Scranton, PA	Unavailable	\$ 169.50	Gary Barnett	\$ 169.50	OAG	GA
							Gene Hamilton	\$ 169.50	OAG	GA
							Paul Moore	\$ 1,250.70	OAG	GA
							Devin O'Malley	Unavailable	PAO	N/A
							Kelly Laco	\$ 807.74	PAO	GA
							Taylor Cole	\$ 971.36	CRM	GLA
AG Security Detail	N/A	N/A	N/A							
51	REMARKS AT NATL SHERIFFS' ASSN. ANNUAL CONF.; MEET/GREET USAO AND FEDIST/LOCAL LAW ENFORCEMENT	6/17/2018	6/18/2018	New Orleans, LA	Unavailable	\$ 250.00	Gary Barnett	\$ 250.00	OAG	GA
							Patrick Bumatay	\$ 250.00	OAG	GA
							Sarah Isgur Flores	\$ 261.22	PAO	GA
							Kelly Laco	\$ 447.31	PAO	GA
							Taylor Cole	\$ 835.98	CRM	GLA
							AG Security Detail	N/A	N/A	N/A

**Attorney General Session's Travel History
March 2017 thru June 2018**

#	Trip Purpose	Start	End	Destination	Aircraft Cost ¹	AG Voucher Total	DOJ Staff Accompanying the AG ²			
							Name	Voucher Cost	Component	Funding Source
52	RENO: REMARKS AT NAT'L ASSN. OF SCHOOL RESOURCE OFFICERS' SCHOOL SAFETY CONF.; MEET/GREET USAO AND FED/ST/LOCAL LAW ENF. LOS ANGELES: REMARKS AT CRIMINAL JUSTICE LEGAL FOUND. EVENT; MEET/GREET USAO AND FED/ST/LOCAL LAW ENF.	8/24/2018	6/26/2018	Reno, NV and Los Angeles, CA	Unavailable		Matthew Whitaker	\$ 470.02	OAG	GA
							Gary Barnett	\$ 470.02	OAG	GA
							Gene Hamilton	\$ 470.02	OAG	GA
							Paul Moore	\$ 3,510.67	OAG	GA
							Sarah Jagur Flores	\$ 481.24	PAO	GA
							Taylor Cole	\$ 1,570.90	CRM	GA
							AG Security Detail	N/A	N/A	N/A

¹ The FBI S&E Appropriation pays for aircraft costs. FBI aircraft, costs associated with repositioning aircraft for other missions were excluded. Repositioning costs required to move the FBI aircraft from a home base location to a transportation terminal where the AG and accompanying passengers can board are included. Costs for DOD or other government aircraft are based on invoiced amount. Unavailable indicates invoice information has not yet been received.

² This list does not include non-DOJ employees. While all DOJ employees identified here were approved to travel via government aircraft in accordance with Department procedures for the flights on which they are listed, not every employee listed for a given round trip traveled or traveled on every leg of the approved trip. For example, some employees (i.e. advance scheduling staff) may only have been aboard for one leg of multi-destination trips.

Acronyms

- AG Attorney General
- CRM Criminal Division
- DAG Deputy Attorney General
- GA General Administration
- NSD National Security Division
- OAG Office of the Attorney General
- OASG Office of the Associate Attorney General
- OIA Office of International Affairs
- OLC Office of Legal Counsel
- OSG Solicitor General
- PAO Public Affairs Office

6. Please list any other court or judges that have been subjected to the quotas as a basis for their personal performance evaluations.

RESPONSE: It is my understanding that the Merit Systems Protection Board, the Department of Interior, the Board of Land Appeals, the Pension Benefit Guaranty Corporation, and the Railroad Retirement Board all use such measures for their adjudicators. I am also aware that the Social Security Administration has set a numeric performance goal for its administrative law judges hearing disability cases. Further, in May 2018, the Administrative Conference of the United States (ACUS) found that the vast majority of federal administrative adjudicators, including immigration judges, are subject to case-processing goals.

7. Please provide all communication to immigration judges relating to new performance standards.

RESPONSE: The leadership of the immigration judge union was notified of the proposed measures in December 2017. All EOIR employees were notified of court performance measures in January 2018. All immigration judges, regardless of union membership, were notified of the performance measures in March 2018, and all judges received training on the measures at a conference in June 2018.

8. Please provide all applicable circuit court case law that could prohibit immigration judges from denying a continuance based on any performance measures.

RESPONSE: Immigration judges decide each case individually based on the evidence and facts of each case and in accordance with the law applicable to each case.

9. Please provide the analysis for proposed case completion performance goals for judges?

RESPONSE: Like all of the performance measures, the case completion measure reflects a considered policy judgment regarding the efficiency that an experienced immigration judge working on a regular schedule should reasonably be able to achieve. Similar measures are used for administrative adjudicators at other agencies, and the immigration courts have operated under case completion goals for years. The immigration judge union determined in 2011 that an average immigration judge completed 1,500 cases per year. The GAO found that an average immigration judge in 2015 completed 807 cases per year. Consequently, the more modest 700 case completion performance measure is also in line with historical norms.

United States Attorneys

10. Please provide the funding requirement for fiscal years 2019 and 2020 to convert Assistant U.S. Attorney's to the General Schedule scale.

RESPONSE: In 2016, the United States Attorneys (USA) prepared an initial cost estimate to convert all non-supervisory Assistant United States Attorneys (AUSAs) from the Administratively Determined (AD) pay scale to the General Schedule (GS) pay scale, applying Department of Justice promotion guidelines established by the Office of Attorney Recruitment and Management and applied to attorneys paid under the GS pay-setting rules. At the time, the estimate was in excess of \$40 million in salaries and benefits expenses. As of April 2018, there are approximately 5,700 attorneys onboard that would be impacted by a change in pay scales (this includes both direct-funded and reimbursable-funded positions).

Several factors related to supervisory AUSAs would need to be considered for a GS pay conversion. First, the conversion of supervisory AUSAs would require the addition of approximately 100 new Senior Executive Service (SES) positions to be commensurate with other senior attorney position structures already operating within the Department. Second, supervisory AUSAs are paid using a separate AD pay scale for supervisory positions based on level of responsibility. Assigning all AUSAs to the GS pay scale and applying the GS pay-setting rules will effectively eliminate the ability of the USAs to grant higher salaries upon assumption of supervisory responsibilities, and may result in AUSAs being reassigned to supervisory positions at the GS-15 grade level with no additional compensation.

Legal Orientation Program

11. Please provide the methodology for the ongoing cost-benefit analysis for the Legal Orientation Program and the Help Desk Pilot program.

RESPONSE: The methodology for the review of the Legal Orientation Program is outlined in Appendix B, pages 23 to 25, of the Phase I report. The Phase I report was provided to the Chairman and Ranking Member of this Subcommittee in September 2018. The methodology for studying the Help Desk Pilot program has not yet been drafted and is not presently available.

The Honorable Derek Kilmer
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
Department of Justice FY 2019 Budget Request

1. President Trump recently reassured Senator Corey Gardner from Colorado that the Department's rescission of the Cole Memo would not target Colorado, a state that has legalized adult use of marijuana. Does this pledge apply equally to all states with legalized marijuana laws, including Washington?

RESPONSE: On January 4, 2018, the Department issued a memorandum reiterating that Congress's Controlled Substances Act generally prohibits the cultivation, distribution, and possession of marijuana. The memorandum further provides that prosecutors should follow the well-established principles that govern all federal prosecutions in deciding which marijuana activities to prosecute under the Controlled Substances Act. These principles require federal prosecutors to weigh all relevant considerations, including federal law enforcement priorities set by the Attorney General, the seriousness of the crime, the deterrent effect of criminal prosecution, and the cumulative impact of particular crimes on the community. The memorandum also rescinded prior guidance as unnecessary. Nothing in the federal prosecutorial principles cited in this memorandum, nor in the rescission of prior guidance provides for "target[ing]" any particular state.

2. Is the Department of Justice respecting the President's pledge to Senator Gardner? If it is, has the pledge had any effect on the Department's formal position on legal state marijuana programs?

RESPONSE: Please see my response to Question 1.

3. The Department of Justice has stated that in fiscal year 2017, the FBI was unable to access the content of approximately 7800 mobile devices. But without any additional information, it's hard to know what that figure means. Can you tell us how many of those devices had associated cloud backups or cloud data? Did you consult with the provider or third party vendors like Cellebrite or Grayshift to try and unlock all of those devices? If not, why?

RESPONSE: The FBI's Operational Technology Division (OTD) utilizes specialized techniques and capabilities to provide access to mobile devices at the request of field and headquarters investigative personnel. In April 2016, the FBI implemented a new collection methodology, which gathered data from three separate databases maintained by OTD. The FBI relied upon information from these databases to report publicly that approximately 7,775 devices could not be accessed in FY 2017, despite the FBI having the legal authority to do so. However, the FBI recently

became aware of flaws with the methodology implemented in April 2016, and has determined the previously reported FY 2017 statistics are incorrect. The FBI is currently conducting an in-depth review of how this over-counting previously occurred.

The FBI does consult with third party vendors to try and unlock the devices. The FBI uses third-party and in-house developed tools to unlock devices when it is determined that the use of the tool is forensically sound and can be completed within the scope and limitations of the legal authority. The FBI does use lawful process to obtain cloud service files when applicable. However, for a number of reasons, iCloud backup data is not a substitute for access to the device itself, as iCloud backups are neither a reliable or equivalent source for data.

4. How do you view the role of mentoring as a prevention tool that can make a real and credible impact on at-risk youth in the United States?

RESPONSE: The Department views mentoring as a promising strategy for preventing juvenile crime and reducing recidivism, especially when combined with other resources. Prevention activities such as mentoring must be paired with law enforcement against violent actors in a community in order to protect at-risk youth and help provide stable environments in which they can flourish.

5. As reflected by the increased funding for the Youth Mentoring Grant, the subcommittee is taking steps to address the impact of the opioid epidemic on our communities, especially our youth. How does the Department intend to prioritize youth opioid prevention with the additional dollars appropriated in FY 18 and ensure it gets to community groups doing this important work, such as Boys & Girls Clubs?

RESPONSE: Responding to the opioid abuse epidemic that is threatening the nation's communities is one of the Department's top priorities. The Department looks forward to working with Congress and its state, local, and tribal partners to develop effective responses to the threats posed by opioid addiction and abuse.

In FY 2018, reflecting this priority and in response to the increase in the mentoring appropriation, the Office of Justice Programs' (OJP) Office of Juvenile Justice and Delinquency Prevention (OJJDP) added two new funding categories to its Mentoring Opportunities for Youth solicitation (<https://www.ojjdp.gov/grants/solicitations/FY2018/MentOpps.pdf>). These categories include Mentoring Strategies for Youth Impacted by Opioids (Category 4) and Statewide and Regional Mentoring Initiative for Youth Impacted by Opioids (Category 5).

6. The Department of Justice recently introduced rules that changed how applications for COPS grants would be scored; awarding additional points to police departments that agree to cooperate with federal immigration officials. In effect, withholding this money from jurisdictions that do not comply with these rules. At the same time, the Department continues to propose sweeping cuts to the COPS hiring program, which funds new positions for law enforcement officers across the country. At a time when our country is reeling from instance after instance of mass violence, why is the Department making it harder for communities in need to access these grants? Rather than picking winners and losers, shouldn't we be focused on making sure these valuable resources go to the communities that need them most?

RESPONSE: These issues are the subject of ongoing litigation, and it is the longstanding policy of the Department not to discuss ongoing litigation. Generally, the Department is committed to protecting public safety and supporting its law enforcement partners across the country. Part of this support is making sure criminal aliens are not released back onto the streets and making sure state and local law enforcement can transfer the custody of these criminal aliens in a safe environment. The Department will continue to promote responsible behavior by its state and local partners through lawful and appropriate measures.

7. Face recognition technology has become prevalent in criminal justice systems across the United States, both at a state and federal level. While this technology has the potential to assist law enforcement officers to identify suspects or missing children sooner, there are legitimate concerns over the implicit bias associated with facial recognition technology and the likelihood for error. For example, researchers at MIT recently found that the three leading facial recognition technologies (IBM, Face++ and Microsoft) were more effective at identifying the gender of people with lighter skin than darker skin. It is not hard then to envision a situation where law enforcement using AI could misidentify an innocent person. Does the Department plan to issue guidance on how federal and state agencies should approach using this technology? How would this policy safeguard against bias in facial recognition technology?

RESPONSE: The FBI Criminal Justice Information Services Division (CJIS) has established requirements and policy for accessing the FBI's Next Generation Identification – Interstate Photo System (NGI-IPS) by law enforcement agencies. The NGI-IPS is the FBI's gallery of criminal photos (i.e. "mugshots") associated with ten-print fingerprints taken upon arrest. CJIS created the NGI-IPS Policy and Implementation Guide, which provides guidance to law enforcement for the appropriate use of the NGI-IPS. The law enforcement agency must follow the NGI-IPS policy, as well as act in accordance with the applicable laws and policies of its relevant governmental jurisdiction.

In addition, the law enforcement agency must comply with the CJIS Security Policy and the CJIS User Agreement. Both of these documents mandate requirements that ensure the protection of criminal justice and personal data. Law enforcement

agencies also must protect the Constitutional rights of all persons and are expressly prohibited from searching photos against the NGI-IPS that were collected in violation of an individual's First or Fourth amendment rights.

Based on similar questions raised by the House of Representatives Committee on Oversight and Government Reform in March 2017, the FBI is consulting with the National Institute of Standards and Technology (NIST) to request testing of face recognition technology to assess accuracy across racial, gender, and age lines. Based on NIST's test results, the FBI will take appropriate actions on NIST's recommendations.

The Honorable Matt Cartwright
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
Department of Justice FY 2019 Budget Request

1. CIVIL RIGHTS

Despite the growing salience and bipartisan support for a wide array of civil rights issues, you have steered the DOJ away from prioritizing civil rights issues. This has led a number of states, including my own, to sue the DOJ.

The most recent suit against you was after you revoked legal guidance designed to protect the disabled, minorities, and the poor. At the time, Reuters quoted you as saying that this guidance was “unnecessary, inconsistent with existing law, or otherwise improper.” But part of this guidance was intended to ensure state and local governments accommodate disabled employees and integrate them into the work place. DOJ’s FY17 budget proposal made no mention whatsoever of fighting discrimination against people with disabilities.

As a matter of fact, your proposed budget request would eliminate 27 positions, including 11 attorneys, from the Civil Rights Division. And by incorporating the Community Relations Service into the Civil Rights Division with no additional funding, you are exacerbating the burden placed on the Civil Rights Division. You are doing all of this at a time when the FBI reported a rise in hate crime incidents each of its past 3 annual reports. I am troubled by this.

Furthermore, by closing the Office for Access to Justice, you have diminished criminal justice reform efforts to ensure that poor people are not incarcerated merely because they are unable to pay fines and fees.

- a) Why – when it comes to Civil Rights – would you want to cut corners in the budget and eliminate guidance which addresses issues that are growing more problematic each year?

RESPONSE: As one of its highest priority areas, the Civil Rights Division continues to aggressively combat hate crimes, pursuing individuals that target individuals on the basis of race, color, national origin, religious beliefs, gender, gender identity, sexual orientation, or disability. On June 27, 2018, the Department announced a thirty-count hate crimes indictment against James Alex Fields, Jr., arising out of the events in Charlottesville, Virginia, on August 12, 2017. On June 29, 2018, the Department issued a press release detailing its hate crimes enforcement efforts, including that since January 2017, the Department has indicted 32 defendants involved in committing hate crimes and secured convictions of 32 defendants for hate crimes incidents.

The Division also continues to enforce civil rights laws protecting individuals with disabilities, recently resolving discrimination claims under the Americans with Disabilities Act against numerous entities, including the City of Denver, Atlantis Events, Inc., and Learning Care Group, Inc.

With regard to your inquiries about the Civil Rights Division's budget and staffing, the Department is working with all Divisions, including the Civil Rights Division, to ensure that the Department and its components are efficiently managing its resources. The Department, in line with the President's directives, asks all of its components to do more with less in order to be good stewards of the taxpayers' dollars. Pursuant to Executive Order 13781 and consistent with Administration priorities, the Department proposed several organizational changes to improve its efficiency, effectiveness, and accountability. Additionally, the Department is assessing whether the consolidation of certain IT infrastructure activities will achieve economies of scale, reduce costs and improve the delivery of IT services.

On February 8, 2018, the Department notified the House and Senate Appropriations Subcommittees on Commerce, Justice, Science, and Related Agencies of the Department's proposed reorganization of the Office for Access to Justice (ATJ). The reorganization sought to improve its functions by moving its principal policy and legislative responsibilities to the Office of Legal Policy (OLP). Integrating those functions with ongoing operations of OLP has afforded better visibility for programs and ensures policy proposals are developed with consideration of other policy work performed by OLP. The reorganization strengthens the Department's ability to provide access to legal resources.

- b) What specific actions is the DOJ taking in order to guarantee that the poor, minorities, and the disabled are treated with the same dignity and justice as any other U.S. citizen?

RESPONSE: Please see my response to Question 1a.

2. LGBTQ CIVIL RIGHTS

You have a record that demonstrates how you believe the law ought to treat LGBTQ Americans.

- You opposed the repeal of the Don't Ask, Don't Tell policy that forbids LGBTQ Americans from openly and bravely serving our country in our armed forces.
- You criticized the Supreme Court decision in *Lawrence v. Texas* that struck down laws banning same-sex relations.
- And as recently as 3 years ago, you also decried the Supreme Court decision in *Obergefell v. Hodges* that legalized same-sex marriage.

Your actions as Attorney General have continued to demonstrate how you believe the law ought to treat LGBTQ Americans.

- When you took over the Department of Justice, one of your first actions was withdrawing protections for transgender students in public schools.
- In October of last year, you announced a reversal in policy and stated that Title VII of the Civil Rights Act does not protect LGBTQ Americans.
 - This is deeply troubling to me because transgender children are especially vulnerable to discrimination, bullying, and threats of violence.

- In fact, the entire American LGBTQ community faces higher rates of discrimination, homelessness, depression, physical violence, and suicide.
 - And over 70% of Americans want their LGBTQ family and friends to be protected from harm and discrimination.
- a) The DOJ and Equal Employment Opportunity Commission (EEOC) both enforce Title VII. The EEOC continues to enforce Title VII against those who discriminate against LGBTQ individuals, even though Justice does not.
- Did Justice consult with EEOC before changing course?
 - In 2015 Justice filed a brief in *Obergefell* citing unequal treatment by law enforcement, hate crimes, and significant workplace discrimination against LGBTQ individuals to support the argument in favor of legal protections for LGBTQ Americans. Have the facts changed to support a different approach in 2018?

RESPONSE: Pursuant to longstanding policy and practice, the Department does not comment on the internal deliberations concerning litigation positions and decisions. In addition, whether “the facts [have] changed” is irrelevant to the meaning of laws such as Title VII. The Department must interpret duly enacted laws as written by Congress. To that end, the Department’s litigation positions and October 4, 2017, Memorandum are the products of careful analysis of the relevant statutes and caselaw.

- b) Last year you issued guidance on religious liberty. You wrote “except in the narrowest circumstances, no one should be forced to choose between living out his or her faith and complying with the law.” I am concerned that this guidance could be twisted and used as a tool of discrimination against LGBTQ individuals, persons of color, interracial couples, and members of religious minorities.
- Could this guidance permit a FEMA employee to refuse to provide disaster relief to a same-sex married couple because that employee believes that homosexuality is a sin and marriage should be between one man and one woman?
 - How would you direct the DOJ to respond if a complaint was made to the civil rights division about this hypothetical denial of assistance?

RESPONSE: The Department does not comment on hypothetical situations that may arise and implicate the Department’s enforcement responsibilities. As a general matter, however, the Department would process any such complaint in the same way that it processes similar complaints.

- c) The EEOC isn’t the only federal body that has afforded Title VII protections to LGBTQ Americans. Numerous federal district and circuit courts have held that Title VII protects individuals from workplace discrimination on the basis of sexual orientation and gender identity.
- Why did your agency file amicus briefs in *Zarda v. Altitude Express* and *Masterpiece Cakeshop v. Colorado Civil Rights Commission*? The court did not solicit an amicus in either case, and neither case directly involved the DOJ.
 - What actions has DOJ taken to ensure it continues to protect LGBTQ Americans, consistent with the laws of the United States as interpreted by our Federal Courts?

RESPONSE: Pursuant to longstanding policy and practice, the Department does not comment on the internal deliberations concerning litigation positions and decisions.

As explained above, the Department takes seriously its obligation to enforce the law, especially those concerning civil rights. For example, over the past year, the Civil Rights Division has prosecuted numerous defendants who have committed or are alleged to have committed hate crimes against LGBTQ Americans. These defendants include: a West Virginia man alleged to have used a dangerous weapon to hit a woman because of her actual or perceived sexual orientation; four Texas men who used Grindr, a social media dating platform for gay men, to meet and assault the victim; a Virginia man who assaulted his co-worker at an Amazon Fulfillment Center and admitted that he did so because of his co-worker's perceived sexual orientation; and a Mississippi man who murdered Mercedes Williamson because she was a transgender woman. In addition, the Department cross-designated a Civil Rights Division attorney to help Iowa prosecutors prosecute a man charged with murdering a transgender high school teenager.

3. OFFICE OF VIOLENCE AGAINST WOMEN

The DOJ's Inspector General revealed that department officials are mishandling sexual harassment complaints and this issue requires "high level action." DOJ gave some perpetrators little discipline and, surprisingly, later awarded bonuses or performance awards to those same perpetrators. This problem involves people from presidential appointees to U.S. attorneys, and a deputy assistant attorney general.

- a) While the IG's office investigates these allegations, the Department decides which disciplinary actions to take. Are you satisfied with DOJ's response thus far? What steps will you take to achieve a "zero-tolerance" environment within the DOJ?

RESPONSE: On April 30, 2018, the Department issued a memorandum directing heads of components to address sexual harassment and sexual misconduct allegations with vigilance and seriousness. *See <https://www.justice.gov/policies-and-directives-effect-relating-and-duty-conduct-including-sexual-misconduct>*. The directive was the result of the Department's intensive efforts to address 2017 findings by Inspector General Horowitz regarding how the Department handles claims of sexual harassment and sexual misconduct. Components were directed to address such allegations through:

- Enhancing the management, investigation, and tracking of allegations of sexual harassment and sexual misconduct;
- Informing employees of how they can report allegations of sexual harassment or sexual misconduct;
- Ensuring that allegations are reported to component management, security offices, and OIG under applicable policies;

- Keeping employees informed of the progress of the component’s reviews of their allegations;
- Proposing and imposing consistent and serious discipline for substantiated allegations;
- Considering ongoing investigations of sexual harassment and misconduct allegations or prior disciplinary actions for sexual harassment or misconduct when making decisions about awards (monetary and otherwise), public recognition, or favorable personnel actions (such as promotions); and
- Ensuring that employees are aware of the Department’s policies regarding harassment, sexual misconduct, and other related on-and off-duty conduct.

With respect to disciplinary actions, the directive urges components to propose strong and meaningful disciplinary action to address substantiated allegations. For example, a penalty of at least a 15-day suspension (up to removal, including a demotion) should be proposed where a substantiated incident of sexual harassment or misconduct involves aggravating factors (such as sexual assault, stalking, repetition, quid pro quo for official actions, any form of voyeurism such as peeping, or retaliation for reporting prior misconduct); or where the subject has a supervisory role vis-à-vis the victim or was previously disciplined for sexual harassment or misconduct.

Finally, the directive provides for annual reporting and accountability, which will provide Department leadership greater visibility into how allegations of sexual harassment and sexual misconduct are handled.

- b) The Director of the Office of Violence Against Women (OVW) runs a budget of more than \$450 million and is supposed to be the Administration’s leading voice on domestic and sexual violence, here in the U.S. and abroad. This position remains unfilled to this day. This vacancy is especially glaring against the backdrop of assault allegations within the Administration and throughout the United States.
- What has led to the delay in nominating someone for this position and when will you fill this vacancy?

RESPONSE: The Department takes very seriously any assault allegations. Any kind of sexual assault or harassment is unacceptable.

On June 18, 2018, the President nominated Shannon Lee Goessling of Florida to be the Director of the Office on Violence Against Women at the Department of Justice. Ms. Goessling submitted her Senate Judiciary Questionnaire to the Senate Judiciary Committee on June 27, 2018. Ms. Goessling’s nomination remains pending before the Senate Judiciary Committee. The Department hopes she will be confirmed as soon as possible. While Ms. Goessling’s nomination is pending, Katharine T. Sullivan is serving as the Office’s Acting Director.

4. ELECTION INTEGRITY

Virtually all Americans are concerned that the Russian government interfered in the 2016 election. The January 2017 National Intelligence Council's declassified version of "Assessing Russian Activities and Intentions in Recent US Elections" described how – through disinformation – Russia amplified political division between Americans. It also asserts that Russia will likely use the lessons learned from 2016 to deploy even more effective methods of undermining the U.S. elections in 2018.

Furthermore, the Director of the National Security Agency (NSA) Admiral Rogers acknowledged that the response so far has been insufficient in deterring Russian electoral interference. "They haven't paid a price, at least, that has significantly changed their behavior," Rogers said.

In this year's election, we could be subject to a wide range of attacks including:

- denial-of-service attacks on state election systems;
- website defacements;
- manipulation of vulnerable voting machines and precinct electoral computers;
- distortion of vote tallies sent from counties to states;
- vast manipulation of social media and the spread false information, as we saw in 2016;
- And the alteration of names or birthdates on voter rolls.

The last one could lead to true chaos. Small and hard-to-detect changes in the rolls would lead to massive confusion when voters would be turned away en masse on Election Day. It is hard for any of us to truly comprehend the threat to our democracy if millions of voters could not cast a ballot because of hacking.

- a) With the mid-term election less than a year away, what concrete steps is DOJ taking to protect the integrity of our electoral system? Which of these threats is most concerning to you and what contingencies have you put in place to address it?

RESPONSE: The Department takes any threat of interference with our electoral system seriously and is committed to using all of our authorities to respond. To underscore this priority, in November 2017, the FBI established the Foreign Influence Task Force ("FITF"), which is responsible for coordinating FBI investigations concerning foreign influence operations. The FITF integrates FBI's cyber, counterintelligence, counterterrorism, and criminal law enforcement resources to ensure that the Department better understands the threat presented by evolving foreign influence operations, that the Department's efforts are coordinated with other federal agencies, and that the Department effectively shares appropriate information with state and local officials and the private sector.

The Department's investigations can lead to criminal charges, such as the indictment of thirteen Russian actors allegedly associated with the Internet Research Agency. These investigations may also reveal information that can support other U.S. government agencies' actions, such as financial sanctions or diplomatic and intelligence efforts. They can also produce information about threats and vulnerabilities that we can share, consistent with Department policy, with State and local election officials,

social media providers, political organizations, or other potential victims or targets in an effort to disrupt the activity or harden the target. Finally, information developed in our investigations can in some circumstances be used to help protect the public by exposing the nature of the foreign influence threat.

In July, the Attorney General’s Cyber Digital Task Force published its report that provides the Task Force’s findings and recommendations regarding this threat. The report discusses the nature of the threat and how the Department should address it. A copy of the report is available at: <https://www.justice.gov/cyberreport>.

- b) Would you advise that Congress legislate certain minimum federal standards for the cybersecurity of our election systems to address these myriad threats?

RESPONSE: The Department is pleased to work with Congress to assess whether legislation would be helpful to address the problem of malign foreign influence operations, including ones that threaten the integrity of election systems. The Department recommends consulting the Department of Homeland Security regarding any proposals relating to the security of election infrastructure.

Maintaining an election’s integrity requires not just exclusion of voter fraud but inclusion of all willing voters. Voting should be more secure and more accessible.

Since your appointment as Attorney General, the DOJ has taken a number of stances that directly and indirectly suppress the vote of the poor and minorities.

- Under your leadership, the DOJ withdrew its opposition to a Texas’ voter ID law that was ruled by a judge to effectively disenfranchise poor and minority voters who face difficulties obtaining IDs.
- Under your leadership, the DOJ withdrew its objections to Ohio purging voters from the rolls for missing an election.
- And, under your leadership, voters’ time and money was wasted on a “Voter Fraud Commission” that was ultimately disbanded because the evidence shows over and over again that voter fraud in this country is negligible.

Since the year 2000 this country has only seen 633 alleged cases of voter fraud and investigations of voter fraud have shown that one is more likely to be struck by lightning than impersonate another person at the polls. Voter suppression, on the other hand, is a very real issue. On Election Day in 2016, there were more than 5,500 calls reporting voter intimidation by 9:30am.

- c) Why did you decide to withdraw the DOJ’s opposition in both of these cases, especially when it is strikingly apparent that each of these voting restrictions will drastically hinder the vote, especially for those Americans in minority groups that have had their vote restricted in the past?

RESPONSE: Pursuant to longstanding policy and practice, the Department does not comment on the internal deliberations concerning litigation positions and decisions. It is worth noting, however, that the Fifth Circuit agreed with and adopted the Department's position in *Veasey v. Abbott* (Texas voter ID) on April 27, 2018. It is also worth noting that the Supreme Court agreed with and adopted the Department's position in *Husted v. A. Philip Randolph Institute* (Ohio voter rolls) on June 11, 2018.

After the Supreme Court struck down Article 5 of the VRA, many states took measures to tighten restrictions on voters.

- d) Can we count on the DOJ to support Congressional efforts to strengthen the VRA, and prevent racially or politically motivated coercion at the polls?

RESPONSE: The Department will vigorously enforce all duly enacted and constitutional laws passed by Congress.

5. BUREAU OF PRISONS: UNFILLED POSITIONS AND UNDERSTAFFING

Upon taking office on January 20, 2017, the Trump Administration instituted a hiring freeze across the federal government. The Department of Justice has since lifted the moratorium for other DOJ agencies, but has maintained the hiring freeze for BOP. Earlier this year, BOP notified its installations that it is eliminating more than 6,000 unfilled congressionally authorized positions, which they contend have been vacant for a while. However, since BOP has been under a DOJ self-imposed hiring freeze, BOP has not been able to fill any vacancies for more than a year, which has resulted in thousands of additionally funded positions being left unfilled.

Additionally, the inmate to correctional officer ratio is currently 8.3 to 1, a level that is unsafe for staff. While the 8.3:1 ratio is Agency-wide, at some medium-, low-, and minimum-security facilities staff are supervising hundreds of inmates alone. Staffing needs also vary widely across the 122 federal prisons operated by BOP, and the needs at medium- and high- security institutions are different from those at low security facilities. The hiring freeze has limited BOP's ability to appropriately staff its facilities across the United States, particularly hiring of correctional officers at medium- and high-security facilities, which has resulted in large scale contraband introductions (e.g. cellphones, K-2, etc.). For example, more than 1,100 cell phones were confiscated at Ft. Dix, NJ, and dozens of inmates brazenly walk away from camps to bring contraband on federal property daily.

- a) I understand that the Bureau of Prisons notified installations earlier this year to expect a cut of 6,000 positions. Why is BOP planning to cut this positions given the existing, unsafe inmate to correctional officer ratio of 8.3 to 1?

RESPONSE: As noted in the FY 2017 Department of Justice Spend Plan, BOP began the process of removing 5,156 vacant and unfunded positions in FY 2017; many of these positions have been vacant for years. The proposal to cut additional positions promotes efficiency in light of the declining inmate population and consequent decline in institution crowding from 36 percent at the end of FY 2013 to the current level of 14 percent. The BOP will continue to operate safe and secure institutions with the resources provided.

- b) Why is DOJ seeking to eliminate 989 FTEs—actual filled positions—in the FY 19 Budget request for BOP when that same request shows a projected increase in the inmate population?

RESPONSE: The proposal to cut an additional 989 FTEs promotes efficiency. The FY 2019 request includes administrative reductions, to: adjust the inmate to staff ratio at the BOP's institutions in light of the declining inmate population and consequent decline in institution crowding; close two standalone minimum security camps and transfer the inmate population to satellite camps and; realign regional offices to remove redundancies and focus efforts on mission accomplishment at the institution level.

- c) Given the current unsafe inmate to correctional officer ratio, when can you definitively ensure that all authorized positions will be filled?

RESPONSE: The BOP has worked diligently to enhance its recruitment efforts to increase its staffing level. As of May 26, 2018, the BOP has 34,431 staff onboard funded through its Salaries and Expenses appropriation. The BOP's staffing plan calls for 37,472 staff onboard by the end of FY 2018. The BOP will continue its recruiting efforts to hire the best qualified staff available.

- d) What hasn't the internal hiring freeze been lifted for BOP, as it has been for most other law enforcement agencies across the Department of Justice?

RESPONSE: In accordance with the Administration's freeze directive, the Department of Justice has limited its hiring exemptions to the positions required to accomplish our national security and public safety responsibilities. In the case of BOP, DOJ is permitting hiring to the staffing level existing on January 22, 2017. Within that overall level of staffing, institutions are exempt from the hiring freeze and BOP has flexibility to hire the institution positions it deems most critical, at the locations it deems most critical.

The BOP will continue to closely monitor its staffing levels during this period of managed hiring such that we ensure the continued safety and security of BOP employees, inmates, and the public.

6. BUREAU OF PRISONS: INMATE ESCAPES

There are countless examples of inmate on inmate assaults and inmate on staff assaults at federal prisons. There is widespread evidence of escapes from the high security facility USP Atwater in California where the Warden didn't timely notify local authorities or the FBI of a high security inmate escape. Two dangerous inmates were caught between the fences at U.S. Penitentiary Lee in Virginia. An inmate walked away from FCI Lompoc in March 2018, Three inmates have escaped from federal penitentiaries in the first three months of 2018, and 12 have escaped since 2015.

- a) What are you doing regarding staffing of funded positions to put a stop to this threat to public safety?

RESPONSE: Recruitment efforts are continuously being monitored and evaluated to ensure that funded positions are filled as quickly as possible. As of May 26, 2018, the BOP has 34,431 S&E staff onboard. The BOP's staffing plan calls for 37,472 staff on board by the end of FY 2018. The BOP will continue its recruiting efforts to reach its planned staffing goal.

- b) Are these escapes and other incidents a direct result of the cutting of staff, closing of gun towers, and cutting back of perimeter patrols? If not, to what can they be attributed?

RESPONSE: An escape from USP Atwater was effectuated on May 12, 2017. Staff became aware of the incident on May 12, 2017, at 8:15 p.m. The inmate was apprehended on May 13, 2017, at 8:09 p.m. without incident. An After Action Review found staff complacency and staff oversight resulted in a lapse in security. Two inmates attempted to escape from USP Lee on May 30, 2014. The perimeter security, including the fence alarm and perimeter patrols effectively responded to the situation and halted the escape attempt. Additionally, an inmate walked away from an unsecured facility (camp) in Lompoc. There have been no escapes from secured facilities since May 2017.

7. BUREAU OF PRISONS: AUGMENTATION

BOP routinely uses a process known as augmentation, in which non-correctional staff such as a teacher, plumber, or other prison staff are assigned custody responsibilities to meet staffing needs. This is unsafe for these non-correctional officers who were not hired to work in custodial duties daily. It takes them away from their assigned duties and leaves those jobs undone for the day. It also reduces access to programming, recreation, and education initiatives, which are key to maintaining safe facilities and reducing recidivism.

Report language in the FY18 omnibus funding bill says, "The Committee directs the BOP to curtail its overreliance on augmentation and instead hire additional full-time correctional staff before continuing to augment existing staff. BOP is further directed to submit quarterly reports to the Committee on the inmate-to-correctional officer ratios at each facility."

- a) In the House Appropriations Committee Report on the FY18 CJS Appropriations bill, the Committee directed the BOP to curtail its overreliance on augmentation and hire additional full-time correctional staff. What is DOJ doing to ensure BOP fully complies with the Congressional directive to curtail augmentation?

RESPONSE: In FY 2018, the BOP has hired 311 new correctional officers and lost 260 correctional officers through attrition. Additionally, the Consolidated Appropriations Act, 2018 provides funding to hire an additional 583 correctional workers, of which 295 are for the activation of U.S. Penitentiary Thomson. The BOP will continue to work towards hiring and retaining correctional officers.

- b) The omnibus appropriations bill was signed into law on March 23, 2018. What direction has the DOJ given to BOP to ensure their wardens fully comply with the Congressional directive to curtail augmentation and hire additional full-time correctional staff?

RESPONSE: The DOJ is permitting the BOP to hire to the staffing level existing on January 22, 2017. Within that overall level of staffing, BOP has flexibility to hire the institution positions it deems most critical, at the locations it deems most critical.

The BOP will continue to closely monitor its staffing levels during this period of managed hiring such that we ensure the continued safety and security of BOP employees, inmates, and the public. The safety of staff, inmates, and the public is the highest priority for the BOP. When an insufficient number of correctional officers are available to cover mission critical correctional posts, the BOP may assign non-custody staff as officers to reduce the need to vacate posts deemed critical for the safety and security of the institution. Staff assigned to correctional facilities are law enforcement officers and are considered correctional workers first, regardless of their occupation. All staff are trained accordingly and are expected to perform law enforcement functions, during routine and non-routine situations. Staff correctional responsibilities precede all others.

To date for FY 2018, the BOP has hired 311 new correctional officers. At the same time, 260 correctional officers have left the BOP. In addition, the FY 2018 Enacted budget provides funding to hire an additional 583 correctional officers, of which 295 are for the activation of USP Thomson.

8. BUREAU OF PRISONS: INCREASING UNIT OFFICER STAFF AT HIGH SECURITY INSTITUTIONS

Correctional officer Eric Williams was brutally murdered at USP Canaan, when he was stabbed by an inmate over 200 times while locking inmates into their cells on the evening of February 25, 2013. He was working in the housing unit alone, supervising more than 120 dangerous felons by himself. The FY16 appropriations bill that was signed into law included language directing BOP to use \$32,000,000 to add an additional correctional officer in each high security housing unit during all three shifts.

- a) Despite this language, there are still high-security housing units that only have one officer at a time. Why has BOP not complied with the law to ensure there are at least two correctional officers in each security housing unit during every shift?

RESPONSE: Verification has been received from all Regional Administrators that there are two officers assigned to all housing units at high security facilities.

- b) What steps are is BOP taking to full comply with the directive that every high-security housing unit has two officers on duty at all times?

RESPONSE: Current staffing guidelines require two officers to be on duty in housing units, on all three shifts, at high-security facilities.

For the Second Quarter of FY 2018, the BOP continues to meet the requirement for an additional correctional officer at each high-security facility housing unit.

9. BUREAU OF PRISONS: BOP USE OF CONTRACT PRISONS

In August 2016, the DOJ Inspector General issued a report entitled, “Review of the Federal Bureau of Prisons Monitoring of Contract Prisons.” The report found, “that in a majority of the categories we examined, contract prisons incurred more safety and security incidents per capita than comparable BOP institutions” and “that the BOP needs to improve the way it monitors contract prisons.” For example, none of BOP’s procedures for monitoring contract compliance with regard to health services measured whether inmates actually received basic medical care. The OIG cited numerous incidents and made four recommendations to improve monitoring and oversight of contract prisons.

On April 3, the *New York Times* published a story exposing the conditions inside a private prison in Mississippi entitled, “Inside a Private Prison: Blood, Suicide and Poorly Paid Guards.” The *New York Times* published another story on April 10, “Escapes, Riots and Beatings. But States Can’t Seem to Ditch Private Prisons.” Both of these reports shined light on the terrible conditions in which inmates are housed, the lack of medical care given, and the lack of corrections staff, which results in a lack of basic safety and security being provided. These reports are similar to a 2016 story in *Mother Jones* about the deplorable conditions in federally contracted private prisons. These stories highlight the result of privatizing an inherent government function, and the negative consequences of introducing a profit motive into the care and housing of inmates. While the prison profiled in the first story is a state prison, the company that operates it, Management and Training Corporation, operates two federal prisons: CI Giles W. Dalby in Texas and CI Taft in California.

- a) Given the findings of the August 2016 DOJ IG report on contract prisons and the recent stories in the *New York Times*, why do you think it’s a good idea to continue increasing the use of private prisons—as directed in the memo Assistant BOP Director Frank Lara issued on January 24, in response to your rescission of the August 18, 2016 memo from then-Deputy Attorney General Sally Yates directing the Bureau of Prisons to reduce and ultimately eliminate the use of privately operated prisons?

RESPONSE: BOP continues to rely on private prisons to house low security criminal aliens as a cost-effective means of managing the overall federal prison population. We exercise thorough oversight of such institutions to ensure compliance with the performance standards established in the contract. The memo from Assistant Director Lara was not related to increasing contracts, rather it was to ensure BOP was making use of beds for which BOP is being billed.

- b) What are you doing to ensure that safe and humane conditions exist in the private federal prisons contracted by BOP?

RESPONSE: BOP maintains staff on-site at our private contract prisons who provide daily oversight of the operations to ensure compliance with the performance standards established in the contract. In addition, BOP headquarters staff performs regular audits of each private prison to ensure compliance with all required standards.

- c) BOP has available bed-space at many of its facilities, and private prisons are only to be used to reduce overcrowding. Why hasn't BOP started bringing inmates back to BOP facilities given this available bed space, including more than a dozen closed buildings and housing units in BOP facilities?

RESPONSE: The private contract facilities house low security inmates. BOP low security prisons are currently 21% above rated capacity. As a general matter the private prisons operate at less cost to the taxpayer because they are required to provide only limited reentry programs to the inmates who will not be released in the United States.

- d) The FY 2018 omnibus appropriations bill included report language directing BOP to provide Congress with a detailed report on its use of private prisons:
- i. "Within 90 days of enactment of this act...to provide a report to the Committee describing BOP's use of contract facilities for fiscal years 2016 and 2017. The report shall include the number of contract facilities utilized by BOP, to include the companies providing these services, the status of these contracts explaining any terminations or renewals during the periods under review, and compliance status of any remedial or corrective actions recommended by BOP or OIG for each company and contract; details of inspections, evaluations, or incident reports, including the number of safety and security incidents at each facility, whether these incidents resulted in injury or death, and any evaluations of incidents conducted in response to the OIG recommendation, issued by BOP or OIG regarding any of these facilities during the period under review, including a current analysis of the condition of each facility under contract and whether BOP believes that such facilities remain suitable for use; the percentage of both U.S. citizens and foreign nationals housed in each facility; verification of whether each facility is providing basic medical services such as medical exams and immunizations; verification of actual correctional officer staffing levels as compared to contracted levels; a detailed accounting of the progress made in addressing the OIG's recommendations; and any information regarding announced changes in contract specifications for current or future contracts for each facility, including bed capacity limits, and the justification for and budgetary impact of such change."

The report is due on June 23, 2018 describing your use of contract prisons over the last two years. Will BOP be in compliance with the law and provide that report and all the data Congress is seeking by the June 23, 2018 deadline?

RESPONSE: BOP has drafted the report and it is in the clearance process.

10. ROLE OF THE FBI

In December, the President wrote in a tweet: “After years of Comey, with the phony and dishonest Clinton investigation (and more), running the FBI, its reputation is in Tatters - worst in History!”

As we know, this is just one of many tweets and comments coming out of the administration that directly and undeniably attacks and undermines the credibility of the FBI.

Constant attacks like these tweets undoubtedly affect morale at the FBI. Morale levels are at the lowest point in years at the Justice Department as a whole and specifically the FBI, according to a survey conducted by the nonpartisan Partnership for Public Service. The Partnership’s CEO said that when an agency’s morale goes up or down, it is “always about the leadership of the organization.” The current FBI Director, Christopher Wray, insisted that the FBI’s reputation is not “in tatters.”

- a) It is vital to the morale of your employees and the success of the FBI that you, as head of the Department of Justice, support them and defend them from any baseless attack. They need the Attorney General to have their back. Whose assessment of the FBI is correct? Is it in tatters?

RESPONSE: The FBI is one of the Nation’s premier law enforcement organization. Its employees understand the Bureau’s mission and responsibility to ensure the safety and well-being of the public they serve.

- b) Would you say that the FBI’s reputation is the worst it has been in the history of the Bureau?

RESPONSE: The FBI is one of the Nation’s premier law enforcement organization. Its employees understand and will remain focused on the Bureau’s mission, which is to protect the American people and uphold the Constitution of the United States.

11. OPIOID EPIDEMIC

I’d like to commend you for some of the work you have been doing to combat the opioid crisis, which takes 116 American lives every day. My home state of Pennsylvania has borne a disproportionate share of tragedy. We lost nearly 5,000 lives last year. I know your Justice Department has been doing what they can to crack down on illicit drug dealers and unscrupulous doctors and pharmacists. I am especially happy to see the results of your 45-day enforcement surge, and your announcement last week to put limits on national opioid production. There is a lot more work that we can do, and I hope we can work together to end this tragic epidemic.

- a) We agree that high-level drug dealers of heroin and fentanyl belong behind bars for a very long time. However, a long term study across all 50 states showed that increased incarceration did not decrease drug addiction or overdose rates.
- o How are you equipping our law enforcement agencies to distinguish between drug dealers and drug users? Between those who should be prosecuted, and those who simply need help and treatment?
 - o Incarceration does not help people who are addicted to opioids. Convictions lead to reduced employment and housing opportunities after leaving the criminal

justice system, making it harder for opioid addicts to recover and lead productive lives. In order to end the opioid epidemic, we must punish wrong-doers while helping their victims.

- What efforts have you made to divert opioid users and addicts out of the criminal justice system and toward treatment?
- Have you talked to the CDC or NIH about treatment and rehabilitation programs? What concrete steps can you commit to that will help people struggling with opioid addictions instead of criminalizing them?

RESPONSE: The Department of Justice’s opioid strategy includes a three-prong approach that addresses enforcement, diversion, and outreach. Regarding enforcement, all of the Department’s components, including the Drug Enforcement Administration (DEA), are focused on pursuing the most serious drug traffickers in communities as well as Transnational Criminal Organizations that produce, traffic, and distribute illicit substances including fentanyl and heroin. In pursuing these dealers, the Department’s chief goals are to disrupt supplies, destroy distribution networks, curtail drug availability, and deter other potential dealers.

The decisions about federal prosecution of individuals are ultimately made by the prosecutors in U.S. Attorneys’ Offices, after an assessment based upon the unique circumstances of the individual case and role of each potential defendant. Prosecutors’ discretion is guided by the Principles of Federal Prosecution outlined in the United States Attorneys’ Manual.

As to diversion of opioid users and addicts who are not trafficking, the vast majority of these offenders are handled by state or local authorities where they are often offered opportunities to participate in drug or diversion courts. While these specialty courts are far more common in the state system, where available, some U.S. Attorneys’ Offices do participate in federal drug or reentry courts.

BOP offers a drug abuse education program to every inmate in every one of their facilities. Those inmates whose records contain evidence of drug abuse are required to participate in the program. BOP provides both nonresidential and residential treatment programs to inmates and provided drug abuse treatment to more than 38,000 inmates in Fiscal Year 2017.

The Department’s Office of Justice Programs (OJP) plays a central role in supporting federal, state, local, and tribal law enforcement as they address the opioid crisis in the nation’s communities. Through the National Institute of Justice (NIJ), OJP supports federal, state, and local governments through capacity building under the Coverdell Forensic Science Improvement program to, among other things, improve forensic support for opioid and synthetic drug investigations. NIJ also supports research to provide federal, state, local, and tribal law enforcement new knowledge and tools to better address the opioid crisis. This includes research on illegal prescription drug market interventions, evaluation of drug-related manslaughter investigation guidelines, and an opioid metric intelligence platform that integrates Prescription Drug Monitoring Program (PDMP) and

other data for information sharing between law enforcement, medical examiners, and other agencies.

OJP is supporting efforts to implement effective diversion programs for non-violent offenders and improve coordination among law enforcement, public health, and safety agencies, treatment providers and other community stakeholders through the Comprehensive Opioid Abuse Program (COAP). Additionally, the OJJDP FY 2018 Opioid Affected Youth Initiative will fund sites to develop a data-driven coordinated response to identify and address challenges resulting from opioid abuse that are impacting youth and community safety.

- b) Naloxone is a safe, easy to administer medication that reverses opioid overdoses and saves lives. One life is saved for every 160 naloxone kits. I know that the President's Commission on Combating Drug Addiction and the Opioid Epidemic recommended that every law-enforcement officer in the country should be equipped with naloxone, and I fully agree with this suggestion.
 - What steps have you taken to ensure that federal, state, and local law enforcement officers have the tools, training, and support to accomplish this goal?

RESPONSE: The primary responsibility – and, indeed, the primary opportunities – to provide overdose intervention rests with state and local first responders who are nearly always first to arrive at overdose scenes. The Department and its components have conducted extended outreach to its state, local, and tribal law enforcement partners to encourage law enforcement agencies and first responders to train and equip their personnel with naloxone.

OJP published the Law Enforcement Naloxone Toolkit (<https://bjatta.bja.ojp.gov/tools/naloxone/Naloxone-Background>) to provide a clearinghouse for state, local, and tribal agencies interested in starting naloxone-related programs. Agencies may use funding from Byrne JAG formula grants or the Comprehensive Opioid Abuse Program to purchase naloxone and related equipment for law enforcement officers and train them in its use. Many communities heavily impacted by the opioid epidemic have equipped their first responders (as well as other public employees such as teachers) with naloxone.

- c) One harm-reduction approach that has worked in other countries is creating safe injection sites. These sites provide sterile needles, clean facilities, HIV and Hepatitis C testing, for opioid users. Medical professionals are at the ready to reverse an overdose, and social workers can link users with drug treatment programs. By creating safe environments, injection sites dramatically lower overdose deaths without increasing addiction or crime rates. They also benefit communities by keeping drug use and discarded needles off our streets and away from our children and families. Philadelphia has the highest rate of opioid deaths in the nation—four times the city's murder rate. One initiative Philadelphia is working on is creating a safe injection site. Other cities across the country, such as San Francisco and Seattle, are also working to achieve create their own safe injections sites.

- o Can the DOJ commit to working in partnership with state, local, and tribal governments—sharing federal expertise and resources—to start a pilot program for safe injection sites that have the potential to save thousands of lives?

RESPONSE: The Administration supports interventions that encourage treatment, create opportunities for treatment, and in some cases supports specific life-saving treatments, with the general aim of promoting recovery and moving people toward health and wellness. “Safe” injection sites and heroin maintenance programs do not meet those criteria. Government-sponsored injection sites are, in fact, utterly incompatible with the appropriate government response to the opioid epidemic: combatting the distribution of heroin and opioids, deterring unlawful heroin and opioid use, and helping those with opioid use disorder obtain treatment. There is no reliable evidence that supervised injection facilities promote these legitimate goals, reduce overdose deaths, decrease drug use, or lower drug-related crime rates.

Any facilitation of illicit drug use violates the Controlled Substances Act and, accordingly, would be subject to legal action. Facilitating drug use at a supervised injection facility would constitute the following criminal offenses:

- o **21 USC § 844 prohibits any person from knowingly or intentionally possessing an illicit controlled substance. Moreover, 18 USC § 2 prohibits any person from aiding or abetting another in the commission of a criminal offense.**
- o **21 USC § 856 prohibits any person or entity from maintaining or providing access to a drug-involved premises, such as knowingly opening, leasing, renting, or otherwise operating any facility for the purpose of manufacturing, distributing, or using any controlled substance.**

12. COPS PROGRAM

The DOJ budget request completely eliminates the COPS Hiring program. This program “provides funding to hire and re-hire entry level career law enforcement officers in order to preserve jobs, increase community policing capacities and support crime prevention efforts.”

Since its initiation, in my home state of Pennsylvania, the COPS program has supported police departments in Scranton, Wilkes-Barre, and Easton. Just this past year, Pennsylvania received \$1,125,000 from COPS to support responsibly staffed law enforcement throughout the state. It seems peculiar, if not hypocritical, that you espouse strong support for local law enforcement while cutting programs like COPS that focus on giving local police good paying jobs, encouraging community policing, and combatting the most relevant threats to our society.

- a) Last September, you spoke to a group of local police officers in Harrisburg, Pennsylvania which included the Police Chiefs from Scranton and Wilkes-Barre. You said, that the opioid epidemic was “a top priority” and “If we are going to reverse this kind of trend it will have to come...from state and local efforts.” Will eliminating funding for the COPS’ Anti-Heroin Task Force and Active Shooter Situations programs help them complete this mission?

RESPONSE: Eighty-five percent of our country's law enforcement is at the state and local level, and one of the Department's highest priorities is to support our state, local, and tribal law enforcement partners as they work daily to reduce violent crime in our communities. The President's Fiscal Year 2019 budget requests a total of \$99 million for the COPS Hiring Program (of this amount, there is \$64 million for hiring and \$35 million for set-asides). While this may be a reduction from previous years' funding, it is not a complete elimination of the program. The Department is committed to ensuring that every dollar appropriated for this program will be utilized to support our state, local, and tribal law enforcement partners.

The Department will be redirecting the COPS Office funding previously used for the Anti-Heroin Task Forces program and the COPS Active Shooter Training program. The Department is requesting funding for these initiatives in other components, including anti-opioid funding through the Drug Enforcement Administration and active shooter training funding through the VALOR Initiative of the Office of Justice Programs.

13. MICHAEL COHEN

In March 2017, you recused yourself from the investigation into Russian interference and said that you would steer clear of "any matters arising from the campaigns" for president. I applaud your dedication to avoiding conflicts of interest, especially in the face of excoriation from a President who would have had you act otherwise.

But, I am puzzled why – when you have clearly drawn a line in the sand about not participating in campaign investigation matters – you have declined to recuse yourself from the investigation into Michael Cohen, President Trump's personal lawyer.

- a) By staying involved in the Cohen probe are you entitled to briefings on the status of the investigation?
- b) Are you entitled to weigh in on specific decisions by prosecutors, including whether to pursue subpoenas and indictments?
- c) Did the Cohen investigation originate from a referral from Robert Mueller's work examining Russian interference? If so, wouldn't that make this a "matter arising from the campaign"?
- d) Did the President speak with you at any point about recusing yourself or remaining involved with the Cohen investigation?
- e) Mr. Cohen's investigation has clear ties to the Russian interference investigation and by remaining involved in this case, you are putting yourself in a potentially problematic ethical position. If the president asked you to divulge the information you have received via the briefings what would you do?
- f) What specifically makes this investigation an exception to all other investigations with ties to the Russian interference that you have recused yourself from?

RESPONSE: The Department has a long-standing policy not to confirm or deny the existence of investigations. This policy necessarily precludes any discussion recusals because to do so would confirm the existence of an underlying investigation. To the

**extent a matter comes to the attention of my office that may warrant consideration of
recusal, I review the issue and consult with the appropriate Department ethics officials.
I can assure you I am honoring my recusal in every case, in every matter that comes
before the Department of Justice.**

The Honorable Grace Meng
Subcommittee on Commerce, Justice, Science, and Related Agencies
Questions for the Record
Department of Justice FY 2019 Budget Request

1. Following reports earlier this month that you intended to terminate the Legal Orientation Program, on April 11th, I sent you a letter requesting:
 - a. all documents and communications relating to the halting or eliminating of LOP;
 - b. all existing analyses of the effectiveness of LOP;
 - c. all communications between or among officials from the Department of Justice, and any other office or entity inside or outside of the government regarding the halting or elimination of LOP; and
 - d. all documents, communications, and analyses relating to the impact that halting or eliminating LOP will have on detained foreign nationals.

Although I was pleased with your announcement yesterday that the Legal Orientation Program will continue while the DOJ conducts a review of the program, I still have serious concerns with how this decision was made in the first place, and what your future plans are for this program. Can you commit to producing the documents I've requested?

RESPONSE: A prior study regarding the LOP was conducted in 2012 by a single EOIR employee directly overseeing the administration and continuation of the LOP. That employee was neither an analyst, statistician, nor economist. Although the 2012 study was reviewed at the time by other individuals within EOIR and the Department of Justice, EOIR's analysts and contractors subsequently have been unable to replicate its results. Thus, EOIR no longer relies on the validity of that study in assessing the LOP. That study is available at https://www.justice.gov/sites/default/files/eoir/legacy/2013/03/14/LOP_Cost_Savings_Analysis_4-04-12.pdf

EOIR communicated to the LOP contractor, the Department of Homeland Security, and the Justice Management Division that the LOP was being paused on April 10, 2018. The Department has provided Phase I of its study to Congress. The LOP contractor is also conducting its own analysis but has not provided that to the Department.

2. The White House Legal Aid Interagency Roundtable was created from the work of the DOJ Office of Access to Justice. In the past, the Attorney General has been a co-chair of this roundtable. Do you plan to continue the work of this roundtable, and do you plan to continue as co-chair?

RESPONSE: The White House Legal Aid Interagency Roundtable (LAIR) was established by Presidential Memorandum. See Presidential Memorandum, Establishment of the White House Legal Aid Interagency Roundtable (September 24, 2015), available at: <https://www.justice.gov/lair/presidential-memorandum>. Pursuant to the Presidential Memorandum, the Attorney General continues to co-chair the Task Force with the Director of the Domestic Policy Council.

3. The number of immigrants going through the immigration court system with access to counsel is so low, that in my opinion, it constitutes a crisis. What steps are you taking to ensure that more immigrants are represented by counsel in their immigration court hearings?

RESPONSE: As of the midpoint of FY 2018, 68 percent of all cases in removal proceedings had representation and 84 percent of cases with a pending asylum application had representation. Under federal law, 8 U.S.C. § 1362, all respondents in removal proceedings have a right to counsel at no expense to the government, and EOIR adheres to the law. For unrepresented respondents, immigration judges advise them of the availability of pro bono legal services and ensure that they receive a copy of the list of pro bono legal service providers maintained by EOIR. An immigration judge may grant a continuance for a respondent to seek counsel.

4. The immigration judges union has spoken out forcefully against the imposition of case completion quotas on immigration judges, as have numerous former immigration judges. They state that the pressure on judges to meet quotas will *almost certainly* result in the infringement of on due process rights and will in fact worsen the backlog of pending immigration cases rather than mitigate it. How do you respond to these criticisms from your own judges? Also, if these quotas are imposed, what steps will you take to ensure that judges are not penalized for ensuring due process and access to counsel rights are protected when necessary?

RESPONSE: By regulation, immigration judges are required to adjudicate cases “in a timely and impartial manner,” and I expect immigration judges to meet this responsibility. Suggestions that immigration judges cannot render both timely and impartial decisions—even from other judges in the immigration judge union—create a false dichotomy that discredits the integrity and professionalism of the entire immigration judge corps, including the many immigration judges who can meet the performance measures. Accordingly, because I expect immigration judges to fulfill their duty to adjudicate cases both timely and impartially, I do not expect that they will infringe upon due process rights.

5. Two weeks ago, DOJ proposed removing questions regarding sexual orientation and gender identity for 16 and 17 year olds from the National Crime Victimization Survey, which is an important tool for collecting data on crimes against the LGBTQ community, which suffers from high rates of violence. LGBTQ-focused organizations have largely

opposed this change. Which organizations and stakeholders did DOJ consult when making this change to the survey? And, given the lack of support from the organizations that actually provide direct services to LGBTQ victims, will you reconsider this change to the survey?

RESPONSE: In FY 2016, without Federal Register notice or public comment period, the prior Administration added questions to the National Crime Victimization Survey regarding sexual orientation and gender identity for all respondents age 16 and older. Due to subsequent concerns about the sensitivity of these questions for adolescents, due to the fact that the sensitivity of these questions has not been tested, and because data collected did not yield any reliable statistical results on this population, the Bureau of Justice Statistics (BJS) determined that the minimum age at which these questions are asked should be raised to age 18.

For transparency, on April 11, 2018, BJS announced the proposal to remove these questions for 16 and 17 year olds in the Federal Register and provided the public with a comment period. This process provided stakeholders ample opportunity to share their views on the proposal.

BJS carefully reviewed and considered all comments received during the public comment period. BJS maintains its current position that the minimum age at which questions regarding sexual orientation and gender identity are asked should be raised to age 18 due to the sensitivity of these questions for youth ages 16 and 17. DOJ is working with OIRA on this proposal. In any event, BJS will continue to ask minors whether they think they were victimized because of their sexual orientation, a question that has been included in the NCVS for many years.

6. In the FY2018 omnibus, Congress awarded additional funds for the Missing and Exploited Children's Program, or MEC, and requested a spend plan for these funds due within 45 days of enactment. DOJ's Internet Crimes Against Children Taskforce, also known as ICAC, is funded under MEC. It does important work assisting state and local enforcement cyber units in investigating online child sexual exploitation. There is high unmet demand from local law enforcement agencies to receive ICAC's training. With the new increase in funds to MEC, will the DOJ allocate additional funding for the ICAC Task Force program in its spend plan?

RESPONSE: OJP provided its FY 2018 consolidated spending plan, which includes details regarding its plans for the use of all funding for the Missing and Exploited Children Program, to the House and Senate Committees on Appropriations on May 14, 2018.

Each year, OJP must balance the funding provided for the Missing and Exploited Children Program among multiple priorities, including support for the National Center for Missing and Exploited Children (NCMEC), funding for the AMBER Alert program, and the Internet Crimes Against Children (ICAC) Task Force program. In FY 2018, OJJDP will:

- Continue to fund the ICAC training and technical assistance efforts at the FY 2017 Enacted level of \$5.0 million, and
- Increase the funding for the ICAC Task Forces to \$28.6 million, which is an increase of \$1.0 million over the FY 2017 Enacted level.

In addition, based on language included in Senate Report 115-139^[1], OJJDP released a new solicitation in FY 2018 entitled, *Strengthening Investigative Tools and Technology for Combating Child Exploitation* (<https://www.ojjdp.gov/funding/FundingDetail.asp?fi=468>). This program will make awards supporting efforts to develop new technological tools or refine and enhance existing technologies that assist law enforcement, prosecutors, and other criminal justice professionals in addressing child pornography, exploitation, and sex trafficking. OJJDP anticipates that grants awarded under this program will benefit work of the ICAC Task Forces. The solicitation will close on Saturday, July 2, 2018.

[1] The relevant language reads “The DOJ’s National Strategy for Child Exploitation Prevention and Interdiction, published in April 2016, identified key investigative objectives for continuing the fight against child exploitation. Within funds provided, the Committee directs up to \$3,000,000 for a competitive grant program to increase the technological investigative capacity and associated training of law enforcement to support the development, refinement, and advancement of widely used investigative tools, methods and technologies that address child pornography, exploitation and sex trafficking.” (S. Rpt. 115-139, page 96)