

COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2011

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

NONDEPARTMENTAL WITNESSES

[CLERK'S NOTE.—At the direction of the subcommittee chairman, the following statements received by the subcommittee are made part of the hearing record on the Fiscal Year 2011 Commerce, Justice, Science, and Related Agencies Appropriations Act.]

PREPARED STATEMENT OF THE REGIONAL INFORMATION SHARING SYSTEMS (RISS) PROGRAM

For more than 30 years, the Regional Information Sharing Systems (RISS) Program has been a leader in providing the necessary tools and critical services for law enforcement as well as other criminal justice and public sector entities. RISS consists of six regional centers that support and serve the unique needs of their individual regions while working together on national-scope issues. RISS is a premier information sharing program, offering secure communications, access to intelligence databases, and investigative resources and services. The RISS Program respectfully requests that Congress appropriate \$65 million for fiscal year 2011.

As the economy continues to struggle, criminal justice agencies are tightening budgets, decreasing resources, and limiting efforts. RISS serves as a force multiplier, offering a one-stop shop to effectively and efficiently aid agencies in tackling crime problems. Through RISS services, criminal justice agencies are provided secure information sharing capabilities and investigative support services that, in many cases, they would not otherwise receive.

The RISS Centers provide investigative support services to more than 96,000 officers from more than 8,500 criminal justice agencies at the local, State, Federal, and tribal levels. RISS operates in all 50 States, the District of Columbia, U.S. territories, Australia, Canada, and England. RISS links thousands of criminal justice agencies through secure communications and provides information sharing resources and investigative support to combat multijurisdictional crimes. RISS strives to enhance the ability of criminal justice agencies to identify, target, and remove criminal conspiracies and activities while promoting officer safety.

The support provided by RISS has enabled law enforcement and public safety agencies to increase their success exponentially. Because of these successes, as well as the many remaining needs throughout the criminal justice community, RISS continues to experience an increased demand for its services. Continued and additional funding is needed in order to meet this demand and continue to build upon the Nation's information sharing environment. In addition to continuing its current services, RISS will utilize requested funds for the initiatives listed below.

- Expand and continue to deploy the RISS Officer Safety Event Deconfliction System (RISSafe) throughout the six RISS regions.
- Enhance the RISSGang Program, develop gang training and publications, and connect gang intelligence systems.
- Enhance the RISS Secure Intranet (RISSNET) to improve functionality, security, and resources and to expand agency connectivity and officer/agency access.
- Support border initiatives by developing training and providing secure information sharing.

- Continue to develop and enhance the Combat Meth Project.
- Expand the RISS Automated Trusted Information Exchange (RISS ATIX) by enhancing communications and developing an off-line notification and alert capability.
- Expand the Pawnshop Database nationwide.
- Continue to participate in the Nationwide Suspicious Activity Reporting Initiative (NSI).
- Continue to support and expand fusion center partnerships and connectivity.

RISS is Federal funded but locally managed by its member agencies. The Bureau of Justice Assistance (BJA), Office of Justice Programs, U.S. Department of Justice, administers the RISS Program. The RISS Centers operate under the BJA Funding and Administration Guidelines of the RISS Program and the Criminal Intelligence Systems Operating Policies (28 Code of Federal Regulations [CFR] part 23). Each of the six RISS Centers has developed operating policies and procedures that comply with the Federal guidelines and regulations. The RISS Centers have adopted a privacy policy that fully complies with 28 CFR part 23.

RISS developed and continues to operate RISSNET, which offers state-of-the-art technology to support law enforcement demand for rapid communications and information sharing nationwide. Through RISSNET, member agencies can securely exchange information and electronically access RISSNET resources, including the RISS Criminal Intelligence Databases (RISSIntel), RISSafe, the RISSGang Program, RISS ATIX, the RISS Investigative Leads Bulletin Board (RISSLeads), a data-visualization and link-analysis tool (RISSLinks), the RISS Search Engine (RISSearch), the RISS Center Web sites, and secure e-mail.

In fiscal year 2009, more than 3.4 million records were available in RISSIntel and more than 3.1 million inquiries were made to the system. RISSIntel has proved a successful tool to securely share criminal intelligence and connect law enforcement officers. In addition, member agencies have access to various State, regional, Federal, and specialized criminal justice intelligence systems connected to RISSNET. By connecting systems to RISSNET, rather than funding the build-out of infrastructure for new stand-alone information systems, hundreds of millions of dollars can be saved and millions of data records can be easily and quickly accessed by law enforcement. Currently, almost 100 agency systems are connected or pending connection to RISSNET, including 32 High Intensity Drug Trafficking Areas, 36 State agency systems, and 28 Federal and other systems. RISSNET offers the ability to select one or all connected systems and conduct a federated search.

As part of the continued commitment to promote and enhance officer safety, RISS deployed RISSafe. RISSafe stores and maintains data on planned law enforcement events, with the goal of identifying and alerting affected agencies and officers of potential conflicts impacting law enforcement efforts. As of January 22, 2010, 152,265 events were entered into RISSafe, resulting in 52,469 identified conflicts. Without this resource, law enforcement agencies might have interfered with each other's cases and officers might have been injured or killed.

The RISSGang Program is a comprehensive investigative tool consisting of a criminal intelligence database, a Web site, informational resources, and secure communications to aid and support gang-related investigations. RISS ATIX is available to thousands of law enforcement and public safety agencies. RISS ATIX Participants include local, county, State, and tribal levels of emergency management, law enforcement, and government, as well as public and private utilities, transportation, chemical manufacturing, environmental protection, banking, and hospitality industries. RISS ATIX resources include Web pages that contain general and community-specific information, links to restricted and public Web sites, and other sources of terrorism and disaster-related information. The RISS ATIX Bulletin Board provides secure online conferences for users to collaborate and post information. The Document Library provides informational and educational materials. ATIX secure e-mail enables the distribution of alerts and sensitive but unclassified (SBU)/controlled unclassified information (CUI).

Some law enforcement agencies do not have the personnel, training, or support to tackle complex multijurisdictional crimes. RISS not only provides secure communications and access to intelligence databases but also provides services to enhance and improve the ability to detect, apprehend, and successfully prosecute criminals. The following summarizes RISS's information and investigative support services.

- Information Sharing.*—Operation of RISSNET and its applications and tools.
- Analysis.*—RISS analysts developed 35,655 products in fiscal year 2009 for investigators and prosecutors to help increase their ability to identify, detect, and apprehend suspects as well as enhance prosecutorial success. Products include flowcharts, link-analysis charts, crime scene diagrams, telephone toll analysis

and financial analysis reports, digital forensics analysis, and audiovisual enhancement services.

—*Investigative Support.*—RISS intelligence research staff responded to 96,293 requests in fiscal year 2009 to conduct database searches and research numerous resources.

—*Equipment Loans.*—Pools of highly specialized investigative and surveillance equipment are available for loan to member agencies for use in multijurisdictional investigations. In fiscal year 2009, 5,669 pieces of equipment were borrowed.

—*Confidential Funds.*—RISS provides funds to purchase contraband, stolen property, and other items of an evidentiary nature or to provide for other investigative expenses. RISS provided \$664,785 in confidential funds in fiscal year 2009.

—*Training.*—RISS Centers sponsor or cosponsor training classes, meetings, and conferences that build investigative expertise for member agency personnel. In fiscal year 2009, 78,852 criminal justice professionals received RISS training.

—*Publications.*—Each center develops and distributes publications, bulletins, and reports focusing on local and national issues. In fiscal year 2009, the centers distributed 255,798 copies of documents to law enforcement personnel.

—*Field Services Support.*—The integration of field services is unique to RISS, whereby individuals regularly contact law enforcement and public safety agencies to ensure that RISS is meeting their needs. RISS field staff conducted 25,242 on-site visits in fiscal year 2009 to train, support, and help integrate RISS services. This one-on-one support has resulted in trusted relationships and a program prized among its members.

Through the services and support provided by RISS, member agencies made 4,975 arrests in fiscal year 2009. In addition, seizures or recoveries of more than \$27 million in narcotics, property, and currency resulted from member agency cases in which RISS services were used.

RISS continues pursuing and refining partnerships and programs in order to leverage proven technology and expand information sharing. Some of these include connecting fusion centers to RISSNET, supporting NSI, partnering with the National Gang Intelligence Center, participating in the National Virtual Pointer System, enhancing gang investigators' ability to share intelligence data, and expanding the capabilities and resources of RISS ATIX.

The National Criminal Intelligence Sharing Plan (NCISP) and the Law Enforcement Information Sharing Program (LEISP) Strategy were developed to focus on national parameters for information and intelligence sharing. RISS is noted in both documents as a mechanism to facilitate secure information sharing.

There is a critical need to provide a seamless SBU/CUI solution. Local law enforcement officers/analysts need one single sign-on and access to an interoperable SBU/CUI environment, regardless of ownership. To accomplish this, interoperability requirements must be defined. RISSNET—along with the U.S. Department of Homeland Security's Homeland Security Information Network, FBI LEO, and the Intelligence Community's Intelink—have been identified by the Interagency Policy Committee (IPC) formed within the jurisdiction of the executive office of the President as the four SBU/CUI networks necessary to be involved in the interoperability initiative to ensure timely and effective information sharing among local, State, Federal, and tribal agencies. RISS will play a major role in this development process. RISS has made strides in this area, through the LEISP initiatives, to connect users via Federated Identity to the Federal Joint Automated Booking System (JABS). Currently, 89 RISSNET users are accessing JABS via Federated Identity, and 1,756 non-RISSNET users are accessing RISS resources via Federated Identity.

In addition, each RISS Center has developed partnerships and programs to meet the needs of its unique region. Some examples include the Project Safe Neighborhoods Mapping and Analysis Program, the National Identity Crimes Law Enforcement Network, the Cold Case Locator System, the Metals Theft Initiative, the Master Telephone Index, the Pawnshop Database, the Combat Meth Project, and the Cold Hit Outcome Project.

RISS is supported and endorsed by numerous groups, including the International Association of Chiefs of Police, the National Sheriffs' Association, the National Narcotic Officers' Associations' Coalition, and the National Alliance of Gang Investigators Associations.

Without continued funding and support for RISS, law enforcement and public safety efforts will be severely hampered. Specifically, RISS and its users will experience the following:

- Reduced expansion of RISSafe
- Inability to effectively support RISS ATIX and RISSGang
- Limited expansion of RISSNET and redundancy of system applications

- Minimal enhancement of the RISSNET Portal
- Limited support for border initiatives
- No expansion of the Pawnshop Database
- Decreased support services, limited analytical support, and fewer training opportunities
- Delayed and/or a lack of new connectivity among agencies and users
- Limited support for information sharing initiatives

It is respectfully requested that Congress appropriate \$65 million for fiscal year 2011 to continue RISS's efforts. Local and State law enforcement depend on RISS for information sharing, investigative support, and technical assistance. It would be counterproductive to require local and State RISS members to self-fund match requirements, as well as to reduce the amount of BJA discretionary funding. Local and State agencies require more, not less, funding to fight the Nation's crime problem. RISS is unable to make up the decrease in funding that a match would cause, and it has no revenue source of its own. Cutting the RISS appropriation by requiring a match should not be imposed on the program.

RISS operates one of the most important law enforcement information sharing programs in the Nation. RISS plays a part in ensuring that law enforcement and public safety have the information and resources necessary to secure our country. For additional information, please visit www.riss.net. RISS appreciates the support this subcommittee has continuously provided to the RISS Program and is grateful to provide this testimony.

PREPARED STATEMENT OF THE NATIONAL FEDERATION OF COMMUNITY BROADCASTERS

Thank you for the opportunity to submit testimony to this subcommittee in support of \$44 million in funding for the Commerce Department's Public Telecommunications Facilities Program (PTFP) in fiscal year 2011. As the president and CEO of the National Federation of Community Broadcasters (NFCB), I speak on behalf of 250 community radio stations and related individuals and organizations across the country including many Low Power FM stations. NFCB is the sole national organization representing this group of stations, which provide independent local service in the smallest communities and the largest metropolitan areas of this country. Nearly one-half of NFCB's members are rural stations, and one-half are controlled by people of color.

In summary, the points we wish to make to this subcommittee are:

- PTFP funding is unique. It is the only funding source available to help get new stations on the air and ensure that public broadcasting is available everywhere in the United States.
- In the current budget, a loss of PTFP will mean an irreplaceable loss in new community radio stations because of an unprecedented number of new licensees in the pipeline flowing from a large number of radio stations granted new construction permits by the Federal Communications Commission. This new licensing opportunity will not come again.
- PTFP is a targeted program carefully managed to replace necessary equipment by leveraging public with private funds.
- PTFP will help public and community radio stations prepare to provide emergency information during natural or man-made disasters.
- PTFP will help fund for conversion of public radio to digital broadcasting, which has only recently begun.

PTFP is poised to fund new stations that have recently been granted construction permits by the Federal Communications Commission. PTFP is the only program available that supports new station construction. No alternate funding exists—the Corporation for Public Broadcasting does not support stations until they have been on the air for 1 year. The solid funding levels for CPB will not translate into production of new stations. The opportunity in this budget year is unique because of its timing. In 2007, the Federal Communications Commission opened up a new licensing window for new noncommercial radio stations. This was the first opportunity to apply for new radio stations in a decade. Because of the scarcity of radio spectrum, this is the last significant licensing windows for new public radio stations unless new spectrum is allocated to radio broadcasting. Community radio has put an immense effort into recruiting new and diverse applicants who are just now receiving their construction permits from the FCC and are able to apply for PTFP funding. With adequate funding and support, the new group of applicants has the potential to fund construction of 45 new community radio stations authorized by the FCC in its most recent licensing window and double the number of Native American radio stations in this country. Federal funding is particularly critical to stations broad-

casting to rural and underserved audiences which have limited potential for fund-raising due to sparse populations, limited number of local businesses, and low income levels. In addition, PTFP often funds translator stations to expand the geographic coverage of an existing station.

PTFP is a targeted program carefully managed to replace necessary equipment by leveraging public with private funds. Funding from PTFP has been essential to keep public radio stations on the air by funding the replacement of equipment, often items that have been in use for 20 or more years. The program is administered carefully to be certain that stations are acquiring the most appropriate type of equipment. They also determine that equipment is being properly maintained and will not fund the replacement of equipment before an appropriate period of time in use. Even so, PTFP funding is a matching program, so Federal money is leveraged with a local commitment of funds. This program is a strong motivating factor in raising the significant money necessary to replace, upgrade and purchase expensive broadcast equipment.

PTFP will help public and community radio stations prepare to provide emergency information during natural or man-made disasters. As we saw during the severe storms and devastating hurricanes of the last few years, radio is the most effective medium for informing a community of weather forecasts, traffic issues, services available, evacuations, and other emergency conditions. Since everyone has access to a radio and they are portable and battery operated, a radio is the first source for this critical information. Radio stations therefore must have emergency power at both their studios and their transmitter in order to provide this service.

We support \$44 million in funding to ensure that both the ongoing program will be continued, and hope that that there will be additional financial resources available to help cover the cost of improving the emergency infrastructure of public broadcasting stations. This additional funding is considered an urgent need if community stations are to withstand and continue broadcasting through extreme weather or other emergency situations. At a time when local service is being abandoned by commercial radio, PTFP aids communities developing their own stations which provide local information and emergency notifications.

The National Federation of Community Broadcasters supports PTFP funding to help public radio to convert to digital to provide more public service and keep up with the market. While television's digital conversion was completed last year, radio is also converting to digital. Commercial radio stations are converting to digital transmission, and public radio should not be left behind. The digital standard for radio has been approved by the Federal Communications Commission, and over 400 public radio transmitters have been converted. Public digital radio signals will provide more public service. Most exciting to public radio is that stations can broadcast two or more high quality signals, even while they continue to provide the analog signal. Additional digital audio channels will potentially more than double the service that public radio can provide, particularly to unserved and underserved communities. For example, public radio will be able to add services in languages other than English, or will be able to add distinctive cultural, music, or news programming.

In sum, community radio supports \$44 million in funding for the Public Telecommunications Facilities Program in fiscal year 2011. PTFP funding is unique. It is the only funding source available to help get new stations on the air and ensure that public broadcasting is available everywhere in the United States. Federal funding distributed through the PTFP is essential to continuing and expanding the public broadcasting service throughout the United States. PTFP funding is critical to ensuring public radio's readiness to provide life-saving information to communities in the event of local disasters, as we have seen during weather emergencies in the past few years. With the advent of digital broadcasting, PTFP funding is helping with the conversion to this new technology. It is particularly critical for rural stations and those serving low income communities. PTFP funds new stations, expanding the reach of public broadcasting to rural areas and to audiences that are not served by existing stations. Finally, it replaces obsolete and worn out equipment so that existing public stations can continue to broadcast high quality programming in a carefully targeted, fiscally responsible manner.

Public radio is the most vibrant part of the radio dial, bringing a diverse spectrum of news, information and entertainment to millions of listeners every day. PTFP will give us an unprecedented opportunity to be sure that radio is providing local news and journalism, enhancing local culture, and bringing new communities into the information age.

Thank you for your consideration of our testimony.

PREPARED STATEMENT OF THE INSTITUTE OF MAKERS OF EXPLOSIVES (IME)

Dear Madam Chairman: On behalf of the Institute of Makers of Explosives (IME), I am submitting a statement for inclusion in the subcommittee's hearing record regarding the proposed fiscal year 2011 budget for the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) Arson and Explosives (A&E) program.

INTEREST OF THE IME

The IME is the safety and security association of the commercial explosives industry. The production, distribution, storage and use of explosives are highly regulated. ATF is one of the agencies that play a primary role in assuring that explosives are identified, tracked, and stored only by authorized persons. The ability to manufacture, distribute and use these products safely and securely is critical to this industry. We have carefully reviewed the administration's fiscal year 2011 budget request for ATF, and have the following comments about its impact on the commercial explosives industry.

ATF'S EXPLOSIVES REGULATORY PROGRAM

The administration's fiscal year 2011 budget request proposes to support ATF's regulation and oversight of explosives industries at a level that will sustain current services. In fiscal year 2010, this program was increased by 9 FTE to 383 FTE.

The Bureau's Explosives Industry Programs Branch has embraced the Obama administration's pledge to be more transparent and accountable. To help us do our job better, data about theft and diversion of commercial explosives is being shared on an annual basis. ATF is continuing efforts to enhance data capabilities. These efforts should be supported.

We are pleased to report that the \$200,000 set-aside provided the Bureau in fiscal year 2009 to begin addressing its pending regulatory backlog has borne fruit. In January, ATF finalized its rule on the storage of shock tube with detonators.¹ By statute, ATF is supposed to "take into consideration . . . the standards of safety and security recognized in the explosives industry" when issuing rules and requirements.² We believe ATF followed this directive in issuing the shock tube final rule. Four other rulemakings of importance to IME are still pending; the oldest dating to 2001. We hope to continue to see progress in this area. We are grateful to Congress for its oversight of this issue.

In the absence of rulemaking that is capable of keeping up with new developments and practices, industry must rely on interpretive guidance and variances from rules to conduct business. While we appreciate the Bureau's accommodations, these stop-gap measures do not afford the protections that rulemaking would provide the regulated community, nor allow the oversight necessary to ensure that all parties are being held to the same standard of compliance. These regulatory tasks are critical to the lawful conduct of the commercial enterprises that the bureau controls.

INDUSTRY STANDARDS

We take seriously the statutory obligation that ATF take into account industry's standards of safety when issuing rules and requirements. We have endeavored to fulfill this obligation through the development of industry best practices for safety and security, participation in relevant standard-setting organizations, and forums for training. We have offered ATF recommendations that we believe will enhance safety and security through participation in the rulemaking process, in the Bureau's research efforts, and in other standard setting activities.

In this regard, IME has spent years developing and validating a credible alternative to strict interpretation of quantity-distance tables used to determine safe set-back distances from explosives. IME collaborated with the Department of Defense Explosives Safety Board and Canadian and U.S. regulatory agencies, including ATF. The result is a windows-based computer model for assessing the risk from a variety of commercial explosives activities called IMESAFR.³ 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 experience in the United

¹ 75 FR 3160 (January 20, 2010).

² 18 U.S.C. 842(j).

³ IMESAFR was built on the DDESB's software model, SAFER. The DDESB currently uses SAFER and table-of-distance methods to approve or disapprove Department of Defense explosives activities.

States 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. Following this effort, ATF is starting to recognize this powerful assessment tool as a potential alternative for the regulated community to meet quantity-distance limitations. ATF has taken advantage of opportunities to partner with IME and is deliberating whether to accept this or any other risk-based approach to explosives safety. ATF should be encouraged to recognize the benefits of risk-based modeling and develop policy that would allow the use of such models to meet regulatory mandates.

PERFORMANCE MEASURE IMPROVEMENTS

We have expressed concern at the drop in the performance of the Bureau's A&E programs as measured by the Program Assessment Rating Tool (PART).⁴ During assessment year 2004, the A&E program was rated "moderately effective." By 2008, the rating of the A&E program had fallen to "adequate." The program's scores fell in all categories:

Section	Score—2004 (percent)	Score—2008 (percent)
Program Purpose & Design	100	80
Strategic Planning	88	75
Program Management	100	43
Program Results/Accountability	67	40

As a result, ATF developed improvement plans to be implemented in the arson and explosives program:⁵

- ATF will continue to work with the FBI to implement the provisions of a Memorandum of Understanding between the two agencies.
- ATF will establish a performance measure based on in-depth evaluation of the application of select training it provides.

While these are worthy goals, we question whether they are sufficient to address all programmatic shortfalls. For a number of years, IME has expressed concern about the lack of appropriate measures to assess the ATF's performance as a regulator of the commercial explosives industry.⁶ Instead of adding such performance indicators, however, ATF has discontinued all prior performance measures and outcomes and replaced them with three metrics, of which only one applies to the Bureau's explosives regulatory program.⁷ The "outcome measure" for the explosives regulatory program is "improve public safety by increasing compliance with Federal laws and regulations by explosives industry members."⁸ While a laudable objective, the Bureau provides no metrics to assess whether this objective has been achieved.⁹ Absent information of this type, it is unclear how Congress can effectively oversee ATF's handling of its responsibilities toward the regulated community or determine the adequacy of its budget request.

ATF states that in fiscal year 2009, it received a "clean audit opinion."¹⁰ However, the measures or scores used in the audit are not disclosed so there is no way to determine where progress has been made relative to the PART assessments. Anecdotally, we believe that ATF's arson and explosives program is more responsive. However, we would welcome an independent audit of the program to corroborate that the Bureau has reversed the trend reflected in the last two PART reviews with regard to its "resource utilization, strategic planning, program management,

⁴ <http://www.whitehouse.gov/omb/expectmore/detail/10002202.2008.html>. PART was developed by OMB to assess and improve program performance of the Federal Government. ATF's A&E programs are measured together because A&E investigators are cross trained and only 32 percent of the ATF A&E budget goes to explosives regulatory activities.

⁵ Fiscal Year 2011 ATF Budget Submission, page 63.

⁶ IME has requested performance measures such as the percent of perfected explosives applications acted on within 90 days; the number of background checks that ATF has performed, within what average timeframe, and of those, how many individuals failed to receive clearance, and of those, how many appealed the Bureau's findings; the number of rulemakings outstanding and their priority; and turnover rates among agents and inspectors.

⁷ Fiscal Year 2011 ATF Budget Submission, pages 57–61.

⁸ Fiscal Year 2011 ATF Budget Submission, pages 58 and 60.

⁹ Other Federal Government agencies have such metrics. For example, see the fiscal year 2011 budget submission for the U.S. Department of Transportation's Pipeline and Hazardous Materials program.

¹⁰ Fiscal Year 2011 ATF Budget Submission, page 63.

and program results.”¹¹ We believe that the timing for such an audit is consistent with the administration’s pledge of transparency and accountability.

LEADERSHIP

The resolution of these issues may have to wait the appointment of a new director. The ATF has been without a director since August 2006. We hope that an appointment will soon be announced. The Bureau has been too long without permanent leadership.

CONCLUSION

The manufacture and distribution of explosives is accomplished with a remarkable degree of safety and security. We recognize the important role played by ATF in helping our industry achieve and maintain safe and secure workplaces. Industry and the public trust that ATF has the resources to fulfill its regulatory responsibilities. It is up to Congress and, in particular, this subcommittee to ensure that ATF has the resources it needs. We strongly recommend full funding for ATF’s explosives program.

PREPARED STATEMENT OF THE COASTAL STATES ORGANIZATION

The Coastal States Organization (CSO) is a nonpartisan, nonprofit organization that represents the interests of the Governors of the 35 coastal States, territories and commonwealths in Washington, DC. Established in 1970, CSO focuses on legislative and policy issues relating to the sound management of coastal, Great Lakes, and ocean resources and is recognized as the trusted representative of the collective interests of the coastal States on coastal and ocean management. For fiscal year 2011, CSO supports the following coastal programs and funding levels within the National Oceanic and Atmospheric Administration (NOAA):

Coastal Zone Management Program (§§ 306/306A/309)—\$88 million

Coastal and Estuarine Land Conservation Program—\$60 million

CZM and Stewardship \$12.5—million

Every American, regardless of where he or she lives, is fundamentally connected to our coasts, oceans, and Great Lakes. These valuable resources are a critical framework for commerce, recreation, energy, environment, and quality of life. The U.S. economy is an ocean and coastal economy: though Federal investment does not reflect it, the oceans and coasts provide an irreplaceable contribution to our Nation’s economy and quality of life. With sectors including marine transportation, tourism, marine construction, aquaculture, ship and boat building, mineral extraction, and living marine resources, the U.S. ocean-based sector alone provides \$138 billion to U.S. GDP and over 2.3 million jobs to our citizens. In addition, the annual contribution of coastal counties is in the trillions of dollars, from ports and fishing to recreation and tourism. In 2007, our Nation’s coastal counties provided \$5.7 trillion to the economy and were home to 108.3 million people on only 18 percent of the U.S. land area. If these counties were their own country, they would have the world’s second largest economy. Coasts and oceans also add to the quality of life of nearly one-half of all Americans who visit the seashore each year; the non-market value of recreation alone is estimated at over \$100 billion.

Today, our Nation’s coasts are as vital for our future as they are vulnerable. As a result of their increasing draw and economic vitality, we are exerting more pressure on our coastal and ocean resources. This demand, combined with an increase in natural hazards such as sea level rise, hurricanes and other flooding events, can be proven to show that the country is in danger of losing these invaluable assets. Despite the difficult budgetary times, we need to provide more funding and support for the key programs that are on the front lines of this daily battle, the programs utilizing the advances in coastal and ocean science, research, and technology to manage our coastal and ocean resources for future generations.

Programs that are engaged in these important efforts and working to balance the protection of coastal and ocean resources with the need for sustainable development include the Coastal Zone Management Program and the Coastal and Estuarine Land Protection Program. These programs reside within the National Oceanic and Atmospheric Administration (NOAA) and provide direct funding or services to the States and territories, which account for a small portion of the total NOAA Federal budget. The funding for these programs is very cost-effective, as these grants are matched by the States and are used to leverage significantly more private and local

¹¹ Fiscal Year 2011 ATF Budget Submission, page 63.

investment in our Nation's coasts. Increased funding for these programs that provide on-the-ground services to our local communities and citizens is well worth the investment.

COASTAL ZONE MANAGEMENT PROGRAM (§§ 306/306A/309)

CSO requests that these grants be funded at a level of \$88 million, an amount that will be shared among the 34 States and territories that have approved coastal zone management programs. Pursuant to the Coastal Zone Management Act (CZMA), NOAA and the States partner to implement coastal zone management programs designed to balance protection of coastal and ocean resources with the need for sustainable development of coastal communities. States have the flexibility to develop programs, policies and strategies that are targeted to their State priorities while advancing national goals. Under the CZMA program, the States receive grants from NOAA that are matched by the States and are used to leverage significantly more private and local investment in our Nation's coastal areas. These grants have been used to reduce environmental impacts of coastal development, resolve conflicts between competing coastal uses, and provide critical assistance to local communities in coastal planning and resource protection.

The CZMA State grants have essentially remained level-funded for 9 years, resulting in a decreased capacity in the State coastal zone management programs and less funding being granted out to local communities. An increase in funding to \$88 million provides an additional \$300,000–\$800,000 for each State and territory based on a Federal formula that takes into account coastal population and shoreline mileage. With the additional funding, States and territories could focus on near-term activities that would prepare their coastal communities to adapt to climate change, develop renewable energy sources, and conserve and restore habitat and working waterfronts. The following is a representative list of activities that the States and territories could pursue with the increased funding:

- Acquire high resolution topography and bathymetry mapping data (for example, LIDAR, shallow water-penetrating LIDAR) and/or integrate these and existing datasets for consistent statewide coverage and public dissemination;
- Invest in research, mapping and modeling to enable decisionmaking for renewable energy development;
- Host workshops to assist local officials to assess resources and identify strategies to integrate climate change adaptation measures into local policies, regulations and programs;
- Conserve and restore coastal habitat for storm protection, water-filtering benefits, fish nurseries, and recreation and preserve waterfront property for businesses dependant on access to the water to flourish;
- Foster coordinated permitting review and siting guidance among State and Federal agencies for offshore renewable energy development;
- Work to implement new or modify existing State and local policies, regulations and programs to address climate change impacts, including those related to building design and construction, wetland conservation and restoration, stormwater systems and roadways, shore protection, and general public infrastructure; and
- Support outreach and extension activities related to science and public education with partners such as the National Estuarine Research Reserves and Sea Grant College Programs.

Under the current level of funding, most States and territories receive between \$850,000 and \$2 million to carry out their coastal management programs based on a formula accounting for shoreline miles and coastal population. Appropriate at the time, a cap of \$2 million was instituted years ago to allow for funding to spread more evenly across the States and territories, so as to prevent most of the funding from going entirely to the larger, more heavily populated States. But, now, over one-half of the States have met the cap and no longer receive an increase in funding, despite increased overall funding for CZMA State grants. Therefore, CSO requests that language be included in the appropriations bill declaring that each State will receive no less than 1 percent and no more than 5 percent of the additional funds over and above previous appropriations. As was provided for in fiscal year 2010, CSO requests that language be included in the appropriations bill that directs NOAA to refrain from charging administrative costs to these grants. This is to prevent any undue administrative fees from NOAA from being levied on grants intended for States.

COASTAL AND ESTUARINE LAND CONSERVATION PROGRAM

CSO requests \$60 million for the Coastal and Estuarine Land Conservation Program (CELCP). Authorized by Congress in 2002, CELCP protects “those coastal and estuarine areas with significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreation states to other uses.” To date, Congress has appropriated nearly \$260 million for CELCP. This funding has allowed for the completion of over 125 conservation projects, with more in progress. CELCP projects in 27 of the Nation’s 35 coastal States have already helped preserve approximately 45,000 acres of the Nation’s coastal treasures. All Federal funding has been leveraged by at least an equal amount of State, local, and private investments, demonstrating the broad support of the program, the importance of coastal protection throughout the Nation, and the critical role of Federal funding to its success.

The preservation of coastal and estuarine areas is critical to both humans and the environment. These areas shield us from storms, protect us from the effects of sea-level rise, filter pollutants to maintain water quality, provide shelter, nesting and nursery grounds for fish and wildlife, protect rare and endangered species and provide access to beaches and waterfront areas. CELCP is the only program entirely dedicated to the conservation of these vital coastal areas.

The demand for CELCP funding far outstrips what has been available in recent years. In the last 3 years, NOAA, in partnership with the States, has identified over \$270 million of vetted and ranked projects. As demand for CELCP funding has grown, the funding has not kept pace. Adequate funding is needed to meet the demand of the increasingly high-quality projects developed by the States and submitted to NOAA.

This March, the CELCP program was formally authorized as part of H.R. 146, the Omnibus Public Lands Management Act of 2009, once again showing the broad, bipartisan support for coastal and estuarine land conservation. In recognition of the significant demand for CELCP projects, H.R. 146 authorized the program at \$60 million annually.

CZM AND STEWARDSHIP

CSO requests \$12.5 million for CZM and Stewardship under NOAA’s Office of Ocean and Coastal Resources Management (OCRM). OCRM provides support to the States and territories by providing program liaisons, and processing grants and program changes for the Coastal Zone Management Program, as well as leading the development of NOAA’s Coastal Strategy. It also administers the Coastal and Estuarine Land Conservation Program (CELCP), leads coral reef conservation activities, and manages the development of a National System of Marine Protected Areas. With all of these vested responsibilities, and to administer all of its programs adequately, OCRM needs this funding to be the best possible partner to the States and territories.

CSO greatly appreciates the support the subcommittee has provided in the past. Its support has assisted these programs in working together to protect our coasts and sustain our local communities. Thank you for taking our requests into consideration as you move forward in the fiscal year 2011 appropriations process.

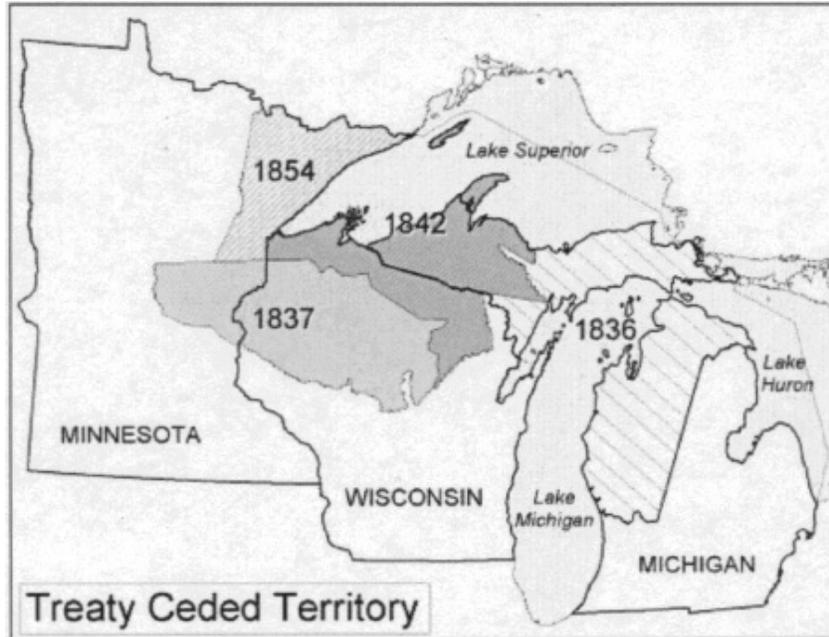
PREPARED STATEMENT OF THE GREAT LAKES INDIAN FISH AND WILDLIFE COMMISSION

Summary of GLIFWC’s Fiscal Year 2011 Testimony.—GLIFWC supports the administration’s fiscal year 2011 proposal to increase tribal COPS funding to \$67 million but not the \$15 million reduction in the Tribal Resources Grant Program (TRGP). The administration’s proposal to set aside tribal funding within the Universal Hiring Program (UHP) is timely given the great need in Indian country. However, the proposed decrease of \$15 million for the Tribal Resources Grant Program (TRGP) is an unwise trade-off that will undercut the effectiveness of tribal law enforcement. Not only must new officers be trained and equipped, something which cannot be done with UHP funding, but fully-staffed agencies still need the logistical support that the TRGP provides. The TRGP has enabled GLIFWC to solidify its communications, training, and equipment requirements, essential elements that help ensure 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 (Public Law 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 and protecting ceded territory natural resources and their habitats.



For over 25 years, Congress and various administrations have funded GLIFWC through the BIA, Department of Justice and other agencies to meet specific Federal obligations under: (a) a number of U.S./Chippewa treaties; (b) the Federal trust responsibility; (c) the Indian Self-Determination Act, the Clean Water Act, and other legislation; and (d) various court decisions, including a 1999 U.S. Supreme Court case, affirming the treaty rights of GLIFWC's member tribes. GLIFWC serves as a cost efficient agency to conserve natural resources, to effectively regulate harvests of natural resources shared among treaty signatory tribes, to develop cooperative partnerships with other Government agencies, educational institutions, and non-governmental organizations, and to work with its member tribes to protect and conserve ceded territory natural resources.

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 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 tribal communities that 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 develop mutual trust between GLIFWC officers and tribal communities, officers provide outdoor skills workshops and safety classes (hunter, boater, snowmobile, ATV) to 300 tribal youth in grades 4-8 annually. Recently GLIFWC officers worked to support drug and alcohol prevention efforts in the Lac du Flambeau school system by sponsoring a snowshoe making workshop for tribal youth.

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 surrounding authorities when they detect violations of State or Federal criminal and conservation laws. These partnerships evolved from the inter-governmental cooperation 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 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 trained in the use of defibrillators, 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 of the ceded territories. In fact, the role of GLIFWC’s officers in these networks was further legitimized in 2007 by the passage of Wisconsin Act 27. This law affords GLIFWC wardens the same statutory safeguards and protections that are afforded to their DNR counterparts. GLIFWC wardens will 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.

DOJ has acknowledged that, “[t]he officer-to-population ratio still remains lower on Indian reservations than in other jurisdictions across the country . . . tribal law enforcement has a unique challenge of patrolling large areas of sparsely populated land” (DOJ 2011 budget summary). GLIFWC’s participation in mutual assistance networks located throughout a 60,000 square mile region directly addresses this problem in an effective and cost efficient manner.

GLIFWC Programs Funded by DOJ.—GLIFWC recognizes that adequate communications, training, and equipment are essential both for the safety of its officers and for the role that GLIFWC’s officers play in the proper functioning of interjurisdictional emergency mutual assistance networks in the ceded territories. GLIFWC’s COPS grants have provided a critical foundation for achieving these goals. Significant accomplishments with Tribal Resources Grant Program funds include:

—*Increased Versatility and Homeland Security.*—In 2007, GLIFWC used COPS funding to obtain a 22-foot boat to expand patrol capabilities and coverage on Lake Superior. This boat also provides greater versatility than GLIFWC’s larger patrol boat to access bays and harbors in the Lake. In 2008, GLIFWC used COPS funding to purchase an incident command center trailer that will be used to provide a base for enforcement activities and to improve response to incidents that trigger joint law enforcement actions.

—*Emergency Response Equipment and Training.*—Each GLIFWC officer has completed and maintains certification as a First Responder and in the use of life saving portable defibrillators. Since 2003, GLIFWC officers have carried First Responder kits and portable defibrillators during their patrol of around 275,000 miles per year throughout the ceded territories. In remote, rural areas the ability of GLIFWC officers to respond to emergencies provides critical support of mutual aid agreements with Federal, State, and local law enforcement agencies.

—*Ice Rescue Capabilities.*—Each GLIFWC officer maintains certification in ice rescue techniques and was provided a Coast Guard approved ice rescue suit. In addition, each of the patrol areas was provided a snowmobile and an ice rescue sled to participate in interagency ice rescue operations with county sheriffs departments and local fire departments.

—*Wilderness Search and Rescue Capabilities.*—Each GLIFWC officer has completed Wilderness Search and Rescue training. The COPS Tribal Resources Grant Program also enabled GLIFWC to replace a number of vehicles that were purchased over a decade ago, including 10 ATV’s and 16 patrol boats and the GPS navigation system on its 31-foot Lake Superior Patrol Boat. These vehicles are used for field patrol, cooperative law enforcement activities, and emergency response in the 1836, 1837 and 1842 ceded territories. GLIFWC officers also utilize these vehicles for boater, ATV, and snowmobile safety classes taught on reservations as part of the Commission’s Community Policing Strategy, providing critical outreach to tribal youth.

Consistent with numerous other Federal court rulings on the Chippewa treaties, the United States Supreme Court re-affirmed the existence of the Chippewa’s treaty-guaranteed usufructuary rights in *Minnesota v. Mille Lacs Band*, 526 U.S. 172

(1999). As tribes have re-affirmed rights to harvest resources in the 1837 ceded territory of Minnesota, workloads have increased. In addition, a consent decree signed in 2007 will govern the exercise of treaty rights in inland portions of the 1836 ceded territory in Michigan, where one of GLIFWC's member tribes exercises treaty rights.

But for GLIFWC's COPS grants, this expanded workload, combined with staff shortages would have limited GLIFWC's effective participation in regional emergency services networks in Minnesota, Michigan and Wisconsin. The effectiveness of these mutual assistance networks is more critical than ever given: (1) national homeland security concerns; (2) State and local governmental fiscal shortfalls; (3) staffing shortages experienced by local police, fire, and ambulance departments due to the call up of National Guard and military reserve units; and (4) the need to cooperatively combat the spread of methamphetamine production in rural areas patrolled by GLIFWC conservation officers. Examples of the types of assistance provided by GLIFWC officers follow:

- As trained first responders, GLIFWC officers routinely respond to, and often are the first to arrive at, snowmobile accidents, heart attacks, hunting accidents, and automobile accidents (throughout the ceded territories) and provide sheriffs' departments valuable assistance with natural disasters (e.g. floods in Ashland County and a tornado in Siren, Wisconsin).
- Search and rescue for lost hunters, fishermen, hikers, children, and the elderly (Sawyer, Ashland, Bayfield, Burnett, and Forest Counties in Wisconsin and Baraga, Chippewa, and Gogebic Counties in Michigan).
- Being among the first to arrive on the scene where officers from other agencies have been shot (Bayfield, Burnett, and Polk Counties in Wisconsin) and responding to weapons incidents (Ashland, Bayfield, Burnett, Sawyer, and Vilas Counties in Wisconsin).
- Use of a thermal imaging camera (purchased through the TRGP) to track an individual fleeing the scene of an accident (Sawyer County, Wisconsin).
- Completing snowmobile death investigations in cooperation with other agencies using skills learned through investigation training funded through the TRGP program (Vilas County).
- Organizing and participating in search and rescues of ice fishermen on Lake Superior (Ashland and Bayfield Counties in Wisconsin), Lake Superior boats (Baraga County in Michigan and with the U.S. Coast Guard in other parts of western Lake Superior), and kayakers (Bayfield County in Wisconsin).

In 2010, GLIFWC proposes to utilize DOJ TRGP funding to provide: (1) training to maintain law enforcement, first aid, and emergency rescue certifications; (2) specialized training in human tracking to support cooperative efforts with newly stationed Lake Superior border patrol agents and other agencies; (3) the capability to issue electronic tickets (e-tickets); and (4) equipment necessary to maintain officer safety and efficiency. TRGP resources will allow GLIFWC conservation officers to conduct essential cooperative conservation, law enforcement, and emergency response activities. We ask Congress to support a restoration of the DOJ COPS TRGP program to its fiscal year 2010 level.

PREPARED STATEMENT OF THE INNOCENCE PROJECT

On behalf of the Innocence Project, thank you for allowing me to submit testimony to the Senate Committee on Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies as it considers budget requests for fiscal year 2011. I write to request the continued funding of the following programs at the following levels:

- Paul Coverdell Forensic Science Improvement Grant Program (the "Coverdell Program") at \$35 million through the National Institute of Justice (the "NIJ");
- Kirk Bloodsworth Postconviction DNA Testing Program (the "Bloodsworth Program") at \$5 million through the NIJ;
- The Capital Litigation Improvement Grant Program at its current level of \$5.5 million, so that the Wrongful Conviction Review Program may continue to be funded at its current level, \$3.0 million, through the Bureau of Justice Assistance (the "BJA"); and
- The National Institute for Standards and Technology Preservation of Evidence Working Group (the "NIST Preservation Working Group") at \$350,000 through the NIJ.

Further, I will discuss a concern with regard to block-granting these important programs.

As you may know, the Innocence Project represents convicted persons who seek to prove their innocence through post-conviction DNA testing. To date, 252 men and

women have been exonerated by such testing nationwide. The mission of the Innocence Project is to free innocent people and prevent wrongful convictions through reform. Yet it is very important to note that this work has tremendous benefit for the public's safety. There are two aspects to this. First, every time DNA identifies a wrongful conviction, it enables the identification of the real perpetrator of those crimes. Indeed, the true perpetrators have been identified in 106 of the DNA exoneration cases. What's more, the reforms that can prevent wrongful convictions are simply measures to enhance the accuracy of criminal investigations and prosecutions, and thus have the effect of enhancing criminal investigations and strengthening criminal prosecutions.

We recognize, through our work with Congress, that these dual benefits are well recognized by this body, and it has been our great pleasure to work closely with many of you on the very programs we're supporting in this testimony. I am writing to underscore the value of these programs to both safety and justice, and to request the continued funding of each of these critical programs in fiscal year 2011.

COVERDELL PROGRAM

Recognizing the need for independent Government investigations in the wake of forensic scandals, Congress created the forensic oversight provisions of the Coverdell Program, which provides State and local crime laboratories and other forensic facilities with much needed Federal funds.

The Innocence Project views the Congressional mandate under the Coverdell Program as a crucial step toward ensuring the integrity of forensic evidence. Unfortunately, however, because of administration problems at its outset, the Coverdell Program is only now beginning to reach its potential as a rigorous oversight mechanism. And now, more than ever, as forensic science budgets find themselves on the chopping block in State legislatures all over the country, their very survival may be dependent upon these Federal funds. With such import and capacity for positive change, we ask that you continue to fund the Coverdell Program at, in the very least, its current level of \$35 million.

BLOODSWORTH PROGRAM

The Bloodsworth Program provides hope to inmates who might otherwise have none by helping States more actively pursue post-conviction DNA testing for those who claim innocence. Tied to funding are those "innocence incentive" requirements discussed above. As we have testified to the House and Senate Judiciary Committees in the past, under President Bush, the NIJ moved very slowly and hesitantly on implementation of the Bloodsworth Program. Despite its authorization for 5 years, these monies were only disbursed in two of those years. The good news is that once these program funds began flowing, they had a solidly positive impact that led to even more success in the subsequent offering. Many organizational members of the national Innocence Network partnered with State agencies that have received Bloodsworth funding.¹ According to the Innocence Network's President, Keith Findley, the Bloodsworth Program will dramatically improve the ability of Innocence Network members to meet the tremendous need for post-conviction DNA testing. Many of the projects funded under the Bloodsworth Program will enable projects in various States to proactively search for and identify forcible rape, murder and non-negligent manslaughter cases in which DNA testing can prove guilt or innocence, but which are otherwise overlooked or hidden.²

It is worth noting that the Bloodsworth Program does not fund the work of Innocence Projects directly. In fact, the Office of Justice Programs has encouraged State applicants to draft proposals that fund a range of entities involved in settling innocence claims, from law enforcement agencies to crime laboratories. Additionally, the Bloodsworth Program has fostered the cooperation of innocence projects and State agencies. For example, with the \$1,386,699 that Arizona was awarded for fiscal year 2008, the Arizona Justice Project, in conjunction with the Arizona Attorney General's Office, began the Post-Conviction DNA Testing Project. Together, they have canvassed the Arizona inmate population, reviewed cases, worked to locate 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 has noted that the "grant enables [his] office to support local prosecutors and ensure

¹The Innocence Network is an affiliation of organizations dedicated to providing pro bono legal and investigative services to individuals seeking to prove innocence of crimes for which they have been convicted and working to redress the causes of wrongful convictions.

²Strengthening Our Criminal Justice System: Extending the Innocence Protection Act. 111th Cong., 1st Sess., 10 (2009) (testimony of Keith Findley, President of the Innocence Network).

that those who have committed violent crimes are identified and behind bars.”³ Such joint efforts have followed in Connecticut, Louisiana, Minnesota, North Carolina and Wisconsin.

The Bloodsworth Program will continue to be vital to States’ work in providing meaningful post-conviction review of innocence claims. As such, we ask that you continue to fund the Bloodsworth Program at its current funding level of \$5 million.

WRONGFUL CONVICTION REVIEW PROGRAM

Particularly when DNA isn’t available, or when it alone isn’t enough to prove innocence, those innocents languishing behind bars require expert representation to help navigate the complex issues that invariably arise in their bids for post-conviction relief. And the need for such representation is enormous when only a small fraction of cases involve evidence that could be subjected to DNA testing (for example, it is estimated that even among murders, only 10 percent of cases have the kind of evidence that could be DNA tested). Realizing the imperative presented by such cases, the BJA carved-out of its Capital Case Litigation Initiative funding to create the Wrongful Prosecution Review (now the Wrongful Conviction Review) discretionary grant program.⁴ The program provides applicants—non-profits and public defender offices dedicated to exonerating the innocent—with funds geared toward providing high quality and efficient representation for potentially wrongfully convicted defendants in post-conviction claims of innocence. Eleven offices in 10 States received a total of \$2,475,285 for fiscal year 2009.

The program’s goals, in addition to exonerating the innocent, are significant: to alleviate burdens placed on the criminal justice system through costly and prolonged post-conviction litigation and to identify, whenever possible, the actual perpetrator of the crime. Above all, though, this program forms a considerable piece of the comprehensive Federal package of innocence protection measures created in recent years; without it, a great deal of innocence claims might otherwise fall through the cracks. Accordingly, we urge you to re-appropriate the Capital Litigation Improvement Grant Program at its current level of \$5.5 million, so that the Wrongful Conviction Review Program may continue to be funded at its current level through the BJA.

NIST PRESERVATION WORKING GROUP

The need for the NIST Preservation Working Group is particularly pressing as outdated policies and practices still fail to consider the power of DNA in biological evidence. And, while many State legislators have expressed a desire to more effectively and efficiently preserve evidence to harness the probative power of DNA, they find themselves unable to secure the information necessary to do so. Failures in preservation practice can frustrate even the most aggressive efforts to solve active cases and cold cases or the quests of the wrongfully convicted to prove their innocence.

With funds recently disbursed by the NIJ, the NIST Preservation Working Group is currently being formed. Its first meeting is tentatively scheduled for June 2010, when the group will gather to begin its critical work toward identifying and recommending best practices for the preservation of biological evidence. According to Sue Ballou of NIST, generally, \$60,000 covers a meeting of 25 attendees. The \$250,000 will cover labor costs as well as travel, per diem and other costs for all invitees to the year’s meetings, which will number at least three. However, Ms. Ballou estimates that \$350,000 would enable the group to more quickly and thoroughly complete its critically important mandate of educating the States on the proper preservation of evidence. As such, we ask that Congress provide funding to the NIJ sufficient for the disbursement of \$350,000 for fiscal year 2011 so that the NIST Preservation Working Group may carry on with its work—so that “the discovery of preserved biological evidence—to protect the innocent and the public at large—will no longer have to rely on serendipity and happenstance.”⁵

³ Arizona receives Federal DNA grant, <http://community.law.asu.edu/news/19167/Arizona-receives-federal-DNA-grant.htm> (last visited Mar. 17, 2010).

⁴ Reauthorization of the Innocence Protection Act. 111th Cong., 1st Sess., 8 (2009) (testimony of Lynn Overmann, Senior Advisor, Office of Justice Programs).

⁵ Reauthorization and Improvement of DNA Initiatives of the Justice for All Act of 2004. 110th Cong., 2d Sess., 27 (2008) (testimony of Peter Neufeld, Esq.).

AN ADDITIONAL NOTE ON THE DEPARTMENT OF JUSTICE'S REQUESTED BUDGET FOR
FISCAL YEAR 2011

The Department of Justice's fiscal year 2011 budget request appears to do away with many of the above programs as separate programs; instead, it seems to advocate providing a blanket \$150 million for what is termed "DNA Initiative."⁶

We are particularly concerned about the impact that block-granting the above programs will have on the requirement incentives that the Bloodsworth Program and the Wrongful Conviction Review Program currently provide for States to prevent wrongful convictions and otherwise ensure the integrity of evidence.⁷ These incentives have proven significant for the advancement of State policies to prevent wrongful convictions.

To the extent these incentives would no longer exist, or be diminished, if delivered in block grant form, the Innocence Project would recommend that they not be so delivered and that Congress maintain and fund the individual programs in order to preserve their important incentive and performance requirements. Doing away with these requirements would thwart the original intent of the JFAA, which was to provide funding only to States that demonstrate a commitment to preventing wrongful convictions in those areas. Should these innocence protection requirements of the above programs remain in full force and in all instances despite a change to block grants, however, this specific issue will no longer be of concern.

CONCLUSION

Thank you for your time and consideration of these important programs, and the opportunity to submit testimony. We look forward to working with the subcommittee this year.

PREPARED STATEMENT OF THE NATIONAL FISH AND WILDLIFE FOUNDATION

Madam Chairman and members of the subcommittee: Thank you for the opportunity to submit testimony regarding fiscal year 2011 funding for the National Fish and Wildlife Foundation (Foundation). The Foundation's fiscal year 2011 funding request is fully authorized and each Federal dollar appropriated will be matched by a minimum of one non-Federal dollar. We respectfully request your approval of funding through the National Oceanic and Atmospheric Administration (NOAA) at the following levels:

- Three million dollars to help fishing communities in the transition to catch share programs—National Marine Fisheries Service's (NMFS) Operations, Research and Facilities appropriation; and
- Two million dollars to foster coordination between NOAA, State, tribal, and local partners in comprehensive marine spatial planning—National Ocean Service's (NOS) Ocean and Coastal Management appropriation.

Since its inception, the Foundation has leveraged \$500 million in Federal funds into more than \$1.6 billion in on-the-ground and in-the-water conservation with less than 5 percent aggregate overhead to the Federal Government and fewer than 90 staff nationwide.

The Foundation was established by Congress in 1984 to foster public-private partnerships to conserve fish, wildlife and their habitats. The Foundation is required by law to match each Federal-appropriated dollar with a minimum of one non-Federal dollar. We consistently exceed this requirement by leveraging Federal funds at a 3:1 average ratio while building consensus and emphasizing accountability, measurable results, and sustainable conservation outcomes. fiscal year 2011 funds will allow the Foundation to uphold our mission and expand our successful partnership with NOAA.

SUSTAINABLE FISHERIES AND CATCH SHARES

This \$3 million NOAA–NMFS request will support the Foundation's Fisheries Innovation Fund which is a grant program to assist fishing communities in the design and implementation of catch shares. This new initiative is a priority for the Foundation in fiscal year 2011 and closely aligned with NOAA's budget priorities. The pur-

⁶U.S. Department of Justice, fiscal year 2011 Budget Request Factsheet, pp. 13, 15. <http://www.justice.gov/jmd/2011factsheets/pdf/law-enforcement.pdf>.

⁷We have previously advocated for the reauthorization and appropriation of all programs originally intended to be tied to the post-conviction DNA testing access and preservation of evidence requirements under section 413 of the JFAA. Congress, in doing so, will only add to the incentives discussed above.

pose of the Fund is to partner with NOAA, private partners, and local communities to catalyze the development and implementation of limited access privilege programs (“LAPPs”), or catch shares, for the Nation’s marine fisheries. The Foundation will build on our successful grant-making partnerships in gear modification/exchange, bycatch reduction, and marine debris prevention to implement this grant-making and technical assistance program. Private partners have already committed to support the Fund and leverage Federal funds with their own matching contributions.

It is notable that the administration’s fiscal year 2011 request includes \$54 million to initiate a National Catch Share Program. This is an important step and the Foundation is committed to helping NOAA implement this program consistent with the Federal Catch Share Policy. As a neutral consensus builder with a proven track record of success, the Foundation has a unique role to play as a non-regulatory partner in NOAA’s efforts to implement catch share programs.

The Draft Catch Share Policy states that NOAA will “encourage public-private partnerships and facilitate collaboration with State and local governments, regional economic development districts, public and private nonprofit organizations, and tribal entities to help communities address problems associated with long-term fishery and community sustainability.” The Foundation is well-positioned to help NOAA implement this particular aspect of the policy by serving as a conduit to members of the fishing community in the design of catch share programs. The Foundation’s role will be to build trust and effective partnerships within local communities and, among other things, provide grants to improve their capacity to participate in the catch share design process.

As an example, we have recently made an investment in the State of Maryland to build a sustainable blue crab fishery in the Chesapeake Bay through development of catch shares. Our role was to help build trust between the regulators and the fishermen by promoting fishermen-to-fishermen learning opportunities about catch shares.

In the Gulf of Mexico, we have provided grants to enable fishermen to meet regulatory requirements to convert their fishing gear, free of charge, to avoid bycatch. We operated similar gear conversion programs for New England lobsterman. The Fishing for Energy Program, established in 2008 with NOAA, Covanta Energy, and Schnitzer Steel allows fishermen to dispose of derelict gear, free of charge, that Covanta converts to create energy. This successful partnership has benefited fishermen through collection and disposal of over 250 tons of derelict fishing gear from 18 ports in the United States.

The Foundation looks forward to working with NOAA as a funding partner in fiscal year 2011 to develop catch share programs that are well-designed and thoughtfully prepared to foster healthy, profitable fisheries that are sustainable and beneficial to coastal communities.

MARINE SPATIAL PLANNING AND MARINE PROTECTED AREAS

This \$2 million NOAA–NOS request will support the Foundation’s Marine Protected Areas (MPAs) Fund which is a grant program focused on the implementation of marine spatial planning conservation priorities. The Fund was established in 2009 in partnership with NOAA’s MPA Center to provide grants that will foster collaboration at all levels of government to work together at regional, national and international levels to strengthen the management, protection, and conservation of MPAs.

MPA’s play a critical role in the conservation of marine and coastal resources and span a range of habitats including open ocean, estuaries and inter-tidal zones. There are a variety of MPA programs at the Federal, State, tribal and local level that make up the new National System of MPAs. The Interagency Ocean Policy Task Force Framework for Effective Coastal and Marine Spatial Planning identifies MPAs as a primary tool for conservation of the marine environment. The Foundation’s MPA Fund can deliver tangible results that contribute to the marine spatial planning conservation goals of the Interagency Ocean Policy Task Force by enhancing coordination of Federal, State, tribal, and local MPAs.

With fiscal year 2011 funding, the Foundation will continue grant-making to support effective management, including strengthening of technical, scientific and enforcement capacity, and facilitating participation of stakeholders in planning efforts needed to ensure the success of the National System of MPAs. Further, the Fund will help to: (1) enhance the protection of U.S. marine resources by providing new opportunities for regional and national cooperation; (2) support the national economy by helping to sustain fisheries and maintain healthy marine ecosystems for

tourism and recreation businesses; and (3) promote public participation in MPA decisionmaking by improving access to public policy information.

The administration's fiscal year 2011 budget request recognizes the need and importance of marine spatial planning and ocean governance. To that end, we respectfully ask for your support of the Foundation's MPAs Fund in fiscal year 2011.

CONCLUSION

As the congressionally-chartered Foundation for NOAA, the Foundation is uniquely positioned to help the agency implement priority programs and leverage Federal investments to support our shared conservation objectives. Direct appropriations through NOAA in fiscal year 2011 will accelerate our collective efforts to fully implement the Fisheries Innovation Fund and the Marine Protected Areas Fund. NOAA appropriations of \$5 million in fiscal year 2011 would be matched at a minimum by an additional \$5 million from non-Federal sources. As a trusted, neutral consensus builder, the Foundation stands ready to assist NOAA with implementation of these Federal programs by catalyzing effective local partnerships to protect marine and coastal resources while ensuring continued economic benefits for local communities.

Madam Chairman, we greatly appreciate your continued support and hope the subcommittee will approve funding for the Foundation in fiscal year 2011.

PREPARED STATEMENT OF THE ASME TECHNICAL COMMUNITIES' NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) TASK FORCE

The ASME Technical Communities' National Institute of Standards and Technology (NIST) Task Force is pleased to have this opportunity to provide comments on the fiscal year 2011 budget request for NIST. The NIST Task Force and ASME Standards & Certification have a long-standing relationship with NIST and thus recognize NIST as a key Government agency that contributes significantly to the development and application of technology.

In the President's fiscal year 2011 budget request, the Task Force supports the proposed increases for NIST programs, which are consistent with the doubling path by fiscal year 2017 identified by the administration as a goal for NIST.

INTRODUCTION TO ASME AND THE NIST TASK FORCE

Founded in 1880 as the American Society of Mechanical Engineers, ASME is a worldwide engineering society of over 127,000 members focused on technical, educational and research issues. ASME conducts one of the world's largest technical publishing operations, holds approximately 30 technical conferences and 200 professional development courses each year, and sets many industry and manufacturing standards.

Mechanical engineers play a key role in the research, technology development, and innovation that influence the economic well being of the Nation. ASME has supported the mission of NIST since it was founded in 1901, as the National Bureau of Standards. In fact, ASME was instrumental in establishing the Department of Commerce, NIST's parent agency. The technical programs of NIST are unique in that they foster Government and industry cooperation through cost-sharing partnerships that create long-term investments based on engineering and technology. These programs are aimed at providing the technical support so vital to our Nation's future economic health.

OVERVIEW OF NIST'S FISCAL YEAR 2011 BUDGET REQUEST

The administration's budget request for NIST in fiscal year 2011 is \$918.9 million. This represents a \$62.3 million increase over the fiscal year 2010 appropriated amount and is on target to reach the doubling goal by fiscal year 2017, as identified by the administration for this agency.

This budget includes \$584.6 million for the Scientific and Technical Research and Services (STRS), NIST laboratory research and \$9.9 million for the Baldrige National Quality Program. A large portion of the NIST budget is devoted to the Industrial Technology Services programs, which consist of the Technology Innovation Program (TIP) as well as the Hollings Manufacturing Extension Partnership (MEP). This budget requests \$79.9 million for TIP, a \$10 million increase over the fiscal year 2010 appropriated amount. Additionally, it requests \$129.7 million for the Hollings Manufacturing Extension Partnership (MEP), a \$4.6 million increase over the fiscal year 2010 appropriated amount.

The NIST laboratories are critical to the economic health and national security of the United States as outlined in the President's Innovation Agenda, inspired, in part, by the bipartisan "America COMPETES Act of 2007" (Public Law 110-69), which authorizes the doubling of funding at key Federal agencies, including NIST. Therefore, the NIST Task Force will be very anxious to learn more about NIST Director Dr. Gallagher's proposal for reconfiguring the NIST laboratories to better reflect technological innovations in manufacturing and product development. Additionally, the important work of NIST in the area of standards, including serving as the U.S. inquiry point for the World Trade Organization (WTO) Technical Barriers to Trade (TBT) Agreement, is vital to ensuring that U.S. technology and products are not unduly handicapped in the global market.

NIST'S STANDARDS MISSION

Part of the mission of NIST is to promote the use of American codes and standards in countries and industries around the world as a means of enhancing U.S. competitiveness. Standards provide technical definitions and guidelines for design and manufacturing. They serve as a common global language, define quality and establish safety criteria. In the United States, standards are developed by private-sector organizations such as ASME in close collaboration with representatives from industry, Government and academia. These standards are used by industry and are frequently adopted by Government agencies as a means of establishing regulatory requirements. They are vital to the economic health of many industries, and—more important—they help to ensure the health and safety of the American people and of citizens in countless nations around the world.

The Department of Commerce and NIST have an indispensable role in ensuring acceptance by other nations of U.S.-developed standards that incorporate technological advances and that meet changing industry, regulatory, and public safety needs. Congress should be aware that, unlike in the United States where standards development is largely the province of private sector organizations, standards development in many other countries is undertaken with strong government support. The governments of many of our key trading partners invest significant resources—in the millions of dollars—to promote acceptance of competing standards (developed by organizations in those countries) in the global marketplace. It is therefore essential that the U.S. Government, in partnership with private sector standards development organizations, strengthen its commitment to ensuring adequate representation of U.S. interests in international standards negotiations.

Enabling U.S. manufacturers to design and build to one standard or set of standards increases their competitiveness in the world market. The ability of NIST to assist U.S. domiciled standards developers in their negotiations with international and national standards organizations is important to the U.S. business community. The United States must be a full participant in global standards development if our industries are to compete effectively in a world market. Decisions made in standards bodies outside the United States have a profound impact on the ability of U.S. companies to compete in foreign markets.

TASK FORCE POSITION

In the President's fiscal year 2011 budget request, the Task Force supports the increases for TIP and MEP. The Task Force is tentatively supportive, pending a detailed plan from the NIST Director, of the recent announcement to undertake a restructuring of the NIST laboratories. These laboratories conduct critical research in areas like high-technology manufacturing and nanotechnology which have the potential to establish new industries and keep the U.S. manufacturing base strong.

The erosion of U.S. manufacturing jobs has become a key issue for the MEP to develop sustainable practices for the industry. The MEP incorporates competitive business practices and technologies into small- to medium-sized enterprises—companies that create a significant number of jobs. The administration's request of \$129.7 million reflects the importance of NIST as a part of the administration's goals for innovation, as well as harkens to the bipartisan "America COMPETES Act."

The Task Force is pleased by the robust funding increase requested for the TIP. The TIP provides cost-shared funding to industry for high-risk research and development projects with potentially broad-based economic benefits for the United States. One key difference between the TIP program, versus its predecessor the Advanced Technology Program (ATP) is the inclusion of universities to draw upon the technical talents housed in these institutions for breakthroughs in "high risk, high reward" research for manufacturing. The Task Force supports the funding request for TIP to serve as an initial down payment to investing in high-risk research and development.

The Task Force firmly believes that TIP and the MEP are critical to the Nation's future economic well-being and the health of the U.S. science, engineering, and technology base. These programs hold the potential to improve the transfer of new discoveries and developments in science and engineering to innovative technologies, global quality practice, and profitable manufacturing capabilities on the shop floor. The NIST Task Force has long supported MEP and TIP as a catalyst of technological innovation and is pleased to see the administration's support for these two critical programs as NIST seeks to facilitate the development of new industries that will catalyze manufacturing and industrial practices in the United States.

The Task Force is in full support of the \$584.6 million proposed funding for the Scientific and Technical Research and Services (STRS) directorate in the fiscal year 2011 budget. This funding will help support building and fire research, information technology, and manufacturing engineering laboratories.

CONCLUSION

Despite the proposed freeze on discretionary funding for the next three fiscal years, the administration has demonstrated a willingness to support increases for key NIST initiatives for fiscal year 2011. Accordingly, the Task Force remains strongly supportive of these initiatives as well as the underlying goals of NIST as it related to advanced manufacturing and technological innovation.

PREPARED STATEMENT OF THE AMERICAN PHYSIOLOGICAL SOCIETY

NATIONAL SCIENCE FOUNDATION AND NASA

The American Physiological Society (APS) thanks the subcommittee for its sustained support of science at the National Science Foundation (NSF) and NASA. The scientific research and technology development programs supported by these two agencies are critical to the future technological excellence and economic stability of the United States. In this testimony, the APS offers its recommendations for the fiscal year 2011 budgets for the NSF and NASA.

—The APS recommends that Congress fund the fiscal year 2011 NSF budget at a level of \$7.68 billion.

—The APS urges Congress to restore cuts to NASA's life sciences research budgets and make every effort to fully fund the proposed 42 percent increase in the Human Research Program.

The APS is a professional society dedicated to fostering research and education as well as the dissemination of scientific knowledge concerning how the organs and systems of the body work. The Society was founded in 1887 and now has nearly 10,000 members who do research and teach at public and private research institutions across the country, including colleges, universities, medical and veterinary schools. Many of our members conduct physiology research that is supported by funds allocated through the NSF and NASA.

MOMENTUM FROM ARRA SHOULD BE MAINTAINED AT THE NSF

With passage of the America COMPETES Act of 2007, Congress authorized a doubling of the agency's budget over several years. Unfortunately, the NSF budget failed to grow at the authorized levels in subsequent years and fell behind the doubling goal significantly. Congress remedied this in the American Recovery and Reinvestment Act of 2009 (ARRA), which provided an additional \$3 billion in fiscal year 2009 and 2010. This additional funding has allowed the NSF to significantly expand its efforts to fund cutting edge research and support the scientific enterprise. To date, the ARRA investment has provided funding for 4,599 competitive awards, supporting more than 6,700 investigators, including 2,352 new investigators.¹ In order to maintain the momentum generated by the ARRA investment and sustain the agency's research capacity, the APS recommends that Congress fund the fiscal year 2011 NSF budget at a level of \$7.68 billion.

The basic science initiatives funded by the NSF are driven by the most fundamental principles of scientific inquiry. The agency provides support for approximately 20 percent of Federal funded basic science and is the major source of support (68 percent) for non-medical biology research, including integrative, comparative, and evolutionary biology, as well as interdisciplinary biological research. It has been shown time and again that the knowledge gained through basic biological research

¹NSF fiscal year 2011 Budget Request to Congress http://www.nsf.gov/about/budget/fy2011/pdf/01-Overview_fy2011.pdf.

is the foundation for more applied studies that lead to improvements in the lives of humans, animals and ecosystems.

The majority of the funding NSF provides is awarded through competitive, merit-based peer review, which ensures that the best possible projects are supported. NSF has an excellent record of accomplishment in terms of funding research endeavors that have produced results with far-reaching potential. Listed below are just a few recent advances in biological research that were supported by the NSF.

- Using three-dimensional computational models, researchers investigating the design and functionality of stents used to open blocked blood vessels showed that appropriate sizing of stents is necessary to prevent disturbances in blood flow and mechanical stress on the blood vessel wall. These processes contribute to blood vessels becoming re-blocked over time, leading to the need for additional treatment.²
- Researchers studying how inhaled particles, such as nanoparticles, pass from the lung into the rest of the body compared how well natural barriers blocked such particles in developing versus adult lungs. They found that developing lungs were more susceptible to allowing the passage of particles than adult lungs.³
- Researchers studying factors contributing to birth weight demonstrated that at high altitudes, babies born to mothers of Andean descent had higher birth weights than those born to mothers of European descent. They hypothesize that genetic factors in the Andean mothers contributed to increased blood flow and oxygen delivery to the developing fetus, resulting in more rapid growth late in pregnancy.⁴

In addition to funding innovative research in labs around the country, the NSF also fosters the next generation of scientists through education programs. The APS is proud to have partnered with NSF in this program to provide training opportunities and career development activities to enhance the participation of underrepresented minorities in science. The APS was recognized for these efforts in 2003 with a Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM), funding for which was provided by NSF and was reinvested in our education programs. We believe that NSF is uniquely suited to administer science education programs of the highest quality, and we recommend that Congress continue to provide Federal funds for science education through the NSF.

The America COMPETES Act and the ARRA demonstrate the strong support of Congress for the NSF because of its highly-regarded research and education programs. The APS thanks Congress for these votes of confidence in the NSF and joins the Federation of American Societies for Experimental Biology to recommend that the agency be funded at a level of \$7.68 billion in fiscal year 2011.

SUPPORT FOR LIFE SCIENCES RESEARCH AND THE HUMAN RESEARCH PROGRAM 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 space shuttle and International Space Station, environments that offer the unique ability to conduct experiments in the space environment. The HRP at NASA conducts research and develops countermeasures with the goal of enabling safe and productive human space exploration.

During prolonged space flight, the physiological changes that occur due to microgravity, increased exposure to radiation, confined living quarters, and alterations in eating and sleeping patterns can lead to health problems and reduced ability to perform tasks. APS scientists are actively engaged in research that explores the physiological basis of these problems with the goal of contributing to the development of countermeasures. 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. Some recent advances made by NASA funded physiologists are below.

- Scientists studying the effects of exercise on astronauts who spent 6 months aboard the International Space Station found that despite regular exercise, they

²H. Y. Chen et al., *J Appl Physiol* 106, 1686–91 (May, 2009).

³R. Dickie, M. Cormack, M. Semmler-Behnke, W. G. Kreyling, A Tsuda, *J Appl Physiol* 107, 859–63 (Sep, 2009).

⁴C. G. Julian et al., *Am J Physiol Regul Integr Comp Physio*, 296, R1564–75 (May, 2009).

still experienced a decrease in muscle mass. This indicates the need to determine how to improve the effectiveness of such exercise programs.⁵

—Researchers investigating how breathing changes during space flight showed that during certain stages of sleep, astronauts showed differences in their breathing patterns.⁶

NASA is the only agency whose mission addresses the biomedical challenges of manned space exploration. Recently the amount of money available for conducting this kind of research at NASA has dwindled. The overall number of projects and investigators supported by NASA through the HRP, National Space Biomedical Research Institute and Exploration and Technology Development program has decreased markedly over the last 5 years, falling from more than 900 projects funded in fiscal year 2005 to only 336 in fiscal year 2009.⁷ In the past, appropriations legislation specified funding levels for biomedical research and gravitational biology, but recent 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 fiscal year 2011 budget request to Congress includes a planned 42 percent increase in the HRP budget. We applaud this proposal and urge Congress to make every effort to fully fund that request. The APS also calls on Congress and NASA to restore cuts to peer-reviewed life sciences research.

As highlighted above, investment in the basic sciences is critical to our Nation's technological and economic future. The APS urges you to make every effort to provide these agencies with increased funding for fiscal year 2011.

PREPARED STATEMENT OF THE AMERICAN PUBLIC POWER ASSOCIATION

The American Public Power Association (APPA) is the national service organization representing the interests of over 2,000 municipal and other State and locally owned utilities in 49 States (all but Hawaii). Collectively, public power utilities deliver electricity to 1 of every 7 electric consumers (approximately 45 million people), serving some of the Nation's largest cities. However, the vast majority of APPA's members serve communities with populations of 10,000 people or less.

The Department of Justice's (DOJ) Antitrust Division and the Federal Trade Commission (FTC) play critical roles in monitoring and enforcing antitrust laws affecting the electric utility industry. With the repeal of the Public Utility Holding Company Act (PUHCA) included in the Energy Policy Act of 2005, the electric utility industry has experienced an increase in mergers that could result in increased market power in certain regions. This development, coupled with the volatility and uncertainty continuing to occur in wholesale electricity markets run by regional transmission organizations, makes the oversight provided by DOJ and the FTC more critical than ever.

APPA supports adequate funding for staffing antitrust enforcement and oversight at the FTC and DOJ. For the FTC's fiscal year 2011 budget, we support the President's budget request of \$314 million. We were pleased with the fiscal year 2011 funding level of \$167 million for the DOJ Antitrust Division, which is a slight increase from the previous year.

We appreciate the opportunity to submit this statement outlining our fiscal year 2011 funding priorities within the Commerce, Justice and Science Subcommittee's jurisdiction.

PREPARED STATEMENT OF THE PEW ENVIRONMENT GROUP

The Pew Environment Group (PEG) appreciates the opportunity to provide testimony on the National Oceanic and Atmospheric Administration's (NOAA) fiscal year 2011 budget request. Specifically, we would like to comment on the fisheries data collection and analysis request of the National Marine Fisheries Service (NMFS). In order to meet critical new fisheries management requirements, we request a total of \$380.9 million for data collection and analysis, which is an increase of \$58.4 million over the President's fiscal year 2011 budget request.

In 2006, Congress reauthorized and amended the Magnuson-Stevens Fishery Conservation and Management Act to finally put an end to overfishing, i.e., taking fish

⁵S. Trappe et al., *J Appl Physiol* 106, 1159–68 (Apr, 2009).

⁶R. C. Sa, G. K. Prisk, M. Paiva, *J Appl Physiol* 107, 1406–12 (Nov, 2009).

⁷Advanced Capabilities Division Research and Technology Task Book <http://peer1.nasaprs.com>.

from the ocean faster than they can reproduce. To achieve that objective, Congress required Federal fishery managers to establish science-based annual catch limits (ACLs) that do not allow overfishing for all U.S. ocean fisheries. As these ACLs are developed, it is imperative that Congress appropriate the funding necessary to continue providing and improving the scientific information fisheries managers need to guide decisions that will sustain our fisheries. ACLs must be based on science, not politics, to ending overfishing and rebuild depleted fisheries.

Improvements in data collection and analysis will enable fishery managers to better achieve the goal of the 2006 amendments, ending overfishing. The following core data collection and monitoring programs should be increased by a total of \$58.4 million over the President's fiscal year 2011 budget request. This represents an increase of \$35.5 million over fiscal year 2010 enacted funding levels, for a total of \$380.9 million. This increase is broken down into specific budget categories below.

Fisheries Research and Management Programs: +\$11.4 Million Over the President's Request, for a Total of \$190.9 Million, an Amount Equal to the Fiscal Year 2010 Enacted Level.—Fisheries research and management programs provide accurate and timely information and analysis on the biology and population status of managed fish as well as the socioeconomics of the fisheries that depend on those populations. Such information is critical for the development of fisheries management measures to ensure that they end overfishing. In NOAA's fiscal year 2011 budget request, \$11.4 million is transferred from the Fisheries Research and Management Programs line item into the National Catch Share Program line item. We believe that any increases for catch share programs should be made with new money, not transferred from existing general research programs that should be available for all fisheries. Because of their vital role in ending overfishing, Fisheries Research and Management Programs should be funded at no less than the fiscal year 2010 enacted level of \$190.9 million. Additionally, no funds from the line item should be transferred to the National Catch Share Program, because those funds would become permanently unavailable to fund research and management programs for the vast majority of Federal managed fisheries that are not currently in a catch share program, and may not be included in one in the future.

Expand Annual Stock Assessments: +\$10 Million Over the President's Request, for a Total of \$61.7 Million, an Increase of \$10.7 Million Over the Fiscal Year 2010 Enacted Level.—Stock assessments are the basic scientific tool that scientists use to determine the health of fisheries. A stock assessment provides estimates of population size and the amount of fishing that the population can sustainably support. The President's budget request of \$51.7 million would only provide the capability to assess 57 percent of the 230 commercially and recreationally important fish stocks managed by the Federal Government.¹ However, NMFS's goal is to assess all major fish stocks and conduct annual baseline monitoring for all Federal-managed fish species.² Using funds appropriated under this budget line, NMFS plans to update fish stock assessments, support the implementation of ACLs, support fishery independent surveys, expand fishery dependent sampling, and improve ACL forecasting through enhanced modeling. Increased funding for data collection and monitoring will increase certainty in determining fish population sizes and the amount of fishing these populations can sustain, thus enabling managers to increase fishing opportunities.

Cooperative Research: +\$10 Million Over the President's Request, for a Total of \$17.1 Million, a Decrease of \$500,000 Below the Fiscal Year 2010 Enacted Level.—Cooperative research programs pay fishermen, operating under the direction of Federal scientists, to collect fisheries data, and test new more sustainable fishing gear and practices. In addition to the information collected, cooperative research programs build partnerships among scientists and fishermen. They are also an effective way to provide financial relief for struggling fishermen, while also creating a more transparent process and providing a cost-effective way to improve the data upon which fisheries management decisions are made.

In 2003, NMFS estimated that it would need \$25.5 million for cooperative research by fiscal year 2009.³ The President's fiscal year 2011 budget request transfers \$6 million out of the cooperative research line item and into the National Catch Share Program line item. Although NMFS asserts that the \$6 million will be used

¹National Oceanic and Atmospheric Administration, Budget Estimate for fiscal year 2010, Exhibit 13, p. 217.

²National Oceanic and Atmospheric Administration, "NOAA's National Marine Fisheries Service Requirements for Improved and Integrated Conservation of Fisheries, Protected Resources and Habitat," January 2003.

³Id. NMFS 2003 5 year assessment estimated the need for cooperative research to be \$22.75 million above fiscal year 2003 levels by fiscal year 2009, for a total of \$25.50 million.

for cooperative research in catch share fisheries, there is no guarantee that it will continue to be used for cooperative research in the future. In addition, taking funds from general cooperative research, where it would be available for all fisheries, and restricting it to only catch share fisheries, short changes the vast majority of fisheries that are not catch share fisheries. Moreover, the President's budget request decreases funding for cooperative research an additional \$4.565 million. Therefore, NMFS proposes to cut the cooperative research funding available to all fisheries by \$10.5 million, in other words a 60 percent decrease in funding available to all fisheries from fiscal year 2010 enacted levels. We request an increase of \$10 million, for general cooperative research funding available to all fisheries, for a total of \$17.1 million, close to fiscal year 2010 enacted levels.

Survey and Monitoring Projects: +\$6 Million Over the President's Request, for a Total of \$30 Million, an Increase of \$6.2 Million Over the Fiscal Year 2010 Enacted Level.—NOAA has stated that “many fisheries lack adequate and timely monitoring of catch and fishing effort.”⁴ Survey and monitoring projects provide critical support for implementation of the new ACL requirement. Increased funding will improve that accuracy of ACLs and will increase the percentage of stocks with assessments. Two of the most important needs overall are research vessel surveys to collect fishery independent information on abundance and distribution of fish populations.⁵ Additional funding for fishery-independent surveys, monitoring, and research will improve estimates of ecosystem change, fishing mortality, and population size.

Fisheries Statistics: +\$11 Million Over the President's Request, for a Total of \$32.4 Million, an Increase of \$11.3 Million Over the Fiscal Year 2010 Enacted Level.—Given the fact that there are great data collection needs in the south Atlantic, and Gulf of Mexico recreational fisheries, PEG recommends that the entire \$11 million increase go toward the Marine Recreational Information Program (MRIP), a new saltwater recreational fishing data collection program that is partially included in the Fisheries Statistics line. MRIP funding should total \$20 million, an increase of \$11 million over the fiscal year 2010 enacted level of \$9 million. Increased funding will improve data on recreational fishing catch (both landed and released fish) and participation. One promising new technology is electronic reporting, which could improve the timeliness and accuracy of recreational data. Additional resources could be used to develop and deploy such new systems. Better quality data on marine recreational fishing, which contributes roughly \$80 billion annually to the U.S. economy,⁶ will allow scientists to better estimate fishing mortality and set ACLs more accurately, thus reducing the risk of overfishing. In addition, improving the timeliness of recreational data will allow managers to take action before an ACL is exceeded. This will lead to less restrictive management decisions and more fishing opportunities.

Observers/Training: +\$10 million over the President's Request, for a Total of \$48.8 million, an Increase of \$7.7 Million Over the Fiscal Year 2010 Enacted Level.—NMFS has been required by law to establish a standardized bycatch (incidental catch of non-target ocean wildlife) reporting system since 1996. Fishery observers (trained biologists who go to sea on commercial fishing vessels) collect close to real-time commercial fishing catch and bycatch data and important information on fishing practices, gear use, where and when fishing occurs, compliance, and biological samples not available from dockside sampling. Observer programs are “often the best means to gather current information on fisheries status” and enable effective management, even though currently only 40 fisheries have observer programs.⁷ Additional funding for observer coverage will improve the quality and quantity of fisheries data, especially estimates of bycatch mortality, information that is critical to estimating populations size and sustainable fishing levels.

In 2003, NMFS recommended that the National Observer Program be funded at \$104 million by fiscal year 2009. The increased funding would have been used for research and development into innovative fishing gear to reduce bycatch, implementation of bycatch reduction strategies, and implementation of statistically valid observer coverage in all fisheries. Unfortunately, in the President's fiscal year 2011 budget request, Observers/Training suffers more than \$3 million in terminations, re-

⁴Id. at 166.

⁵Marine Fisheries Stock Assessment Improvement Plan: Report of the National Marine Fisheries Service National Task Force for Improving Fish Stock Assessments. October 2001. NOAA Technical Memorandum NMFS-F/SPO-56.

⁶NOAA, Saltwater Recreational Fishing Factsheet, 2009. Available at http://www.nmfs.noaa.gov/sfa/PartnershipsCommunications/rec_fishing_facts.pdf.

⁷National Oceanic and Atmospheric Administration, Budget Estimate for fiscal year 2011, p. 191.

sulting in a request of \$38.8 million. Increasing that request to \$48.8 million would be a down payment on fully funding the observer program.

CONCLUSION

NMFS data indicates that 37 of the 190 assessed commercially and recreationally important fish stocks (about 20 percent) are subject to overfishing. It is essential to increase funding to support research, data collection and assessment activities necessary to put an end to this overfishing. Congress established the legal tool to accomplish this in 2006 by requiring the implementation of science-based ACLs that end and prevent overfishing for U.S. fisheries. Now it must provide the funding to collect and analyze the information necessary to continue meeting that requirement and sustaining healthy fisheries. Increasing funding for data collection and analysis will significantly improve the Federal Government's efforts to maintain viable fisheries and healthy marine ecosystems.

PREPARED STATEMENT OF THE AMERICAN INDIAN HIGHER EDUCATION CONSORTIUM

On behalf of this Nation's 36 Tribal Colleges and Universities (TCUs), which compose the American Indian Higher Education Consortium (AIHEC), thank you for the opportunity to express our views and recommendations regarding the National Science Foundation's Tribal Colleges and Universities Program (NSF-TCUP) for fiscal year 2011.

SUMMARY OF REQUEST

National Science Foundation (NSF)—Education and Human Resources Directorate (EHR).—Since fiscal year 2001, a TCU initiative has been funded and administered under the NSF-EHR. This competitive grants program enables Tribal Colleges and Universities to enhance the quality of their science, technology, engineering and mathematics (STEM) instructional and outreach programs. TCUs that have been awarded an NSF-TCUP grant have done comprehensive institutional needs analysis and developed plans for how to address their institutional and NSF goals, with primary institutional goals being significant and sustainable expansion and improvements to STEM programs. We strongly urge the subcommittee to reject the recommendation included in the President's fiscal year 2011 budget proposal to combine the NSF minority serving institutions programs into a consolidated minority undergraduates in STEM program. If all funds are competed as a single program there is no recognition of the uniqueness of these various communities or an assurance that these communities will be served equitably. We further request that the subcommittee support funding the separate TCU Program, at a minimum of \$15.5 million.

BACKGROUND

Tribal Colleges and Universities are accredited by independent, regional accreditation agencies and like all U.S. institutions of higher education, must undergo stringent performance reviews on a periodic basis to retain their accreditation status. TCUs fulfill additional roles within their respective reservation communities functioning as community centers, libraries, tribal archives, career and business centers, economic development centers, public meeting places, and child and elder care centers. Each TCU is committed to improving the lives of its students through higher education and to moving American Indians toward self-sufficiency.

TCUs have advanced American Indian higher education significantly since we first began four decades ago, but many challenges remain. Tribal Colleges and Universities are poor institutions. In fact, TCUs are the most poorly funded institutions of higher education in the country.

First, while Tribal Colleges and Universities are public they are not State institutions. Consequently, our institutions receive little or no State funding. In fact, very few States provide operating support to our institutions for the non-Indian students attending TCUs, which account for about 21 percent of our enrollments. However, if these students attended a State institution, the State would be required to provide the institution with operational support for them. This is something we are trying to rectify through education and public policy change at both the State and local levels.

Second, the tribal governments that have chartered TCUs are not among the handful of wealthy gaming tribes located near major urban areas. Rather, they are some of the poorest governments in the Nation. In fact, 3 of the 10 poorest counties in America are home to Tribal Colleges.

Finally, the Federal Government, despite its trust responsibility and treaty obligations, has never fully funded our primary institutional operations source, the Tribally Controlled Colleges & Universities Assistance Act of 1978. Today, TCUs are appropriated \$5,784 per full-time Indian student, which is still considerably less than the authorized level of \$8,000 per Indian student. In fact, if you factor in inflation, the buying power of the current appropriation is \$965 less per Indian student than it was when it was initially funded almost 30 years ago, when the appropriation was \$2,831 per Indian student.

TCUs effectively blend traditional teachings with conventional postsecondary curricula. They have developed innovative ways to address the needs of tribal populations and are overcoming long-standing barriers to success in higher education for American Indians. Since the first TCU was established on the Navajo Nation in 1968, these vital institutions have come to represent the most significant development in the history of American Indian higher education, providing access to, and promoting achievement among, students who may otherwise never have known postsecondary education success.

JUSTIFICATIONS

National Science Foundation/Education and Human Resources Directorate

American Indian students have the highest high school drop-out rates in the country. On average, more than 75 percent of all TCU students must take at least one developmental course, most often precollege mathematics. Of these students, our data indicates that many do not successfully complete the course in 1 year. Without question, a tremendous amount of the TCUs' already limited resources are spent addressing the failings of K-12 education systems.

To help address this, our institutions have developed strong partnerships with our K-12 feeder schools and are vigorously working, often through NSF-TCU programs, to actively and consistently engage young students in community and culturally relevant science and math programs.

Beginning in fiscal year 2001, NSF-TCUP made essential capacity building assistance and resources available to TCUs, either through direct funding or by leveraging funding from other sources. In the less than 10 years since the program began, NSF-TCUP has become the primary Federal program for building STEM capacity at the Nation's TCUs. NSF-TCUP has served as a catalyst for capacity building and positive change at TCUs and the program can be credited with many success stories. American Indians are more aware of the importance of STEM to their long-term survival, particularly in areas such as climate change. Partnerships between TCUs and major research institutions are emerging in areas of education and research, including pre-engineering.

A goal stated in the President's fiscal year 2011 budget proposal with regard to NSF-EHR is "increasing participation of students from groups traditionally underrepresented in STEM." Though consolidating the various minority serving institutions' (MSIs) undergraduate programs in the NSF Undergraduate/Graduate Student Support budget line may seem like a step toward streamlining funding and administration of duplicative Federal programs and enhancing participation of minority students in STEM, the result will likely be quite the opposite, for the following reasons:

- Each of the MSI specific programs is designed to address the unique challenges and issues facing the communities served by the respective groups of MSIs, including Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), and TCUs; and perhaps of the greatest significance, TCUs are extensions of the Federal recognized tribes that charter them and as such are subject to the unique government-to-government relationship. Consolidating TCU programs with other programs simply because they too target a minority population disregards tribal sovereignty.
- MSIs are not able to compete for funding at the same level not to mention the majority institutions that would now be eligible. Those institutions that are able to employ a professional grant writing staff will be successful in competing for the proposed universal pool of limited funding. Therefore, the consolidation of MSI-STEM programs may bolster participation of some minority student groups, but it will come at the expense of others.
- The President's budget proposal would: (1) consolidate three currently active undergraduate programs, and (2) add to the pool of eligible applicants at least 226 HSIs, heretofore not funded under Undergraduate/Graduate Student Support budget line as well as majority institutions that produce underrepresented STEM graduates. The proposed increase of \$13 million to the new program is undoubtedly inadequate to accommodate the vastly enlarged pool of eligible applicants.

The NSF-TCU program, administered by the Education and Human Resources Directorate, is a competitive grants program that enables TCUs to develop and expand critically needed science and math education and research programs relevant to their respective communities. Through this program, Tribal Colleges and Universities that have been awarded an NSF-TCUP grant have been able to enhance their STEM instructional offerings, workforce development, and outreach programs. At Navajo Technical College (NTC), for example, STEM enrollment has increased by 32.5 percent over just the past year and a total of 52.6 percent over the past 6 years. Outreach programs at NTC include the Internet to the Hogan project, which has increased the college's high performance computing capacity and brought heretofore nonexistent broadband access to the surrounding community. Unfortunately, not all of the TCUs have been able to benefit from this program; yet, funding for this vital program has been static, and the percentage of proposals funded has declined each year since 2004. We strongly urge the subcommittee to resist the recommendation to combine programs for minority institutions and to recognize tribal sovereignty and support retaining the separate NSF-TCU program at a minimum of \$15.5 million, to help ensure that much needed undergraduate programs and community services are expanded and continued in the communities served by the Nation's Tribal Colleges and Universities.

PRESIDENT'S FISCAL YEAR 2011 BUDGET

The President's fiscal year 2011 budget proposal proposes merging separate programs that serve unique minority constituencies into a consolidated program for minority undergraduates in STEM fields. We request that the subcommittee reject the budget recommendation and continue to support separate funding for each of the affected programs, namely: Tribal Colleges and Universities Program (TCUP); Historically Black Colleges and Universities Undergraduate (HBCUUP); Louis Stokes Alliances of Minority Participation (LSAMP); and the new program Hispanic Serving Institutions.

CONCLUSION

We respectfully request that in fiscal year 2011, Congress recognize the unique nature of each of the minority communities and the capacity of the various minority serving institutions and their contributions to their respective communities and retain the following separate programs: NSF TCU program; HBCUU program; and LSAMP program; and fund the newly established Hispanic Serving Institutions program. Thank you for your continued support of TCUs and for your consideration of our fiscal year 2011 Commerce, Justice, Science and Related Agencies (NSF) appropriations request.

PREPARED STATEMENT OF THE AMERICAN SHORE AND BEACH PRESERVATION ASSOCIATION (ASBPA)

Dear Chairman Mikulski and Ranking Member Shelby: I am writing on behalf of the American Shore and Beach Preservation Association, a group dedicated to preserving, protecting and enhancing the beaches, shores and other coastal resources of America. It is impossible to deny the financial, social and environmental benefits of maintaining and protecting our valuable coastal resources. There are many agencies involved in this important work; however I would like to highlight some programs and services administered by the National Oceanic and Atmospheric Administration (NOAA). The work being done by NOAA is critical to the protection of these important national treasures, however the current level of funding to support these programs and services is severely lacking. Without an increase in Federal funding, these programs will not be able to function properly, if at all. Increased financial support for NOAA is needed to strengthen the scientific research that underlies management and policy decisions, such as fisheries management, and to improve ocean and coastal stewardship. Specifically, we request your support for the following programs in the fiscal year 2011 Commerce, Justice and Science appropriations bill. These programs will continue to strengthen and support our economy.

Integrated Ocean Observing System (IOOS).—Enacted in 2009, the IOOS is a valuable tool in data distribution through a partnership between the Federal and local government. This data is used consistently by local officials to support their decisionmaking process in policy formation as it related to marine issues. Not only is this information used to promote efficiency and safety of day to day marine operations, it also is used to sustain and protect healthy ecosystems, strengthen the

predications of potential coastal hazards and to stimulate local and national economic development.

We are asking for an investment of \$53 million in funding for fiscal year 2011, to include \$33 million for regional IOOS programs. This funding would be used to provide new observing, modeling, and visualization technologies, support observing platforms for deploying sensors, and establish regional data information centers. NOAA will use a competitive process to allocate funding to regional associations, thereby ensuring that the American public receives the greatest return for its investment in the form of a nationally consistent system for critical ocean information, forecasts and timely warnings.

National Sea Grant Program.—The National Sea Grant Program is a partnership between NOAA and 32 university-based programs that addresses national, regional, and local coastal, ocean, and Great Lakes issues. The result of this critical partnership is a further understanding and better stewardship and management of ocean, coastal and Great Lakes resources.

Additionally, the program supports local communities and industries with sound data to be used in decisionmaking as well as to support the connection of the two often competing interests. We request \$79.5 million for the National Sea Grant Program in fiscal year 2011, the amount authorized in the National Sea Grant College Program Amendments Act of 2008.

Coastal Zone Management Program (CZMP).—Coastal regions are vital to the national economy, to include tourism, industry and transportation of goods. Though our coastal region is 17 percent of the land area of the United States, it is home to more than one-half of its population. The Coastal Zone Management Program (CZMP) is used to safeguard against common threats to coastal areas, to include poorly designed and planned development, hurricanes and flooding, as well as threats that we are still trying to understand, such as sea level rise.

This Federal-State partnership designed to balance the protection of our coastal and ocean resources with the need for sustainable development of coastal communities. The program helps reduce environmental impacts of coastal development, resolve conflicts between competing coastal uses, and provide critical assistance to local communities in coastal planning and resource protection. Without an increase in funding of CZMP grants, States and territories are unable to keep up with the increasing complex coastal challenges. We request \$112.4 million for the CZMP in fiscal year 2011.

We recognize and understand the fiscal constraints facing the subcommittee in crafting the fiscal year 2011 Commerce, Justice, Science, and Related Agencies appropriations bill. However, we feel that these are valuable investments in our oceans and coasts, and we feel that these would benefit not only these areas, but our Nation as a whole. Thank you for your consideration and please feel free to contact me with any questions.

PREPARED STATEMENT OF THE AMERICAN SOCIETY OF AGRONOMY, CROP SCIENCE SOCIETY OF AMERICA, AND THE SOIL SCIENCE SOCIETY OF AMERICA

FISCAL YEAR 2011 APPROPRIATIONS—SUPPORT FOR NATIONAL SCIENCE FOUNDATION

Dear Chairman Mikulski, Ranking Member Shelby, and members of the subcommittee: The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America (ASA, CSSA, and SSSA) are pleased to submit the following funding recommendations for the National Science Foundation (NSF) for fiscal year 2011. ASA, CSSA, and SSSA understand the challenges the Senate Commerce, Justice, Science, and Related Agencies Appropriations Subcommittee faces with the tight science budget for fiscal year 2011. We also recognize that the Commerce, Justice, and Science Appropriations bill has many valuable and necessary components, and we applaud the efforts of the subcommittee to fund critical research through the National Science Foundation (NSF). ASA, CSSA, and SSSA recommend that the Subcommittee on Commerce, Justice, Science, and Related Agencies increase the fiscal year 2011 funding level for NSF to \$7.424 billion, the level requested by the administration. This strong level of funding will enable NSF to continue to fund worthy projects that promote transformational and multidisciplinary research, provide needed scientific infrastructure, and contribute to preparing a globally engaged science, technology, engineering, and mathematics workforce.

With more than 25,000 members and practicing professionals, ASA, CSSA, and SSSA are the largest life science professional societies in the United States dedicated to the agronomic, crop and soil sciences. ASA, CSSA, and SSSA play a major

role in promoting progress in these sciences through the publication of quality journals and books, convening meetings and workshops, developing educational, training, and public information programs, providing scientific advice to inform public policy, and promoting ethical conduct among practitioners of agronomy and crop and soil sciences.

BIOLOGICAL SCIENCES DIRECTORATE

Molecular and Cellular Biosciences (MCB)

The Molecular and Cellular Biosciences division of the NSF Biology Directorate provides funding for critical research that contributes to the fundamental understanding of life processes at the molecular, subcellular, and cellular levels. Programs such as the Microbial Observatories and Microbial Interactions and Processes program increase the understanding of microbial distribution in a variety of ecosystems—a primary step in evaluating microbial impact on ecosystem function. Furthermore, while we agree that considerable advances investigating interactions between microbial communities and plants have been made, critical gaps remain requiring additional study to understand the complex, dynamic relationships existing between plant and microbial communities.

Biological Infrastructure (DBI)

The emergence of a bioeconomy requires greater reliance on plants and crops, further expanding their use into the energy sector. To meet the increased demands and develop more robust crops, additional fundamental understanding regarding the basic biology of these crops is needed. The Plant Genome Research Program (PGRP) accomplishes these objectives by supporting key NSF projects. The Developing Country Collaborations in Plant Genome Research program links U.S. researchers with partners from developing countries to solve problems of mutual interest in agriculture and energy and the environment. Additionally, in collaboration with the U.S. Department of Energy and the U.S. Department of Agriculture, the Plant Genome Research Program has financed the Maize Genome Sequencing Project—a sequencing project for one of the most important crops grown globally. Finally, the International Rice Genome Sequencing Project published in 2005 the finished DNA blueprint for rice, a crop fundamental to populations worldwide. To continue the discovery of new innovative ways to enhance crop production for a growing population, sustained funding is needed for similar projects. Finally the PGRP and the Bill and Melinda Gates Foundation co-fund the Basic Research to Enable Agricultural Development (BREAD) program. This program supports basic research to allow academic and industrial researchers to expand the breeders' toolkit and exploit the diversity of agronomically useful traits in wild and domesticated crop plants and to accelerate the development of new plant varieties through marker-assisted breeding specifically to accommodate the needs of developing countries. ASA, CSSA, and SSSA are very supportive of this program.

GEOLOGICAL SCIENCES DIRECTORATE

Atmospheric Sciences (ATM)

Changes in terrestrial systems will have great impact on biogeochemical cycling rates. The Atmospheric Sciences Division funds critical programs, such as Atmospheric Chemistry, that increase understanding of biogeochemical cycles. Soils and plants make up one of the largest sinks and sources for several environmentally important elements.

Earth Sciences (EAR)

The Earth Sciences Division supports research emphasizing improved understanding of the structure, composition, and evolution of the Earth, the life it supports, and the processes that govern the formation behavior of the Earth's materials. EAR supports theoretical research, including the biological and geosciences, the hydrologic sciences, and the study of natural hazards. An important program funded within this division is the Critical Zone Observatories which focuses on watershed scale studies that advance understanding of the integration and coupling of Earth surface processes as mediated by the presence and flux of fresh water.

We also support the premise that was laid out in the BIO/GEO Dear Colleague Letter: "Update: Emerging Topics in Biogeochemical Cycles (ETBC)". The letter encourages advancement in quantitative and/or mechanistic understanding of biogeochemical cycles, including the water cycle and suggests that interdisciplinary proposals are put forth that address biogeochemical processes and dynamics within and/or across terrisphere, hydrosphere, or atmosphere. We find that these types of interdisciplinary endeavors are critical to solving many of the pressing issues that

we, as a society, face today. We also support efforts made in collaboration with the Directorate for Social, Behavioral, and Economic Sciences (SBE) to encourage productive interdisciplinary collaborations between the geosciences and the social, behavioral, and economic sciences.

ENGINEERING DIRECTORATE

Chemical, Bioengineering, Environmental and Transport Systems (CBET)

The Environmental Engineering and Sustainability program and its Energy for Sustainability sub-program support fundamental research and education in energy production, conversion, and storage and is focused on energy sources that are environmentally friendly and renewable. Most world energy needs are currently met through the combustion of fossil fuels. With projected increases in global energy needs, more sustainable methods for energy production will need to be developed, and production of greenhouse gases will need to be reduced.

DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES

Division of Graduate Education

ASA, CSSA, and SSSA are dedicated to the enhancement of education, and concerned about recent declines in enrollment for many sciences. To remain competitive, scientific fields need to find new, innovative ways to reach students. The programs offered in the Education and Human Resource Directorate accomplish this goal. The Graduate Teaching Fellows in K-12 Education program offers graduate students interested in teaching an opportunity to get into the classroom and teach utilizing new innovative methods. Graduate students are the next crop of scientists, therefore opportunities for study must be increased with the ever-increasing demands of science. Global problems rely on scientific discovery for their amelioration; it is critical that the U.S. continue to be a leader in graduate education. ASA, CSSA, and SSSA recommend strong support for the Integrative Graduate Education and Research Traineeships (IGERT) program.

Because education is the key for our future competitiveness, it is essential that sustainable, long-term support for these and other educational programs be made.

Division of Undergraduate Education

Advanced Technological Education (ATE) program focuses on the education of technicians for the high-technology fields that drive our Nation's economy. We support continued, strong funding for this program. The program involves partnerships between academic institutions and employers to promote improvement in the education of science and engineering technicians at the undergraduate and secondary school levels.

NSF WIDE PROGRAMS

Cyberlearning Transforming Education (CTE)

ASA, CSSA, and SSSA fully support the cross-cutting program in NSF on cyberlearning for transforming education. The program will establish a new multidisciplinary research which will fully capture the transformative potential of advanced learning technologies across the education enterprise. We are excited about the opportunities that CTE holds to better communicate and transfer information about basic science performed by our members. Recruiting the next generation of high quality scientists is one of the main focuses of our membership and new information on how we can communicate and train these students using technologies available through cyberlearning will help propel our sciences into the future. In addition to the educational benefits, cyberlearning may also help us better understand how to coordinate and communicate science even within our community of researchers.

National Nanotechnology Initiative (NNI)

Regarding the Environmental, Health and Safety program under the NNI, we find that the President's request of \$33.01 million, to be well justified in order to support a rapidly growing field of science that presents both new opportunities for human health, the environment, agricultural science, but also unprecedented risks if not well researched and reviewed to identify appropriate safety measures. We are excited that the Environmental Protection Agency (EPA), the U.S. Department of Agriculture (USDA), and the European Union (EU) will collaborate on implementation of a joint solicitation for nano environmental health and safety protocol.

Science, Engineering, and Education for Sustainability

To create a more sustainable future, ASA, CSSA, and SSSA strongly believe that more students must be trained as scientists to bring new and revolutionary approaches to environmental and agroecosystem science. Economic incentives and misconceptions steer students in the basic sciences away from careers in the agronomic, crop, and soil sciences. If current trends continue, our workforce will lack the highly trained agronomists, soil scientists, plant breeders, pathologists, entomologists and weed scientists necessary to make the technical advances essential to meet future production and sustainability challenges, let alone control new, emerging invasive weed and insect species and pathogens that will continue to threaten agricultural systems. Thus, we applaud the efforts put forth by the administration to make investments in this area.

U.S. Global Change Research Program

The U.S. Global Change Research Program (USGCRP) seeks to better understand how the interplay between natural factors and human activities affects the climate system. The USGCRP engages 13 U.S. agencies in a concerted interagency program of basic research, comprehensive observations, integrative modeling, and development of products for decisionmakers. NSF provides support for a broad range of fundamental research activities that provide a sound scientific basis for climate-related policy and decisions. ASA, CSSA, and SSSA support an appropriation for the U.S. Global Change Research Program at \$370 million as the President requests in the fiscal year 2011 budget.

Biological systems are critical to mitigating the impacts and effects of climate change. Additional research is needed to examine potential crop systems, plant traits, wetland properties, and other ecosystem adaptations to help manage climate change. The basic sciences of agroecosystems, plant improvement, soils, and riparian and wetland ecology need support as well.

As you lead the Senate in deliberation on funding levels for the National Science Foundation, please consider American Society of Agronomy, Crop Science Society of America, Soil Science Society of America as supportive resources. We hope you will call on our membership and scientific expertise whenever the need arises.

Thank you for your thoughtful consideration of our requests.

PREPARED STATEMENT OF THE AMERICAN MUSEUM OF NATURAL HISTORY

OVERVIEW

Recognizing its potential to support NASA in its goals to pioneer the future in space exploration, scientific discovery, and aeronautics research; to develop a balanced overall program of science, exploration, and aeronautics; and to establish new and innovative programs to enhance understanding of our Earth, other planets, asteroids, and comets in our solar system, as well as the search for life around other stars, the American Museum of Natural History (AMNH) seeks \$3.5 million to contribute its unique science, education, and technological capacity to helping the agency to meet these goals.

ABOUT THE AMERICAN MUSEUM OF NATURAL HISTORY

The American Museum of Natural History (AMNH) is one of the Nation's pre-eminent institutions for scientific research and public education. Since its founding in 1869, the Museum has pursued its joint mission of science and public education. It is renowned for its exhibitions and collections of more than 32 million natural specimens and cultural artifacts. With some 4 million annual on-site visitors—approximately one-half of them children—it is one of the largest and most diverse museums in the country. Museum scientists conduct groundbreaking research in fields ranging from all branches of zoology, comparative genomics, and informatics to Earth science, biodiversity conservation, and astrophysics. Their work forms the basis for all the Museum's activities that seek to explain complex issues and help people to understand the events and processes that created and continue to shape the Earth, life and civilization on this planet, and the universe beyond.

COMMON GOALS AND ACCOMPLISHMENTS OF AMNH AND NASA

For many years, NASA and AMNH have shared a joint commitment to advancing scientific research and to integrating that research into unique educational tools and resources. Over the years, the Museum has successfully pursued a number of competitive opportunities, has cultivated rich relationships with NASA divisions such as the Science Mission Directorate's Heliophysics division and the Informal Edu-

cation program, and has worked with the agency to develop innovative technologies and resources that reach audiences of millions in New York, across the country, and around the world.

The Museum's educational mission is fueled by and reflects cutting-edge science, including the work of our scientists in collaboration with NASA centers and researchers. In keeping with that mission, the Museum has built a set of singular national resources that bring current science and integrated NASA content to total audiences of more than 16 million in New York City, across the country, and around the world. One such resource, Science Bulletins—immersive multimedia science encounters, presenting science news and discoveries in various, flexible formats—is already on view in nearly 40 locations across the country (including eight NASA visitor centers), with more being added. In the New York area alone, the Museum reaches nearly 4 million annual on-site visitors, including more than 450,000 children in school groups, with millions more visiting online.

In fiscal year 2011, AMNH seeks to build on the sustained successes of these collaborations by reaching even larger audiences with a program to communicate current science content—about NASA science and missions in particular—to diverse national audiences. The program encompasses:

PRESENTING CURRENT SCIENCE IN PUBLIC SPACES—SCIENCE BULLETINS

Science Bulletins is a nationally distributed, multi-media science exhibition program designed to address the need of informal science institutions to communicate and interpret current science by informing the public about ongoing scientific exploration and recent discoveries. Presenting the latest science news in a variety of high-definition formats—including laboratory and field footage, 3-D animation, and data visualization, all co-developed and vetted for scientific rigor by PhD scientists—the Bulletins program is at the leading edge of research and education. We propose the following activities:

- Increasing Science Bulletins Dissemination.*—In addition to AMNH, Bulletins are currently on view at 38 subscribing venues across the country (including 8 NASA visitor centers), with annual audiences of more than 13 million. To increase the program's reach and impact, and to make it more accessible to a wider variety of institutions and audiences, AMNH will undertake a graphical redesign and technical innovation of the program that will increase the Bulletins' flexibility for use in a variety of live, auto-run, and interactive programs. These innovations, which will make the program more user-friendly, customizable, and affordable, will enable AMNH to extend the reach of Bulletins to new and diverse audiences.
- R&D and Program Delivery.*—AMNH will develop new visualization methods to advance the communication of current science, and will utilize them in developing and distributing the Bulletins program. AMNH will release approximately 26 bi-weekly updates, create 6 new feature documentaries, and increase Web site visits in the Bulletins focused on the earth, space, and biosphere. Science Bulletins DVDs will also be distributed in New York City schools.
- Science Bulletins on the Web.*—AMNH will continue to promote the Bulletins Web site as a resource for formal education and educators, providing materials online to facilitate classroom use.

Visualizing and Disseminating Current Science Data

Visualization of real, large scale datasets into digital planetarium shows marks one of the Museum's signature achievements in the new era of digital dome technologies. AMNH proposes to draw on its unique expertise and capacity in visualizing astrophysics data from NASA and other sources to create a new digital space show that will engage children, families, and general audiences worldwide.

The Museum has very successfully leveraged past NASA investments with funds from other Government and private sources, and will support the present project with funds from non-Federal as well as Federal sources. The Museum looks forward to continuing to contribute its unique resources and capacity to helping the agency meet its goals.

PREPARED STATEMENT OF THE SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS (SIAM)

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 2011 by providing NSF with \$7.424 billion, a 7.2 percent increase over NSF's fiscal year 2010 appropriated level.

In particular, we urge you to provide at least the request level for key applied mathematics and computational science programs in the Division of Mathematical Sciences and the Office of Cyberinfrastructure.

WRITTEN TESTIMONY

My name is Douglas Arnold, and I am the President of the Society for Industrial and Applied Mathematics (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. Senate.

SIAM has approximately 13,000 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 over 400 institutional members—colleges, universities, corporations, and research organizations.

First, I would like to emphasize how much SIAM appreciates your subcommittee'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. In particular, we thank you and your colleagues for the significant increases in funding provided for NSF in the fiscal year 2010 Consolidated Appropriations bill.

Today, I submit this testimony to ask you to continue your support of NSF in fiscal year 2011 and beyond. In particular, we request that you provide NSF with \$7.424 billion, the level requested by the President for this agency in his fiscal year 2011 budget. This represents a 7.2 percent increase over NSF's fiscal year 2010 appropriated level and would continue the effort to double funding at NSF, as endorsed by Congress in the America COMPETES Act and by the President in his fiscal year 2011 budget request.

As we are reminded every day, our Nation's economic strength, national security, and public health and welfare are being challenged in profound and unprecedented ways. Addressing these challenges requires that we confront fundamental scientific questions. Computational and applied mathematical sciences, the scientific disciplines that occupy SIAM members, are particularly critical to addressing U.S. competitiveness and security challenges across a broad array of fields: medicine, engineering, technology, biology, computer science, and others.

Other countries have observed the success of the U.S. model and are investing in research and education. Without sufficiently increasing support for science, engineering, and mathematics, the U.S. pre-eminence in innovation will be compromised.

NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) provides essential Federal support of applied mathematics and computational science, including more than 60 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 climate modeling, energy technologies, genomics, analysis and control of risk, and nanotechnology. In addition, new techniques developed in mathematics and computing research often have direct application in industry. 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.

I will now briefly highlight the main budgetary and programmatic components at NSF that support applied mathematics and computational science.

NSF DIVISION OF MATHEMATICAL SCIENCES

The NSF's Division of Mathematical Sciences (DMS) provides the core support for all mathematical sciences, including areas such as analysis, applied mathematics, combinatorics, computational mathematics, probability, and statistics. 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, provide new ways of obtaining insight into the nature of complex phenomena, such as the power grid, global climate change, software for military applications, the human body, and energy efficient

building systems. SIAM strongly urges you to provide DMS with at least the budget request level of \$253.46 million to enable sustained investment by NSF in critical mathematical research and related mathematical education and workforce development programs.

In particular, 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, the environment, and public health. DMS has traditionally played a central role in cross-NSF interdisciplinary efforts that bear on these challenges, with programs supporting the interface of mathematics with a variety of other fields.

SIAM deeply appreciates DMS's role in enabling interdisciplinary work and supports the expansion of this work in fiscal year 2011. In particular, the proposed increase within DMS for the NSF-wide Science, Engineering, and Education for Sustainability initiative would support the development of potentially transformative mathematical, statistical, and computational methods needed for analysis and simulation of climate models and increase DMS investment in an existing program on solar energy. In addition, the proposed establishment of a new Life Sciences Interface initiative involving DMS and other NSF units is particularly timely in light of the challenges outlined in the recent National Research Council report on "A New Biology for the 21st Century," which emphasizes the need for development of new information sciences and new education programs in order to create a quantitative approach in biological sciences to tackle key challenges in food, environment, energy, and health.

NSF OFFICE OF 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 Cyberinfrastructure (OCI) 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 urges you to provide OCI with at least the budget request level of \$228.1 million to invest in the computational resources and science needed to solve complex science and engineering problems. In addition, SIAM strongly endorses OCI's efforts to take on the role of steward for computational science across NSF, strengthening NSF support for relevant activities and driving universities to improve their research and education programs in this interdisciplinary area.

The programs in OCI that support work on software and applications for the next generation of supercomputers and other cyberinfrastructure systems are very important to enable effective use of advances in hardware, to facilitate applications that tackle key scientific questions, and to better understand increasingly complex software systems. SIAM strongly supports the proposed fiscal year 2011 increase in funding for OCI software activities, particularly the proposed new Software Institutes program, aimed at supporting a community of partnerships among academia, government laboratories, and industry for the development and stewardship (expansion, hardening, and maintenance) of sustainable end-to-end software systems. SIAM also supports the proposed increase in OCI data activities. The explosion in data available to scientists from advances in experimental equipment, simulation techniques, and computer power is well known, and applied mathematics has an important role to play in developing the methods and tools to translate this shower of numbers into new knowledge.

SUPPORTING THE PIPELINE OF MATHEMATICIANS AND SCIENTISTS

Investing in the education and development of young scientists and engineers is a critical role of NSF and a major step that the Federal Government can take to ensure the future prosperity and welfare of the United States. Currently, the economic situation is negatively affecting the job opportunities for young mathematicians—at universities, companies, and other research organizations. It is not only the young mathematicians who are not being hired who will suffer from these cutbacks. The research community at large will suffer from the loss of ideas and energy that these graduate students, postdoctoral fellows, and early career researchers bring to the field, and the country will suffer from the lost innovation.

In light of this situation, SIAM strongly supports NSF's proposed fiscal year 2011 increases in the Graduate Research Fellowship (GRF) program and the Faculty Early Career Development (CAREER) program. We also strongly endorse OCI's participation in these programs as part of efforts to create opportunities in the

interdisciplinary area of computational science and engineering and nurture the development of young researchers in this emerging field.

MATHEMATICS AND INTERNATIONAL SCIENCE AND ENGINEERING

Science knows no borders, and nowhere is this more true than in mathematics. Mathematical research typically advances through the close collaboration of small groups of researchers, without the need for expensive equipment and using universal mathematical notation to minimize language obstacles. In addition, mathematics, as an enabling discipline for all of science and technology, and as a foundation for science education, plays a key role in addressing many of the most challenging problems that the world faces, such as climate change, infectious disease, and sustainable energy generation. International scientific cooperation is not just good science; it can also aid in promoting United States international policy goals by building relationships and trust with other countries, enhancing the global image of America, and spurring global development.

SIAM believes strongly in the Federal Government's support of international science and technology initiatives, including cooperative research programs that further scientific knowledge applicable to major societal challenges, promote development of research and education capabilities abroad, and introduce U.S. students to global issues and collaborative relationships.

CONCLUSION

SIAM is aware of the significant fiscal constraints facing the administration and Congress this year, but we note that, in the face of economic peril, Federal investments in mathematics, science, and engineering create and preserve good jobs; stimulate economic activity; and help to maintain U.S. pre-eminence in innovation, upon which our economy depends.

I would like to conclude by thanking you again for your ongoing support of NSF and actions you have already taken to enable NSF and the research and education communities it supports, including thousands of SIAM members, to undertake the activities that contribute to the health, security, and economic strength of the U.S. NSF needs sustained annual funding to maintain our competitive edge in science and technology, and therefore we respectfully ask that you continue your robust support of these critical programs into the future, starting with providing \$7.424 billion for NSF for fiscal year 2011.

I appreciate the opportunity to provide testimony to the subcommittee on behalf of SIAM and look forward to providing any additional information or assistance you may ask of us during the fiscal year 2011 appropriations process.

PREPARED STATEMENT OF THE NATIONAL COUNCIL OF EEOC LOCALS, No. 216,
AFGE/AFL-CIO

Chairwoman Mikulski, Ranking Member Shelby, and members of the subcommittee, my name is Gabrielle Martin and I am the president 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 located in offices in 53 cities around the country. I want to thank you for the opportunity to submit testimony on the proposed fiscal year 2011 budget for the EEOC. Our number one "ask" is that this subcommittee support the fiscal year 2011 budget request to increase EEOC's funding from \$367 million to \$385 million. The request is in line with the amount that this subcommittee included in its fiscal year 2008 report language, which was passed by the Senate. We understand that you will receive testimony from many well deserving programs. Nevertheless, the Council can confirm from the perspective of EEOC's frontline workers that the increase is absolutely necessary and justified. Moreover, the budget request should be considered a restoration of funds after several years of frozen budgets. Service today at the EEOC is still impacted by the loss of 25 percent of EEOC's frontline staff since fiscal year 2001. To ensure that EEOC can effectively enforce workplace discrimination laws that help Americans get and keep jobs, the Council urges the inclusion of bill and report language which: (1) adopts the fiscal year 2011 budget request for EEOC, increasing funding to \$385 million; (2) raises the staffing to 3,000 FTEs, i.e., the same level as 1994, the last time that EEOC's charge receipts were close to the record high levels of recent years; (3) maintains oversight of headquarters and field restructuring, including the Office of

Federal Operations; and (4) directs EEOC to implement the Full-service Intake Plan to provide real help to the public and reduce the backlog.

Introduction.—The EEOC’s mission is to enforce this Nation’s laws, which protect against discrimination in employment based on race, color, religion, sex, national origin, age, and disability. As of 2009, EEOC is also responsible for enforcing the Americans with Disabilities Act Amendments Act (ADAAA), the Genetics Information Nondiscrimination Act (GINA), and the Lilly Ledbetter Act. The fiscal year 2011 budget request is needed so that EEOC’s dedicated employees have the resources to keep discrimination out of the workplace so Americans can stay on the job.

Thank you to This Subcommittee for Fiscal Year 2010 Funding and to Senator Mikulski for Statements at the Recent Help Hearing Regarding Backlog and Need for Confirmation of EEOC Nominees.—The Council first wishes to thank this subcommittee supporting the fiscal year 2010 budget request increasing EEOC’s funding to \$367 million. Also, the fiscal year 2010 Omnibus conference report language called for oversight of agency staffing and Federal sector changes. It also directed EEOC that its workload projections account for a Federal Arbitrator’s decision regarding the agency’s illegal overtime practices.¹ Finally, the Omnibus Act bill language retained oversight, which prevents EEOC from taking any action to restructure without first coming to the subcommittee. The Council also wishes to extend a special thank you to Chairwoman Mikulski for her continued advocacy for EEOC. Most recently at the March 11, 2010 HELP Hearing on Pay Equity, Senator Mikulski raised the critical issue of EEOC backlog and pressed for confirmation of permanent leadership. The Council is grateful for your efforts and looks forward to working with EEOC’s new leadership.

Adopt the Fiscal Year 2011 Budget Request to Increase EEOC’s Budget From \$367 Million to \$385 Million.—While this subcommittee has increased EEOC’s budget, EEOC is still playing catch-up from 5 years of level funding. EEOC’s workload has never been higher, even as staffing levels remain inadequate. The chart included with this testimony illustrates EEOC’s troubling customer service trends from fiscal year 2001 through fiscal year 2010. If EEOC is to break these trends, so that it more effectively can enforce the laws on the books, it needs to be funded at no less than the fiscal year 2011 budget request.

More Frontline Staff is Needed to Offer Timely Assistance and Tackle a Giant Backlog.—After losing 25 percent of its staff since fiscal year 2001, EEOC took steps to “rebuild” in fiscal year 2009, but the gains barely kept pace with attrition.² The EEOC ended fiscal year 2009 with 2,192 FTEs, a minimal increase from fiscal year 2008’s 2,174 FTEs.

The inevitable result when EEOC’s slashed workforce cannot keep up with the increased workload is that the backlog goes from bad to worse. According to EEOC’s budget justification, the backlog is anticipated to rise to 96,865 cases in fiscal year 2010 and 105,203 cases in fiscal year 2011.³ Thus, roughly an entire year’s incoming inventory is getting shelved in order to process the previous year’s complaints. Moreover, since fiscal year 2006, charge filings at EEOC have exceeded resolutions, with the trend expected to continue at least through fiscal year 2013. (See chart and Budget Justification).

These unreasonably high workloads of 250 cases do not allow investigators to do an effective and timely job of interviewing witness, reviewing documents, attempting conciliation, etc. Quick resolutions could mean saving the jobs of the applicants and workers who file these charges. But, landing in EEOC’s backlog puts off assistance for 294 days, i.e., over 9 months. Justice delayed is justice denied for these workers.

In order to effectively enforce its mission and reduce the backlog, the Council requests that Congress raise EEOC’s staffing to 3,000 FTEs, i.e., the same level as 1994, the last time that EEOC’s charge receipts were close to the current record high numbers. The Council supports maintaining report language directing EEOC to submit “quarterly reports on projected and actual agency staffing levels so that

¹ The damages phase of the case remains ongoing unless a settlement can be reached.

² “EEOC will have 42 percent of its employees eligible for retirement between fiscal years 2007 and 2012, which includes 46 percent of its investigators and 24 percent of its attorneys.” OIG Semiannual Report, 10/30/07. Additional attrition has occurred in the ranks of the hearing officers (administrative judges), who are often selected for higher paid administrative law judges at Social Security, where they have the subpoena power and support staff that they are lacking at EEOC. According to the GAO, the EEOC has 13 percent fewer administrative judges than it did in fiscal year 2005.

³ The White House fiscal year 2011 budget request projected that the backlog would grow even higher, i.e., 104,450 in fiscal year 2010 and 122,452 in fiscal year 2011. The EEOC fiscal year 2011 budget justification that followed contained these slightly lower figures.

the subcommittee can better monitor EEOC's personnel resources." However, to ensure hiring keeps up with attrition, it is suggested that the report language also include benchmarks for where actual frontline staffing should be at the end of each quarter.⁴ Finally, report language should be maintained directing that workload projections account for a Federal Arbitrator's decision regarding the agency's willful and illegal overtime practices, because unreasonably high investigator caseloads demonstrate EEOC has not hired enough staff.

For the Current Fiscal Year 2010, Oversight Is Needed To Ensure Hiring Is Prioritized.—Historically, EEOC ends each year with "hollow FTEs," i.e., about 200 positions below the authorized ceiling. Therefore, for the current fiscal year 2010, the Council urges this subcommittee to exercise its oversight, including monitoring the quarterly staffing submissions, to ensure that EEOC does in fact hire up to the 2,556 FTEs authorized. If this year's staffing is not achieved, then fiscal year 2011's projections for staffing, resolutions, and backlog will all be undermined. Most importantly, the public needs frontline EEOC employees immediately available to help them get jobs and keep jobs.

Bill Language Should Retain Oversight of EEOC Restructuring.—On January 1, 2006, as part of a nationwide field restructuring, EEOC downsized a dozen offices. The restructuring added bureaucratic layers, but no frontline staff. EEOC should now revisit the restructuring to fix its worst inefficiencies, such as States that were split between two districts. The EEOC should also keep its promise to reduce top-heavy offices to a 1:10 supervisor to employee ratio. Redeployed supervisors can help the frontline without added cost.

The final phase of EEOC's repositioning is the delayed restructuring of headquarters. Also, recent internal plans to reorganize the EEOC's Office of Federal Operations (OFO) have proposed adding additional layers of high levels of management at the expense of frontline administrative judges. The Council urges the subcommittee to retain bill language regarding oversight of this restructuring. Additionally, Congress should assure a transparent process for public and internal stakeholders to have an opportunity to provide feedback of a draft plan.

Direct EEOC To Implement the Full-Service Intake Plan To Provide the Public Real Help and Reduce the Backlog.—EEOC's current backlogs and poor customer service can be attributed to its stubborn insistence on continuing to use a failed call center model. Though the House and Senate CJS subcommittees in fiscal year 2008 defunded an outsourced call center, EEOC currently uses an in-house center mirroring that failed model.

Council 216 submitted a comprehensive plan for a national Full-Service Intake Plan 6 months ago, which EEOC's leadership is reviewing at a snail's pace. The plan calls for staffing each field office with a compliment of positions and grades able to advance the intake process from pre-charge counseling through charge filing, handling the flood of downloadable intake questionnaires and responding to over 5,000 unanswered e-mails.⁵ The plan should help EEOC avoid the high rates of turnover. The plan satisfies the interest of Congress to "provide more substantive assistance to callers and resolve a greater number of calls at the first point of contact." (H.R. 110-919). The plan also produces cost savings. It also implements part of EEOC's backlog reduction plan, which according to EEOC's OIG should include a renewed emphasis on pre-charge counseling. In turn, investigative staff, who would be relieved from many of these intake responsibilities, could focus on investigating cases to reduce the backlog.

The Council supports maintaining report language directing EEOC "to develop and implement a multiyear plan to increase EEOC staffing to the levels necessary to achieve backlog reduction in a timely manner." The Council would respectfully request the language be expanded to include a direction that the Full Service Intake Plan be incorporated into the backlog reduction plan.

"Fast Track" for Feds Requires Stakeholder Input and Oversight Before Implementation.—For several years, EEOC has been internally debating controversial changes to the hearing process, called "fast track," which would direct administrative judges (AJs) to cut off discovery and deny hearings for many Federal employees. In these fast-tracked cases, the EEOC AJ is forced to accept the investigative record submitted by the Federal agency alleged to have committed discrimination. A more

⁴The Council understands that as of fiscal year 2011, agency budget projections are to concentrate on actual staffing, rather than ceilings. This makes oversight even more critical so that EEOC ends fiscal year 2011 with no less than the 2,577 FTE actual staffing reflected in the fiscal year 2011 justification.

⁵The units would be comprised of some new staff and current staff, including converting in-house call center operators to investigator supporter assistants.

straightforward way to reduce Federal backlog and processing times is to replenish AJs, down 13 percent since fiscal year 2005, and provide them support staff.

The Council represents AJs, who oppose mandatory tracking, because it re-writes the regulations to remove judicial independence to manage cases and interferes with fair hearings. Outside stakeholders must also be given an opportunity to weigh in on the current plan. Therefore, the Council supports maintaining current report language requiring oversight before implementation.

CONCLUSION

In closing, I want to again thank the chairwoman, ranking member and the subcommittee for allowing me to provide testimony. I hope my statement will give you insight into the difficult challenges facing EEOC.

EEOC'S TROUBLING CUSTOMER SERVICE TRENDS ¹

	Fiscal Year 2001	Fiscal Year 2002	Fiscal Year 2003	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010
Full Time Employees	2,924	2,787	2,617	2,462	2,349	2,250	2,137	2,174	2,192	2,470
Backlog	32,481	29,041	29,368	29,966	33,562	39,946	54,970	73,941	85,768	96,685
Charge Receipts Filed	80,840	84,442	81,293	79,432	75,428	75,768	82,792	95,402	93,277	101,653
Resolutions	90,106	95,222	87,755	85,259	77,352	74,308	72,442	81,081	85,980	93,284
Avg. Charge Processing	182	171	160	165	171	193	199	229	294	(²)

¹ National Academy of Public Administration report, 2/2/03; EEOC Budget Requests; www.eeoc.gov.

² Not available.

PREPARED STATEMENT OF THE ASSOCIATION OF SCIENCE-TECHNOLOGY CENTERS

Chairwoman Mikulski, Ranking Member Shelby, and members of the subcommittee—my name is Bud Rock and I am the chief executive officer of the Association of Science-Technology Centers (ASTC).

ASTC is a nonprofit organization of science centers and museums dedicated to furthering public engagement with science among increasingly diverse audiences. Science centers are sites for informal learning and are places to discover, explore, and test ideas about science, technology, engineering, and mathematics. They feature interactive exhibits, hands-on science experiences for children, professional development opportunities for teachers, and educational programs for adults. In science centers, visitors of all ages become adventurous explorers who together discover answers to the myriad questions of how the world works—and why. ASTC has nearly 600 members, including 445 operating or developing science centers and museums in 44 countries, who engage over 80 million people annually in intriguing educational science activities and explorations of scientific phenomena. The recently released Science and Engineering Indicators 2010 says that 59 percent of our fellow citizens visited an informal science venue in the past year. Science centers vary widely in scale, from institutions like the Maryland Science Center in Baltimore's Inner Harbor and the McWane Center in Birmingham, Alabama, to the ECHO Lake Aquarium and Science Center in Burlington, Vermont and the SEE Science Center in Manchester, New Hampshire.

ASTC works with science centers and museums like these to address critical societal issues, locally and globally, where understanding of and engagement with science are essential. As liaisons between the science community and the public, science centers are ideally positioned to heighten awareness of critical issues including energy and environmental issues; infectious diseases; the space program; increase understanding of important new technologies; and promote meaningful informed debate between citizens, scientists, policymakers, and the local community.

THE IMPORTANT CONTRIBUTION OF SCIENCE CENTERS TO IMPROVING STEM EDUCATION

Science centers offer places where science and citizens can meet. Many centers have scientists on staff and some feature research facilities on-site. Through exhibits and programming, such as lecture series and science cafés, science centers help to bring current research findings to the public and encourage discussion and debate of current science issues. Science centers also encourage the public to become involved in research projects themselves.

Science centers reach a wide audience. Most have membership programs, including family memberships. Many offer programs designed for senior citizens. Some train students to serve as docents and “expert explainers”. In addition to the hands-on, experiential exhibits and programs that are the hallmark of science centers, many have large-format theaters, planetariums, and outdoor science parks. Through outreach programs, science centers also extend their work well beyond their buildings.

School groups make up a significant percentage of science center and museum attendance—an estimated 17.7 million student visits worldwide in 2009 (12 million in the United States). But school field trips are just the beginning; most science centers offer demonstrations and workshops, school outreach programs, professional development for teachers, curriculum materials, science camps, overnight camp-in programs, and resources for home schoolers. Many also offer after-school and youth employment programs.

Last year the Congress—led by this subcommittee—appropriated about \$1.4 billion for science, technology, engineering and mathematics (STEM) education through the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), and the National Aeronautics and Space Administration (NASA).

This subcommittee is singularly responsible for nearly 40 percent of all the Federal support for STEM education.

There is a strong consensus that improving science, technology, engineering, and mathematics education is critical to the Nation's economic strength and global competitiveness in the 21st century. Reports have emphasized the need to attract and educate the next generation of American scientists and innovators. For example, the National Academies' 2005 report, *Rising Above the Gathering Storm*, recommends that the Nation increase its talent pool by vastly improving K–12 science and mathematics education. In order to improve STEM education, we must draw on a full range of learning opportunities and experiences, including those in informal, non-school settings. Informal science education can take place in a variety of places and through a wide variety of media such as science centers and museums, film and

broadcast media, aquariums, zoos, nature centers, botanical gardens, and after-school programs. Informal learning can happen in everyday environments and through everyday activities as well.

The Committee on Learning Science in Informal Environments was established by the National Research Council (NRC) of the National Academies to undertake a study of the status of, and potential for science learning in informal environments. In January 2009, the National Academies Committee released a report entitled *Learning Science in Informal Environments: People Places, and Pursuits*, which stated, “Beyond the schoolhouse door, opportunities for science learning abound . . .” The Academy found, among other things, that there is ample evidence to suggest that science learning takes place throughout the life span and across venues in non-school settings. Another key issue highlighted in the report is the role of informal STEM education in promoting diversity and broadening participation. The Academy found that informal environments can have a significant impact on STEM learning outcomes in historically underrepresented groups, and informal learning environments may be uniquely positioned to make STEM education accessible to all.

VITAL FEDERAL SUPPORT FOR INFORMAL STEM EDUCATION IS PROVIDED BY NSF, NOAA AND NASA

National Science Foundation.—Scientific discoveries and technological innovations have profound impact on individuals and societies. STEM education shapes our everyday lives and holds the potential to produce solutions to daunting problems facing the Nation. This prospect calls for unprecedented energy and innovative efforts to promote public understanding of—and engagement with—STEM, its processes, and implications. Informal learning settings offer learners of all ages enjoyable opportunities to become interested in STEM and more knowledgeable about the world around them. Such learning experiences foster a better informed citizenry and inspire young people to consider STEM careers in which they may help address societal challenges. NSF’s Informal Science Education (ISE) program supports projects that promote lifelong learning of science, technology, engineering, and mathematics by the public through voluntary, self-directed engagement in STEM-rich informal learning environments and experiences. The ISE program invests in projects that:

- Advance knowledge through research and evaluation about STEM learning in informal environments;
- Design, implement, and study models, resources, and programs for STEM learning in informal environments; and/or
- Expand the capacity of professionals engaged in the work of informal STEM education programs.

The fiscal year 2011 budget for NSF’s ISE program is \$64.4 million—2.4 percent below the fiscal year 2010 level. In fact, NSF support for ISE has been frozen in recent years at about \$65 million since at least fiscal year 2007.

National Oceanic and Atmospheric Administration.—Since 2005, NOAA’s Office of Education has promoted the improvement of public environmental literacy through competitive education grants, also known as Environmental Literacy Grants. The recipients of Environmental Literacy Grants have consistently demonstrated: (1) alignment with NOAA’s goals and NOAA’s Education Strategic Plan; (2) a robust project evaluation plan; (3) partnership with NOAA offices and programs to leverage NOAA scientific, educational and human resources; and (4) the promotion of ocean and/or climate literacy—the components of environmental literacy closely tied to NOAA’s mission. Additionally, NOAA strives to fund projects that complement other grant programs and educational efforts offered by other offices within NOAA, and by other Federal agencies, such as the U.S. Environmental Protection Agency, NASA and NSF.

Successful NOAA projects catalyze change in K–12 and informal education through development of new partnerships, programs, and materials that not only increase knowledge of scientific phenomena, but also provide opportunities for the application of that knowledge to societal issues. To date 59 competitive awards have been made supporting a wide range of projects from teacher training, to experiential learning for youth and families, to the development of media products, and public opinion research.

In the face of this progress, the administration’s budget would reduce NOAA’s education programs by over 28 percent.

National Aeronautics and Space Administration.—NASA’s Education program works to: foster a science, technology, engineering, and math workforce in fields that support NASA’s strategic goals; attract students to the disciplines through a progression of education opportunities; and build strategic partnerships between formal

and informal education providers. NASA's education programs have been evaluated as part of the administration's program assessment process with the following findings: NASA has taken several steps to improve the Education program's potential to strengthen and measure its performance. For instance, the agency developed a new education framework and implementation plan as well as new metrics by which to evaluate the program's achievement of intended outcomes; the program has made considerable progress in focusing the program's plans on achieving meaningful outcomes. The program has established baseline performance standards and has begun to collect and report some performance data against its new metrics; and the program has developed a solid plan and set aside resources to conduct independent evaluations of the portfolio's effectiveness and efficiency; now the program must implement that plan.

Despite these improvements, the administration's budget for fiscal year 2011, NASA's education programs would decline by nearly 21 percent.

ASTC AND EDUCATE TO INNOVATE

As mentioned previously, the administration has recently released its latest edition of the biennial Science and Engineering Indicators report. This report says that the state of U.S. science and engineering is strong, but that U.S. dominance of world science and engineering has eroded significantly in recent years, primarily because of rapidly increasing capabilities among East Asian nations, particularly China. On the heels of that report, the administration announced a new set of public-private partnerships in the "Educate to Innovate" campaign committing more than \$250 million in private resources to attract, develop, reward, and retain science, technology, engineering, and mathematics teachers. This initiative is responsive to data, presented in Indicators, showing that American 15-year-olds are losing ground in science and math achievement compared to their peers around the world.

ASTC applauds the President's Educate to Innovate initiative and ASTC members are active participants in this campaign. ASTC also applauds the efforts of the private sector to commit more than \$250 million in resources to attract and retain K-12 STEM teachers. At the same time, we believe that any effective campaign to improve the quality and effectiveness of the STEM education provided to our students and teachers is grounded in a deeper appreciation by the public—and decision-makers—in the importance of STEM education for the long term health and well-being of our Nation.

It is for this very reason that on January 28, ASTC leadership met with officials of the Office of Science and Technology Policy to put forth a new "Youth Inspired" initiative that is comprised of two parts:

"Two Million Hours to the Future," capitalizes on the fact that science centers and science museums are key partners for supporting the Nation's youth in becoming the innovative and creative thinkers needed for the 21st century workforce. We propose that 300 science centers and science museums, representing each of the 50 States, could engage approximately 30 students per year through either afterschool or youth employment programs. With at least 1 hour of in-person contact per week per student, the initiative would cumulatively reach 2 million hours of science and personal development at the end of 3 years.

"Two Million Teachers to Inspire," is a national initiative that takes advantage of the important role that science centers play in developing and supporting STEM teachers in America's schools. Through the initiative—which will be supported in part by private and corporate funding and substantial in-kind institutional investment—ASTC will collect, catalog, and share best practices in teacher professional development, providing a valuable resource for the 2 million teachers our members impact every year.

CONCLUSION

The reductions proposed by the administration for valuable informal STEM education programs at NSF, NOAA and NASA are counterproductive given all the concern expressed by public and private thought leaders regarding the importance of STEM education for the long term health and well being of the Nation. Informal STEM education programs reach over 80 million people a year—children, parents, teachers, and even adult learners—with irreplaceable hands-on experiences that stimulate creativity and foster a valuable appreciation for the role of science and technology in the world around us—both today and tomorrow.

To that end, ASTC urges the Congress—understanding the bounds of fiscal constraints—to continue to recognize the value of informal STEM education. ASTC respectfully requests the subcommittee to reverse the reductions proposed by the administration. In fact, to the maximum extent possible, ASTC suggests that given the

fact these programs have remained relatively level since at least fiscal year 2008; they should be re-vitalized at a rate commensurate with the administration's intent to double the NSF over the next 10 years.

Thank you for the opportunity to present these views. I would be happy to respond to any questions or provide additional information should it be needed by the subcommittee.

PREPARED STATEMENT OF THE AMERICAN SOCIETY OF PLANT BIOLOGISTS

On behalf of the American Society of Plant Biologists (ASPB) we submit this testimony for the official record to support the requested level of \$7.424 billion for the National Science Foundation (NSF) for fiscal year 2011. The testimony also highlights the importance of biology, particularly plant biology, as the Nation seeks to address vital issues including climate change and energy security. ASPB would also like to thank the subcommittee for its consideration of this testimony and for its strong support for the basic research mission of the National Science Foundation.

Our testimony will discuss:

- Plant biology research as a foundation for addressing food, fuel, climate change, and health concerns;
- The rationale for robust funding for the National Science Foundation while maintaining a well proportioned science portfolio with support for all core science disciplines, including biology; and
- The rationale for continued support for NSF education and workforce development programs that provide support for the future science and technical expertise critical to America's competitiveness.

The American Society of Plant Biologists is an organization of more than 5,000 professional plant biologists, educators, graduate students, and postdoctoral scientists with members in all 50 States and throughout the world. A strong voice for the global plant science community, our mission—achieved through work in the realms of research, education, and public policy—is to promote the growth and development of plant biology, to encourage and communicate research in plant biology, and to promote the interests and growth of plant scientists in general.

FOOD, FUEL, CLIMATE CHANGE, AND HEALTH—PLANT BIOLOGY RESEARCH AND AMERICA'S FUTURE

Plants are vital to our very existence. They harvest sunlight, converting it to chemical energy for food and feed; they take up carbon dioxide and produce oxygen; and they are almost always the primary producers in ecosystems. Indeed, basic plant biology research is making many fundamental contributions in the areas of fuel security and environmental stewardship; the continued and sustainable development of better foods, fabrics, and building materials; and in the understanding of basic biological principles that underpin improvements in the health and nutrition of all Americans. To go further, plant biology research can both help the Nation predict and prepare for the impacts of climate change on American agriculture, and make major contributions to our Nation's efforts to combat a warming climate.

In particular, plant biology is at the interface of numerous scientific breakthroughs. For example, the interface between plant biology and engineering is a critical frontier in biofuels research. Similarly, the interface between plant biology and chemistry contributes to biofuel production, as well as the identification of novel, bioactive compounds for medical use. With the increase in plant genome sequencing and functional genomics, the interface of plant biology and computer science is essential to our understanding of complex biological systems ranging from single cells to entire ecosystems.

Despite the fact that basic plant biology research—the kind of research funded by the NSF—underpins so many vital practical considerations, the amount invested in understanding the basic function and mechanisms of plants is relatively small when compared with the impact it has on multibillion dollar sectors like energy and agriculture.

ROBUST FUNDING FOR THE NATIONAL SCIENCE FOUNDATION

The American Society of Plant Biologists encourages the subcommittee to fund the National Science Foundation at robust levels that would keep the Foundation's budget on a doubling path over the next several years.

The fiscal year 2011 NSF budget request would fund the NSF at \$7.424 billion in fiscal year 2011, keeping the Foundation budget on a path for doubling. ASPB

enthusiastically supports this request and encourages proportional funding increases across all of the science disciplines funded by the NSF.

As scientific research becomes increasingly interdisciplinary with permeable boundaries, a diverse portfolio at the NSF is needed to maintain cutting-edge research and innovation. The most pressing problems of the 21st century will not be solved by one science or method, but by numerous innovations across the research spectrum. This funding enables the scientific community to address challenging and basic cross-cutting research questions regarding climate change, sustainable food supply, energy, and health, all of which are impacted by or involve basic research in plant biology supported by the NSF. This idea is reflected in the National Research Council's report "A New Biology for the 21st Century: Ensuring the United States Leads the Coming Biology Revolution."

The NSF Directorate for Biological Sciences (BIO) is a critical source of funding for nonbiomedical research, supporting innovative research ranging from the molecular and cellular levels to the ecosystem and even biosphere levels. Much of this funding has been provided to individual investigators; however, the NSF has also supported major research programs over the longer term. These investments continue to have significant pay offs, both in terms of the knowledge directly generated and in deepening collaborations and fostering innovation among communities of scientists.

The BIO Plant Genome Research Program (PGRP) is an excellent example of a high impact program, which has laid a strong basic research foundation for understanding plant genomics as it relates to energy (biofuels), health (nutrition and functional foods), agriculture (impact of climate change on agronomic ecosystems), and the environment (plants' roles as primary producers in ecosystems). The American Society of Plant Biologists asks that the PGRP continue to be a separate funding line within the NSF budget, as in years past, and that the PGRP continues sustained funding growth over multiple years to address 21st century biology issues. For fiscal year 2011 ASPB asks that PGRP be funded at the highest possible level.

Without significant and increased support for BIO and the NSF as a whole, promising fundamental research discoveries will be delayed and vital collaborations around the edges of the disciplines will be postponed, thus limiting the ability to respond to the pressing scientific problems that exist today. Increased funding for the NSF with proportional increases throughout the Foundation will also serve as a catalyst to encourage young people to pursue a career in science. Low funding rates throughout the NSF can be discouraging to early career scientists and dissuade them from pursuing a career in scientific research.

CONTINUED SUPPORT FOR NSF EDUCATION AND WORKFORCE DEVELOPMENT PROGRAMS

The National Science Foundation is a major source of funding for the education and training of the American scientific workforce. The NSF's education portfolio impacts students at all levels, including K-12, undergraduate, graduate, and post-graduate. Importantly, the Foundation also offers programs focused on outreach to and engagement of underrepresented groups.

The Integrative Graduate Education and Research Traineeship (IGERT) program is just one example of NSF's commitment to education. IGERT is successful in fostering the development of novel programs that provide multidisciplinary graduate training. As discussed above, it is at the intersections of traditional disciplines that the greatest opportunities for scientific advancement can be found. The American Society of Plant Biologists encourages expansion of the IGERT program in order to foster the development of a greater number of innovative science leaders for the future.

Furthermore, ASPB urges the subcommittee to revitalize and expand NSF's fellowship programs—such as the Postdoctoral Research Fellowships in Biology, the Graduate Research Fellowship (GRF) and the Faculty Early Career Development (CAREER) programs—and, thereby, to provide continuity in funding opportunities for the country's most promising early career scientists. Additionally, such continuity and the broader availability of prestigious and well-supported fellowships may help retain underrepresented groups in the science, technology, engineering, and mathematics (STEM) fields. ASPB further encourages the NSF to develop "transition" awards that will support the most promising scientists in their transition from postdoctoral research to full-time, independent, tenure-track positions in America's universities. The NSF might model such awards after those offered by the NIH and initially championed by private philanthropies, such as the Burroughs Wellcome Fund and the Howard Hughes Medical Institute.

ASPB urges the NSF to further develop programs aimed at increasing the diversity of the scientific workforce by leveraging professional scientific societies' commit-

ment to provide a professional home for scientists throughout their education and careers to help promote and sustain broad participation in the sciences. ASPB is also concerned over the proposed change to consolidate the Historically Black Colleges and Universities Undergraduate Program, the Louis Stokes Alliances for Minority Participation program, and the Tribal Colleges and Universities Program into the Comprehensive Broadening Participation of Undergraduates in STEM program. Discreet focused training and infrastructure support programs for Hispanic Serving Institutions, Historically Black Colleges and Universities, and Tribal Colleges and Universities remain vitally important. These institutions are key producers of members of the STEM workforce, therefore ASPB recommends that distinct funding amounts be specified for Hispanic Serving Institutions, Historically Black Colleges and Universities, and Tribal Colleges and Universities within the proposed Comprehensive Broadening Participation of Undergraduates in STEM program.

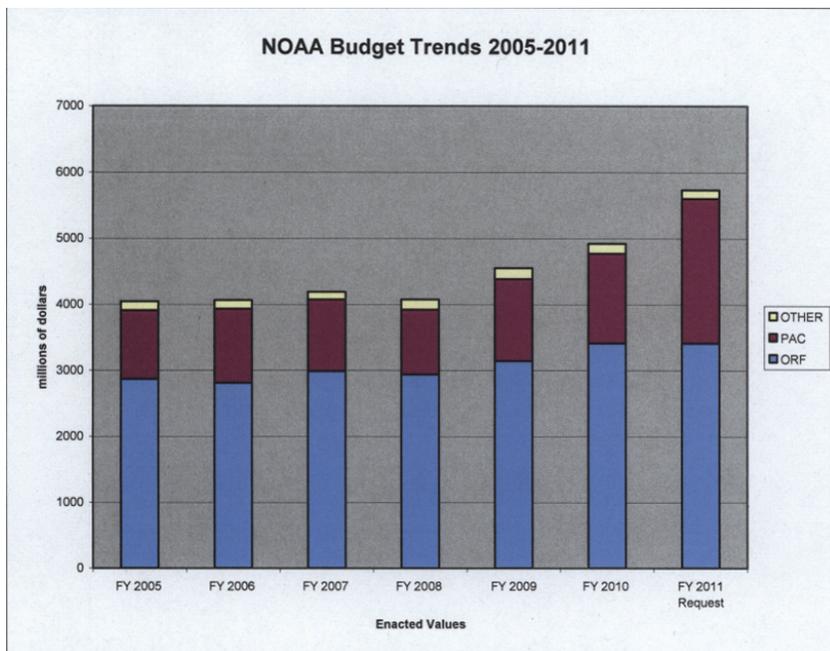
Finally, as this subcommittee oversees the White House Office of Science and Technology Policy (OSTP) appropriations, ASPB asks that the subcommittee direct OSTP to coordinate interagency development and implementation of a strategy to address the recommendations made in the National Research Council's (NRC) report "A New Biology for the 21st Century: Ensuring the United States Leads the Coming Biology Revolution." The report accurately lays out the current status, potential and challenges for "New Biology" and how increased efforts in these areas can address major societal and environmental challenges. The National Science Foundation has a critical role to play in an interagency strategy and initiative in this area, as do other agencies such as the Department of Energy, the U.S. Department of Agriculture, and the National Institutes of Health.

Thank you for your consideration of our testimony on behalf of the American Society of Plant Biologists. Please do not hesitate to contact the American Society of Plant Biologists if we can be of any assistance in the future.

PREPARED STATEMENT OF OCEANA

Dear Chairwoman Mikulski, Ranking Member Shelby and members of the subcommittee, on behalf of more than 320,000 members of Oceana, the world's largest international organization focused solely on ocean conservation, I submit the following testimony on the fiscal year 2011 budget for the National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce. I request that this testimony be submitted for the official record.

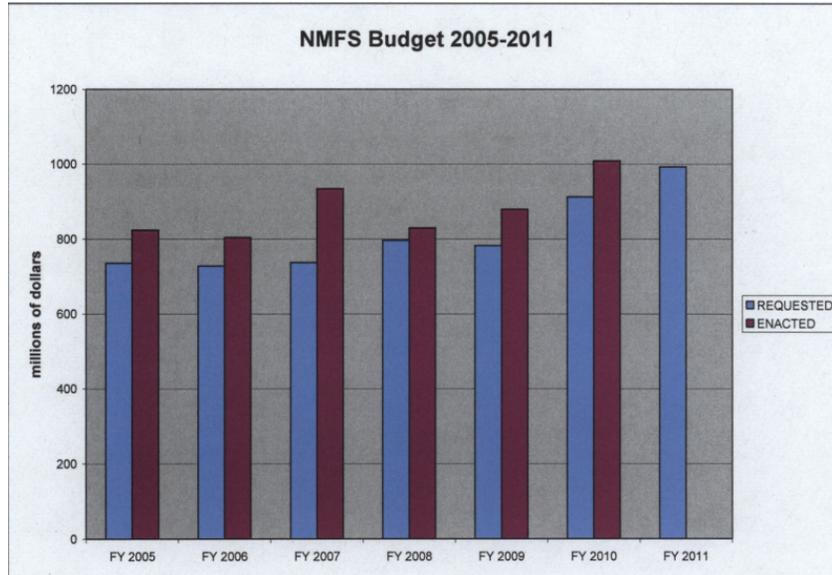
NOAA's responsibilities are wide-ranging and essential to healthy oceans, public safety, and a vital economy. The agency provides fisheries management, coastal and marine conservation, weather forecasting, climate monitoring, and many other vital services. Despite the indispensable products and services that NOAA provides, the agency has been chronically underfunded. At first glance, the President's budget for fiscal year 2011 appears to buck this trend by increasing NOAA's funding to \$5.5 billion, but the vast majority of that increase is directed toward Procurement, Acquisition, and Construction (PAC) account while Operations, Research, and Facilities (ORF) account remains relatively flat-funded.



As evidenced above, the seemingly sharp increase in NOAA funding is primarily directed toward the PAC account. The vast amount of the increase in the PAC account is directed to satellites. While the satellite program is important and in need of increased funding, this increase must not come at the expense of NOAA's programmatic work, which operates under the ORF account. Funding for ORF has essentially idled since 2004, which, when accounting for inflation, has resulted in less money for ocean conservation and management.

Oceana strongly encourages the subcommittee to provide \$8 billion for NOAA in the fiscal year 2011 Commerce, Justice, Science appropriations bill. NOAA provides crucial services which are fundamental to the health of our oceans, coastal communities, and economy. While we are pleased that the President's request calls for increased funding for NOAA, many programs in the ORF account remain severely underfunded, and we ask that resources are directed toward marine research, management, and conservation programs including the following:

NATIONAL MARINE FISHERIES SERVICE (NMFS)



The President's fiscal year 2011 budget requests for the National Marine Fisheries Service, NMFS, is less than the previous year's enacted level. This decrease is disappointing, as many NMFS programs remain underfunded, while the President himself has cited challenges facing our oceans, including, "habitat loss, fishing impacts, invasive species, [and] disease." Increased funding is needed to address these problems and to strengthen the following programs:

Fishery Observer Programs—\$50.9 Million (Fiscal Year 2010 Enacted—\$41.1 Million)

Fishery observers are independent scientists who collect data aboard working fishing vessels, and record the entire composition of what is brought aboard the boat. This is a more complete record than landings data which only record what is brought to port, failing to account for bycatch, the incidental catch of non-target fish species or marine wildlife. This bycatch is thrown overboard, often dead or dying. According to NMFS, 85 fisheries require observer coverage and only 42 of those have any amount of coverage. Of those 42, less than one-half have adequate levels of coverage. Observer coverage needs to increase to provide accurate and precise estimates of bycatch in commercial fisheries to allow for better fishery management.

Stock Assessments—\$60.0 Million (Fiscal Year 2010 Enacted—\$51.0 Million)

Fishery management must be supported by adequate data and science. Quantitative stock assessments provide the scientific basis for setting catch limits that allow for the maximum fishing effort while preventing overfishing. Strong science leads to healthy fisheries and a healthy economy. According to NOAA, only 128 of 230 major U.S. fish stocks were considered to have inadequate stock assessments in 2007. Based on an estimated cost of approximately \$1 million per stock assessment, NOAA would require an additional \$100 million above last year's funding in order to develop adequate stock assessments for all 230 major stocks, so by comparison, the increase sought is modest.

Enforcement—\$75.0 Million (Fiscal Year 2010 Enacted—\$65.7 Million)

Fisheries laws are ineffectual without adequate enforcement. Successful implementation of new legal requirements for annual catch limits (ACLs) and accountability measures in all U.S. fisheries will demand increased funding. Additional resources are needed to establish a program for enforcement and surveillance of Illegal, Unregulated and Unreported (IUU) fishing within the existing NMFS fisheries enforcement program. IUU fishing is a major threat to fisheries sustainability and value, marine habitat, and the livelihoods of fishermen and local communities. In-

creased funding would be used to identify and take action against vessels engaged in IUU fishing.

Deep Sea Coral Conservation—\$7.0 Million (Fiscal Year 2010 Enacted—\$2.5 Million)

The Magnuson Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSRA) directed NOAA to establish a Deep Sea Coral Research and Technology Program, to map coral habitats and help scientists understand deep sea coral biology and ecology. These delicate, slow-growing corals often serve as nurseries for commercially and ecologically important fish and a variety of marine wildlife. These corals are extremely vulnerable to destructive fishing gear, and increased funding is necessary to map the location of, and minimize gear impacts on deep sea coral habitat.

Sea Turtle Research and Conservation—\$26.4 Million (Fiscal Year 2010 Enacted—\$14.6 Million)

Oceana urges the subcommittee to reject the administration's funding cut to marine turtle programs, and instead, expand upon existing funding. Sea turtles have been swimming the oceans for more than 100 million years, yet today, all six species of sea turtles in U.S. waters are listed as either endangered or threatened under the Endangered Species Act (ESA). Commercial fisheries alone are authorized to kill 10,000 and injure an additional 334,000 turtles each year. This mortality is compounded by other challenges such as marine debris, pollution, coastal development, vessel strikes, and climate change. Additional funding is needed to research the cumulative impact of these threats, and to ensure the recovery of imperiled sea turtle populations.

Marine Mammal Protection—\$82.0 Million (Fiscal Year 2010 Enacted—\$49.7 Million)

Oceana requests that funding be restored to fiscal year 2005 enacted level of \$82 million. There are 13 domestic species of marine mammal that are currently protected under the ESA, all marine mammals are protected under the Marine Mammal Protection Act, and NMFS is the agency primarily responsible for their management. Increased funding is needed for updated stock assessments and research cruises, bycatch monitoring and reporting, research on avoidance and bycatch reduction techniques, the formation of take reduction teams, and implementation and enforcement of conservation measures for marine mammals.

NATIONAL OCEAN SERVICE

Oil Spill Response and Restoration—\$29.2 Million (Fiscal Year 2010 Enacted—\$10.8 Million)

NOAA's office of Response and Restoration (OR&R) is the lead trustee for the public's coastal natural resources and the scientific leader for oil spill response, assessment, and restoration. OR&R's mission is to respond to, protect and restore habitats, communities and economies injured by oil spills, hazardous waste sites, and vessel groundings. Renewed interest in oil drilling in the ocean threatens marine life and ocean ecosystems. Starting in fiscal year 2004 OR&R saw a steady decrease in its funding levels calling into question its ability to respond to two major events simultaneously. Increased funding levels are essential if OR&R is to return to its historic funding levels and for OR&R to complete its designated mandates.

Integrated Ocean Acidification Initiative—\$15.0 Million (New Program in Fiscal Year 2011)

Our oceans absorb approximately 30 percent of anthropogenic carbon dioxide emissions, amounting to more than 460 billion tons since the Industrial Revolution. Once the carbon dioxide is absorbed, it reacts with seawater to form carbonic acid. Among other things, the increased acidity prevents marine organism, such as pteropods, mussels, oysters, lobsters, and corals, from forming their calcified shells or skeletons. The acidity of our oceans' surface water has already increased by approximately 30 percent, and while the chemistry of this process is well understood, the breadth of the impact that it will have on marine ecosystems remains unknown. In 2009, Congress passed the Federal Ocean Acidification Research and Monitoring Act which authorized appropriations for ocean acidification research divided amongst NOAA and NSF. This money will support new technologies, monitoring systems, improved modeling, and dedicated research programs.

New Programs in NOAA this year include a new Climate Service and work on Coastal and Marine Spatial Planning, as well as participation in the Ocean Policy

Task Force, as directed by President Obama. New funding will be required to fulfill these new directives:

National Climate Service.—Will bring together all the agency’s climate science and products and make them available in one location, which will allow for improved communication and coordination within the agency, and will enhance accessibility to decisionmakers and the general public. The Climate Service will build upon current climate research, observations, modeling, predictions and assessments, but aggregate the information in one place.

National Ocean Policy.—An Interagency Ocean Policy Task Force was established on June 12, 2009 by President Obama. The Task Force was charged with developing recommendations for a comprehensive national policy for the protection, maintenance and restoration of our oceans, coasts and Great Lakes; a structure to coordinate and implement the policy throughout the Federal Government; and a framework for coastal and marine spatial planning (CMSP). At the onset of President Obama’s administration, he said, “We have a stewardship responsibility to maintain healthy, resilient, and sustainable oceans, coasts, and Great Lakes resources for the benefit of this and future generations.” Now, NOAA must be provided the resources to follow through.

Coastal and Marine Spatial Planning.—Is a tool to implement the National Ocean Policy throughout U.S. waters and address the ever-growing demands on our oceans such as renewable energy development, commercial and recreational fisheries, protecting marine wildlife, habitat protection, marine shipping, aquaculture, recreation, and many other activities. An initial investment in MSP will allow the United States to take a comprehensive approach to managing our coasts and oceans, rather than relying on sector-by-sector management. MSP will allow for improved planning with an emphasis on science-based decisionmaking.

Thank you for your consideration of these recommendations.

NOTE.—Oceana received no funding from a Federal grant (or subgrant thereof) or contract (or subcontract thereof) in the current fiscal year or either of the two previous fiscal years.

PREPARED STATEMENT OF THE NATIONAL ASSOCIATION OF STATE ALCOHOL AND DRUG ABUSE DIRECTORS, INC.

Chairwoman Mikulski, Ranking Member Shelby, members of the subcommittee, thank you for your leadership on issues related to addiction. I serve as executive director of the National Association of State Alcohol and Drug Abuse Directors or NASADAD, which includes our component groups the National Prevention Network (NPN) and National Treatment Network (NTN). Our members are responsible and accountable for planning, managing and improving each State’s substance abuse prevention, treatment and recovery system.

State Substance Abuse Agency-supported Services to Criminal Justice Populations.—In a NASADAD inquiry of the membership released in February 2009, State substance abuse directors were asked to estimate the percentage of cases referred to them from the criminal justice system. NASADAD found that 13 States estimated between 31 and 40 percent; 12 States estimated between 41 and 50 percent; 10 States estimated between 51 and 60 percent; and 3 States estimated between 61 and 70 percent of referrals came from the criminal justice system.

The principle source of funding for NASADAD members is SAMHSA’s Substance Abuse Prevention and Treatment (SAPT) Block Grant, which represents 40 percent of State substance abuse agency expenditures. Yet funding for the SAPT Block Grant has been stagnant over the past few years. While we certainly appreciate the increase of \$20 million for the program in fiscal year 2010, it is estimated that an additional \$403.7 million was needed just to maintain services at fiscal year 2004 levels.

As a result, DOJ-supported programs represent an extremely critical resource for State substance abuse agencies as they provide services to such a large percentage of criminal justice populations. A critical component of this work is the promotion of policies that require strong and direct linkages between Federal programs pertaining to addiction and State substance abuse agency directors. This direct linkage helps promote clinically appropriate standards of care; accurate performance and outcome data; and effective, efficient and coordinated service delivery.

Fiscal Year 2011 Recommendations.—We respectfully ask for your support of the following recommendations as you consider fiscal year 2011 appropriations for DOJ programs:

—*Residential Substance Abuse Treatment (RSAT)*—\$45 million.—NASADAD supports \$45 million, an increase of \$15 million compared to fiscal year 2010, for

the Residential Substance Abuse Treatment (RSAT) program. RSAT benefits all 50 States by awarding grants for the establishment of drug treatment programs within State and local correctional facilities. These grants call for collaboration between the criminal justice administrators and State substance abuse agencies to help ensure that evidence-based practices and qualified personnel are available to assist offenders address their substance abuse problems. With an estimated 80 percent of all offenders in the criminal justice system having some level of substance abuse problem, programs like RSAT that offer treatment during incarceration, matched with aftercare services, are vital to any successful reentry strategy.

—*Enforcing Underage Drinking Laws (EUDL)*—\$25 million.—NASADAD is extremely concerned with the administration’s proposal to consolidate all title V programs within the Office of Juvenile Justice and Delinquency Prevention (OJJDP) into one funding stream. This proposal would have the effect of eliminating the EUDL program which is housed within title V.

The EUDL program is allocated as a block grant to every State and the District of Columbia in order to help reduce underage drinking and improve public safety through the enforcement of laws, policies and sanctions. The EUDL program also includes discretionary grant portfolio to help local jurisdictions initiate and maintain underage drinking laws programs. Overall, EUDL encourages collaboration between State agencies, which is critical when establishing a comprehensive Statewide underage drinking strategy. In addition to alcohol compliance checks, States use the funds to help local coalitions, schools and communities expand their substance abuse prevention efforts and their work with law enforcement. EUDL is a critical tool that helps law enforcement and the prevention and treatment field work together to reduce the negative effects of underage drinking.

The proposal to eliminate EUDL funding arrives during a time when substance abuse prevention resources are dwindling. In fiscal year 2010, the Department of Education’s Safe and Drug Free Schools and Communities (SDFSC)—State Grants program was eliminated—representing a loss of approximately \$300 million. In fiscal year 2011, the administration is proposing a \$9 million decrease in the Substance Abuse and Mental Health Services Administration’s (SAMHSA) Drug Free Communities (DFC) grant program. The loss of EUDL funds would represent another devastating loss for State substance abuse prevention systems. NASADAD requests level funding, or \$25 million, for the EUDL program.

—*Second Chance Act Programs*.—NASADAD is supportive of funding for Second Chance Act programs. The statute itself notes the importance of State substance abuse agencies, noting “successful reentry programs require close interaction and collaboration with each State’s Single State Authority for Substance Abuse as the program is planned, implemented and evaluated.” While NASADAD supports finding for all Second Chance Act programs, we offer specific recommendations for the following:

—*Adult and Juvenile Offender State and Local Reentry Demonstration Projects*—\$50 million.—The Adult and Juvenile Offender State and Local Reentry Demonstration Projects provide grants to State and local governments to coordinate reentry efforts and establish best practices. Allowable uses of the funds include substance abuse treatment, employment services, housing, mental health treatment, mentoring, among other things. The authorization also requires a strong linkage with the State substance abuse agency. NASADAD believes that the projects are vital in helping offenders successfully reenter society and requests \$50 million in fiscal year 2011, an increase of \$13 million compared to fiscal year 2010.

—*State, Tribal and Local Reentry Courts*—\$15 million.—The State, Tribal and Local Reentry Courts program authorizes the Attorney General to make competitive grants to States, local governments, and Indian tribes that improve drug treatment in prisons, jails, juvenile facilities; develop and implement programs for “long-term substance abusers” through assessment, treatment and case management; provide recovery support services; and establish pharmacological treatment services as part of drug treatment programs. Each eligible applicant must certify that the program has been developed in consultation with the State substance abuse agency. NASADAD requests \$15 million for the reentry courts in fiscal year 2011, representing an increase of \$5 million compared to fiscal year 2010.

—*Grants for Family-Based Substance Abuse Treatment*—\$12.5 million.—The Second Chance Act authorized grants to States, local governments and Indian tribes to develop and implement comprehensive family-based substance abuse treatment programs. The program must ensure coordination and consultation with the State substance abuse agency. NASADAD requests \$12.5 million for

this program in fiscal year 2011, representing an increase of \$5 million compared to fiscal year 2010.

—Offender Reentry Substance Abuse and Criminal Justice Collaboration Program—\$15 million.—The Second Chance Act authorized competitive grants to States, local governments, and Indian tribes for the purpose of improving drug treatment programs in prisons, jails, juvenile facilities and reducing drug and alcohol use by “long-term substance abusers.” Grants may support assessments, treatment, case management services, recovery support, and pharmacological drug treatment services as part of any drug treatment program. Each eligible applicant must certify that the program has been developed in consultation with the State substance abuse agency and certify the program is clinically appropriate and provides comprehensive treatment. NASADAD requests \$15 million for this program in fiscal year 2011, for an increase of \$2 million compared to fiscal year 2010.

Drug Courts—\$65 million.—DOJ’s Bureau of Justice Assistance (BJA) reports that all 50 States and the District of Columbia, several Native American Tribal courts, two territories and two Federal courts operate drug courts. Drug courts work to address the high level of drug use and abuse found within the non-violent offender population by linking them to substance abuse treatment programs. Reports have shown drug courts to improve retention rates—a significant factor in recovery—and reduce recidivism. The Association also encourages strong linkages with State substance abuse agencies in the planning and implementation of the Drug Court Program. This partnership will ensure that drug courts use clinical treatment standards set by the State substance abuse agency, discourage system fragmentation, promote sustainability and encourage the use of common client level performance and outcomes data.

NASADAD opposes the administration’s fiscal year 2011 proposal to consolidate the Drug Court and Mentally Ill Offender Treatment and Crime Reduction Act (MIOTCRA) programs into a Problem Solving Court Program. The Association recommends stakeholder dialogue and consensus before any such changes are proposed. NASADAD recommends implementing \$65 million for the Drug Court Program in fiscal year 2011, representing an increase of \$20 million compared to fiscal year 2010.

Mentally Ill Offender Act Program—\$15 million.—The Mentally Ill Offender Treatment and Crime Reduction Act (MIOTCRA) is an authorized program aimed at preventing the mentally ill and those with co-occurring mental health and substance use disorders from revolving in and out of the criminal justice system without appropriate treatment. Again, the Association remains concerned about the proposal to consolidate the MIOTCRA program with the Drug Court Program. While one aspect of the MIOTCRA program focuses on mental health courts, a large piece of the program seeks to foster collaboration between the criminal justice, mental health and substance abuse agencies to ensure that mentally ill offenders receive the appropriate treatment services they need. We hope that Congress will provide \$15 million for the MIOTCRA program in fiscal year 2011, representing an increase of \$3 million compared to fiscal year 2010.

Byrne/Justice Assistance Grants (JAG)—\$1.1 billion.—The Edward Byrne Memorial Justice Assistance Grant (JAG) program is the primary provider of Federal funding for criminal justice activities to State and local jurisdictions. This program supports a broad range of activities including education, prevention and treatment for substance use. Specifically, the 2007 application notes that a core purpose area is drug treatment programming. NASADAD encourages strong linkages with State substance abuse agencies in the planning and implementation of Byrne/JAG. NASADAD joins our criminal justice coalition partners in calling for the authorized funding level of \$1.1 billion in fiscal year 2011.

Appreciation DOJ-SAMHSA Partnership.—NASADAD recognizes the work of DOJ and SAMHSA as they partner on issues pertaining to addiction and crime. This work has moved forward under the leadership of Ms. Laurie Robinson, Assistant Attorney General, Office of Justice Programs (OJP); Ms. Pam Hyde, SAMHSA Administrator; Dr. Eric Broderick, SAMHSA’s Deputy Administrator; Dr. H. Westley Clark, Director of the Center for Substance Abuse Treatment (CSAT); and others.

Thank you for the opportunity to provide input. We look forward to working with the subcommittee on these important issues.

PREPARED STATEMENT OF THE NATURAL SCIENCE COLLECTIONS ALLIANCE

The Natural Science Collections Alliance (NSC Alliance) appreciates the opportunity to provide testimony about the President's fiscal year 2011 budget request for the National Science Foundation (NSF). We encourage Congress to appropriate the President's requested \$7.424 billion for NSF.

NSC Alliance is a nonprofit 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. We are comprised of over 100 institutions who are part of an international community of museums, botanical gardens, herbariums, universities and other institutions that house natural science collections and utilize them in research, exhibitions, academic and informal science education, and outreach activities.

The NSF drives scientific and general economic innovation and supports job creation through research grant awards to scientists and research institutions, supporting the acquisition of research instruments and investments in research infrastructure, and supporting the education and training of undergraduate and graduate students. These and other NSF programs underpin the Nation's research enterprise. Research funded by NSF generates knowledge and ideas that spur economic growth, stimulate innovation, and improve our understanding of the world in which we live.

The President's budget request for fiscal year 2011 would invest \$6.019 billion in the Research and Related Activities (R&RA) programmatic accounts. Through R&RA, the agency supports innovative research that advances the frontiers of our natural, physical and social science disciplines. Included within this request is \$767.81 million for the Biological Sciences Directorate (BIO), a 7.5 percent increase over the fiscal year 2010 enacted.

The President's budget would provide the Geosciences Directorate (GEO) with \$955.3 million in fiscal year 2011, a 7.4 percent increase.

As the primary Federal funder of basic biological research, BIO serves a vital role in ensuring our Nation's global leadership in the biological sciences. BIO provides 68 percent of Federal grant support for fundamental biological research conducted at our Nation's universities and other nonprofit research centers, such as natural history museums. The Directorate supports transformative research that has improved our understanding of complex living systems and is helping to address major new challenges—mitigating and adapting to climate change, understanding and conserving biodiversity, and developing new bio-inspired technologies.

NSF provides essential support for our Nation's natural science collections. These research centers enable scientists and students to study the data of life for the history of the planet, conduct modern biological, geological, cultural, and environmental research, and provide undergraduate and graduate students with the opportunity to learn directly from nature.

The President's budget request for NSF includes important funding for natural science collections. Ten million dollars is allocated to continue efforts to digitize and network U.S. specimen-based research collections. This funding is desperately needed to increase access to the data and specimens in our Nation's scientific collections. Collections play a central role in many fields of biological research, including disease ecology and predicting outbreaks of disease, biodiversity, and climate change. They also provide critical information about existing gaps in our knowledge of life on Earth.

The importance of scientific collections to our Nation's research infrastructure was recognized by the Federal Interagency Working Group on Scientific Collections, which reported that: ". . . scientific collections are essential to supporting agency missions and are thus vital to supporting the global research enterprise."

The fiscal year 2011 budget request includes important funding to continue efforts to better understand biodiversity. Funding is included for cross-disciplinary research to define the impacts of biodiversity on ecosystem services and human well-being. Additionally, the Science, Engineering, and Education for Sustainability (SEES) program would continue to study the scope and role of biodiversity in climate adaptation and ecosystem sustainability.

Within the R&RA program, GEO provides some support for research and student training opportunities at natural science collections. GEO supports cross disciplinary research on the interactions between Earth's living and non-living systems—research that has important implications for our understanding of climate change, water and natural resource management, and biodiversity.

The President's budget provides important funding for the Informal Science Education program within the Education and Human Resources division. This program works to advance our understanding of informal science, technology, engineering,

and mathematics (STEM) learning. This program supports projects that create tools and resources for STEM educators working in science museums and outside of traditional classrooms. The Informal Science Education program builds professional capacity for research, development, and practice in the field. The administration's fiscal year 2011 budget would decrease funding for the program by \$1.6 million from fiscal year 2010 enacted. This program is too important to the future of our Nation to have its budget cut. We encourage Congress to restore the proposed cut and to provide important new funding for the Informal Science Education program.

A sustained Federal investment in NSF is prudent. Public investments in biological sciences research have been shown to generate a \$2 to \$10 return on each dollar invested. The President's budget request for NSF will help spur economic growth and innovation and continue to build scientific capacity at a time when our Nation is at risk of being outpaced by our global competitors. Please support an investment of \$7.424 billion in NSF for fiscal year 2011.

Thank you for your consideration of this request.

PREPARED STATEMENT OF THE MARINE FISH CONSERVATION NETWORK

On behalf of the nearly 200 environmental organizations, fishing associations, aquariums, and marine science groups dedicated to conserving marine fish and achieving sustainable fisheries, the Marine Fish Conservation Network submits the following testimony for the record on the fiscal year 2010 budget for National Marine Fisheries Service (NMFS) within the National Oceanic and Atmospheric Administration (NOAA). For fiscal year 2011, the Network is asking the subcommittee to increase funding for core fisheries conservation and management programs \$69.2 million above the President's fiscal year 2011 budget request, in the following program areas:

NMFS FISHERIES RESEARCH AND MANAGEMENT BUDGET LINES

[In millions of dollars¹]

	Fiscal Year 2010 Enacted Budget	Fiscal Year 2011 President's Budget	Fiscal Year 2011 MFCN Request
Expand annual stock assessments	50.9	51.7	61.7
Survey and monitoring	23.7	24.1	30.0
Fisheries statistics	21.0	21.4	32.4
Observer program	41.0	38.8	60.0
Cooperative research	17.5	7.1	17.1
Reducing bycatch	3.4	3.4	10.0
Reduce fishery impacts to EFH	0.5	0.5	5.0

¹ Numbers rounded to nearest \$100,000.

NOAA and NMFS are responsible for the management and conservation of fisheries resources that are the economic lifeblood of many coastal communities, but NOAA Fisheries has long been underfunded and needs additional resources to meet its conservation mandates for fisheries.¹

Recent budget increases supported by this subcommittee have enabled NMFS to expand its data collection and stock assessment capabilities, but significantly more support is needed to address the needs of our Nation's fisheries. For instance, NOAA's own analysis indicates that current funding levels for expanded stock assessments provide the capability to assess less than 60 percent of the 230 major fish stocks that comprise the Fish Stock Sustainability Index (FSSI).² Without increased funding for improved data collection and expanded stock assessments, many fishery annual catch limits (ACLs) will be determined without assessments or using assessments that are infrequently updated. In such cases, fishery managers are compelled to set ACLs lower to account for the higher uncertainty and risk of overfishing. Funding to improve stock assessments decreases uncertainty and therefore may allow increased fishing opportunities.

Additional resources are also needed to support improved data collection and management of our recreational fisheries. Despite their often sizeable economic im-

¹ See, for instance, USCOP (2004), pp. 274-304, and NOAA/NMFS, Requirements for Improved and Integrated Conservation of Fisheries, Protected Resources and Habitat, January 2003.

² See President's fiscal year 2010 budget request, Congressional Submission, Exhibit 13, pp. 215-217.

portance to coastal communities, much less data is collected from recreational fisheries than commercial fisheries.³ The lack of timely recreational fisheries data has created situations in which recreational fisheries must be managed using Marine Recreational Fisheries Statistics Survey (MRFSS) data that are not designed for the purpose of preventing fisheries from exceeding ACLs. We urge the subcommittee to address this shortcoming and provide funding for a recreational fishery data collection system that prioritizes the timely collection and analysis of recreational catch data.

Therefore, we request increases in the following NMFS Fisheries Management and Research programs for activities related to the collection of baseline data collection supporting the implementation of the new mandates and requirements of the MSRA aimed at ending overfishing and achieving sustainable, productive fisheries:

Expand Stock Assessments: +\$10 Million Over the President's Request for a Total of \$61.7 Million.—The Omnibus Appropriations Act of 2010 funds this program at NOAA's requested fiscal year 2010 level of \$50.9 million. While we welcome and support the increase in funding, it is not sufficient to achieve the agency's goal of developing stock assessments for all 230 major stocks in the Fish Stock Sustainability Index (FSSI). Fishery managers have substantially greater confidence that catch limits will prevent overfishing when the ACLs are based on an assessment. The requested funding level we request in fiscal year 2011 is needed to ramp up the capability to provide stock assessments for all major fisheries. Timely, updated stock assessments will reduce the scientific uncertainty and may enable fishery managers to set higher ACLs while still preventing overfishing and rebuilding overfished stocks.

Survey and Monitoring Projects: +\$6 Million Over the President's Request for a Total of \$30 Million.—The enacted fiscal year 2010 budget restores funding for this program to the level sought by NOAA in the fiscal year 2009 budget request in recognition of the fact that this activity provides essential baseline data needed for developing and updating stock assessments. Nevertheless, many regions will continue to experience chronic underfunding of basic resource surveys and data collection (both fishery-independent resource surveys and fishery catch sampling and monitoring) required to support stock assessment development and scientific recommendations for catch limits. We request that fiscal year 2011 funding for this program be increased to at least \$30 million in order to support expanded resource surveys and improved stock assessments in all regions, for both commercial and recreational fisheries. Additional funding will improve scientific estimates of stock size and reduce uncertainty, improving the ability of fishery managers to set ACLs that prevent overfishing while increasing fishing opportunities.

Fisheries Statistics: +\$11 Million Over the President's Request for a Total of \$32.4 Million.—The 2006 amendments to the Magnuson Stevens Act required NMFS to improve the quality and accuracy of marine recreational fishery data with a goal of achieving acceptable accuracy and utility for each fishery within 2 years. The Omnibus Appropriations Act of 2010 includes \$9 million in total funding for the Marine Recreational Information Program (MRIP), less than one-half of the \$20 million per year that is needed to fully implement the MRIP and expand the National Registry to State and Federal waters. We recommend a funding level of \$32.4 million for fiscal year 2011, reflecting an increase of \$11 million over the President's fiscal year 2011 request to the MRIP to provide more timely data needed to manage recreational fishery catch limits and avoid overages that can result in reduced fishing opportunities in future years.

Fisheries Observers/Training: +\$21.2 Million Over the President's Request for a Total of \$60 Million.—The President's fiscal year 2011 budget request would cut observer program funding from \$41 million in fiscal year 2010 to \$38.8 million. Current funding levels support at-sea observer programs in about 40 fisheries nationwide, only 23 of which were considered by NMFS to have adequate levels of observer coverage in 2009.⁴ Nearly three-quarters of U.S. fisheries assessed for observer coverage have very little or no coverage, based on a 2004 national bycatch assessment⁵ and updated information in 2009.⁶ Additional funding for observers

³USCOP (2004), p. 281.

⁴See President's fiscal year 2010 budget request, Congressional Submission, Exhibit 13, p. 245. The full list of fisheries prioritized for observer coverage in 2004 can be found in: U.S. Dep. of Commerce/NOAA/NMFS, Evaluating Bycatch: A National Approach to Standardized Bycatch Monitoring Programs, NOAA Technical Memorandum NMFS-F/SPO-66, October 2004. 108 p.

⁵The full list of fisheries assessed for observer coverage in 2004 can be found in: U.S. Dep. of Commerce/NOAA/NMFS, Evaluating Bycatch: A National Approach to Standardized Bycatch Monitoring Programs, NOAA Technical Memorandum NMFS-F/SPO-66, October 2004. 108 p.

⁶See President's fiscal year 2010 budget request, Congressional Submission, Exhibit 13, p. 245.

will provide improved fisheries catch and bycatch data that is essential to produce stock assessments, reduce bycatch, monitor fishery compliance with catch limits, and increase industry confidence in scientific information used to set catch limits.

Cooperative Research: +\$10 Million Over the President's Request for a Total of \$17.1 Million.—The President's fiscal year 2011 budget proposes to cut \$4.56 million from this budget line and transfer another \$6 million to cooperative research under the Catch Shares budget line. Funding for this budget line supports research in partnership with fishermen to help improve the quality of fish assessments and assessment of non-target bycatch mortality, among other things. In addition to contributing to more assessment information, cooperative research funds partnerships between key stakeholders and NMFS, increasing stakeholder confidence in the data and creating a more transparent process. The amount requested for this budget line is intended to restore the funding that the President's budget proposes to remove, in order to provide additional opportunities for cooperative research in fisheries that are not part of catch share programs.

Bycatch Monitoring and Reduction: +\$6.6 Million Over the President's Request for a Total of \$10 Million.—The President's fiscal year 2011 request \$3.4 million maintains stable funding for this program, but current funding is woefully inadequate to address the scope of the problem. Greater funding is needed to develop and test bycatch reduction technologies, to support cooperative research opportunities with fishermen, and to collect and process reliable fisheries bycatch information for use in stock assessments and management decisionmaking. The Network recommends that Congress provide at least \$10 million in fiscal year 2011 for the Bycatch Reduction Initiative as part of a plan to ramp up program funding toward the \$30 million per year level recommended by the U.S. Commission on Ocean Policy.⁷

Reduce Fishing Impacts on Essential Fish Habitat (EFH): +\$4.5 Million Over the President's Request for a Total of \$5.0 Million.—The President's fiscal year 2011 request of \$0.53 million would keep this program on life support, and the low level of funding for this budget line item speaks to the low priority given to protection of vulnerable EFH. The Magnuson-Stevens Act of 1996 gave fishery managers a clear mandate to identify and protect EFH. Healthy fish habitat is an essential precondition for rebuilding overfished stocks and sustaining fisheries over the long-term. Program funding should reflect that importance. The Network recommends that Congress provide no less than \$5 million in fiscal year 2011 for EFH conservation as part of a plan to ramp up program funding toward the \$15 million per year level recommended by the U.S. Commission on Ocean Policy.⁸

Increased investments in these fisheries programs will improve efforts to set sustainable catch limits and monitor compliance, facilitate the rebuilding of fisheries to meet their full economic and biological potential, and increase fishing industry confidence in the science being used to make management decisions.

PREPARED STATEMENT OF NATIONAL PUBLIC RADIO

Chairwoman Mikulski and Ranking Member Shelby, this statement asking for an increase in funding for the fiscal year 2011 Public Telecommunications Facilities Program (PTFP) is submitted on behalf of the public radio system including NPR and the roughly 800 public radio stations that serve communities large and small throughout the United States. While everyone recognizes that these are extraordinarily challenging times, PTFP has been significantly underfunded for the past several years. Each year of underfunding brings the consequence of reduced public radio service. Public broadcasting's request of \$44 million for PTFP will begin to address the long list of pressing needs within the public broadcasting station community. This level of funding will ensure that public radio stations can improve and expand their valued public service offerings to local communities nationwide. As the chairwoman and Senator Shelby well know, PTFP is the only Federal funding program that assists stations with replacement of equipment that has been damaged or simply worn out.

NPR and its more than 850 public radio station partners operate as an independent, nonprofit media organizations nationally acclaimed for news, information, music and entertainment programming. Today, more Americans than ever—over 33 million people—are tuning into public radio programming and listening to NPR and public radio stations on a weekly basis. Our audience has grown 66 percent in the past 10 years, bucking a precipitous decline in other media and a general overall

⁷ See USCOP 2004: Table 30.1; Appendix G.

⁸ USCOP 2004: Table 30.1; Appendix G.

decline in radio listening. Public radio stations independently select and produce community appropriate programming that best serves their listening areas.

Since 1962, public radio stations have utilized PTFP grants for replacement, maintenance and necessary upgrades of audio production and broadcast transmission equipment. PTFP is a competitive matching grant program to help public broadcasters, State and local governments, and Native American tribes construct facilities to bring educational and cultural programs to the public. Run by the National Telecommunications and Information Administration (NTIA) under the Department of Commerce, this program provides financial assistance to stations for capital projects such as replacing outdated hardware, purchasing new equipment to expand service to underserved and un-served areas, and converting to digital technology.

This essential capital grant program is available to public broadcasters, many of whom are constrained in their ability to finance capital expenditures. Stations cannot pass their costs on to their listeners, and most cannot take out loans for such projects, especially in this challenging economic climate and those in rural areas. The matching-grant structure of PTFP allows public radio stations to leverage funding from local government and private entities while providing the money needed to help defray the high costs of capital projects.

Fiscal year 2011 brings an important opportunity for public radio broadcasters. In 2007, the Federal Communications Commission (FCC) opened a filing window for non-commercial educational radio stations, the first such frequency filing opportunity in more than 7 years. The response from public radio stations has been enormous, with several hundred applications filed for new frequencies to improve or provide first service for communities across America. Each of these new frequencies, once approved by the FCC, will require a station build-out, adding to the vitally important matching grant financing provided by PTFP.

The subcommittee should also be made aware that 35 new stations serving tribal communities are waiting to be built. The tribal participation in the FCC's 2007 new frequency window indicates that Native Americans are highly interested in securing terrestrial radio stations for their communities. Radio still works in Indian Country where broadband penetration is less than 10 percent, where 911 services are sparse and where roads remain to be paved. These stations are anchor institutions, engaging tribal members in the information stream about health, public safety, education, and electoral processes.

The demand for PTFP funding far exceeds the amount of funds available. In fiscal year 2009, there were over 220 applications requesting more than \$48 million in funding through PTFP, yet only \$20 million was made available. Unfortunately, budget constraints have limited the amount of funds available for PTFP grants. Annual appropriations for the program in fiscal year 2004 were cut by 50 percent (from \$43.2 million in fiscal year 2003 to \$21.8 million). Funding levels for the past 7 years have remained at that level or lower. Increasing PTFP this year to its pre-2004 level of \$44 million will help to meet the demand for this small, but important program, to help them to expand coverage to underserved and un-served areas.

In this era of local public radio stations utilizing digital technology to expand their public service reach, computer systems rely on software which needs constant updating and replacement. PTFP funding will be essential to stations that need to maintain reliable digital equipment and service that meets the needs of their communities. PTFP funding is the primary funding source for station equipment and technology needs.

In fiscal year 2009, PTFP approved 63 radio awards totaling \$6.422 million. The largest radio grant went to construct a new public radio station on 90.5 MHz in Shiprock, New Mexico, that will provide first and local origination service to 31,883 people and additional service to 11,166 people on the Navajo Indian Reservation and the Four Corners area of Colorado, New Mexico, Arizona, and Utah.

Thirty-five radio grants were awarded to extend new public radio service to over 400,000 people and provide additional service to almost 2 million people. Two of the projects will fund booster stations to improve service to portions of New York City where coverage is shadowed by Manhattan skyscrapers. Communities that will receive first or expanded public radio service are: Bella Vista, Burney and Susanville, CA; Boulder, Dove Creek, Montrose, Salida and Wiley CO; Milledgeville and Young Harris, GA; Caldwell, ID; Manhattan, KS; Frederick, MD; Cloquet, Hinkley, Nett Lake and Redwood Falls, MN; Greenville, MS; Box Elder (Rocky Boy Indian Reservation), MT; Okracoke, NC; Fort Totten, ND; Des Moines, Shiprock (Navajo Indian Reservation) and Tucumcari, NM; Acra, Mt. Beacon and New York City, NY; Bend and Brightwood, OR; Spearfish/Belle Fourche, SD; Gloucester Point, Gloucester Courthouse and Lexington, VA; Medical Lake, Mount Vernon and Port Townsend, WA; and Fort Washakie (Wind River Indian Reservation), WY.

A grant will permit KPBX–FM, Spokane, WA, to distribute additional program streams for broadcast on five digital repeater stations in Omak, Oroville, Twisp, and Brewster, WA; and Kellogg, ID. Also, NPR was awarded a planning grant to determine the feasibility of digital conversion of radio reading services for the blind and low vision community.

Maintaining service is also one of PTFP's main priorities. PTFP is the only source of funds for local public radio stations to replace equipment damaged or destroyed by disasters such as hurricanes, tornados, floods, wildfires, earthquakes and ice storms. In fiscal year 2009, the program awarded 26 projects to replace urgently needed equipment at public radio stations. PTFP priorities when issuing grants include expansion of public broadcasting to underserved and un-served areas of the country. For more than 46 years, the program has played a major role in the development and expansion of public radio throughout the country. Today, more than 93 percent of the American public can listen to a public radio station in their community.

On behalf of public radio stations all across America, NPR urges the subcommittee to approve \$44 million for PTFP.

PREPARED STATEMENT OF THE AMERICAN GEOLOGICAL INSTITUTE

To the chairwoman and members of the subcommittee: The American Geological Institute (AGI) supports fundamental Earth science research sustained 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). Frontier research on Earth, energy and the environment has fueled economic growth, mitigated losses and sustained our quality of life. The subcommittee's leadership in expanding the Federal investment in basic research is even more critical as our Nation competes with rapidly developing countries, such as China and India, for energy, mineral, air and water resources. Our Nation needs skilled geoscientists to help explore, assess and develop Earth's resources in a strategic, sustainable and environmentally-sound manner and to help understand, evaluate and reduce our risks to hazards. AGI supports a total budget of \$7.424 billion for NSF; \$919 million for NIST, \$5.554 billion for NOAA, and \$1.802 billion for Earth Science at NASA.

AGI is a nonprofit federation of 46 geoscientific and professional societies representing more than 120,000 geologists, geophysicists, and other Earth scientists. Founded in 1948, AGI provides information services to geoscientists, serves as a voice for 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 and interaction with the environment.

NSF.—AGI applauds the President's request for an overall budget of \$7.424 billion for NSF and the administration's commitment to science. AGI greatly appreciates Congress's support for science and technology in recent appropriations and through the America COMPETES Act of 2007 as well as the American Recovery and Reinvestment Act of 2009. The forward-looking investments in NSF are fiscally responsible and will pay important dividends in future development and innovation that drives economic growth, especially in critical areas of sustainable and economic natural resources and reduced risks from natural hazards. The investments will save jobs, create new jobs, support students and provide training for a 21st century workforce.

NSF Geosciences Directorate.—The Geosciences Directorate (GEO) is the principal source of Federal support for academic Earth scientists and their students who are seeking to understand the processes that ultimately sustain and transform life on this planet. About 63 percent of support for university-based geosciences research comes from this directorate.

The President's request for fiscal year 2011 asks for \$281 million for Atmospheric Sciences, \$199 million for Earth Sciences, \$378 million for Ocean Sciences and \$98 million for Innovative and Collaborative Education and Research (ICER) within GEO. Much of the geosciences research budget is for understanding that which is critical for current national needs, such as climate change, water and mineral resources, energy resources, environmental issues and mitigation of natural hazards. AGI asks the subcommittee to strongly support these essential investments.

GEO supports infrastructure and operation and maintenance costs for cutting edge facilities that are essential for basic and applied research. Ultimately the observations and data provide information and understanding that is used by researchers and managers in the public, government and private sector. Among the major facilities, the Academic Research Fleet would receive \$77 million, EarthScope

Operation would receive \$26 million, Incorporated Research Institutions for Seismology (IRIS) would receive \$12.73 million, Ocean Drilling Activities would receive \$46 million, and the National Center for Atmospheric Research would receive \$108 million. AGI strongly supports robust and steady funding for infrastructure and operation and maintenance of these major facilities.

Now is the time to boost geosciences research and education to fill the draining pipeline of skilled geoscientists and geo-engineers working in the energy and mining industries; the construction industry; the environmental industry; the academic community; K–12 education; and in Government, such as the United States Geological Survey as well as State and local government natural resource and emergency management agencies.

NSF Support for Earth Science Education.—Congress can improve the Nation’s scientific literacy by supporting the full integration of Earth science information into mainstream science education at the K–12 and college levels. AGI supports the Math and Science Partnership (MSP) program, a competitive peer-reviewed grant program that funds only the highest quality proposals at NSF. The NSF’s MSP program focuses on modeling, testing and identification of high-quality math and science activities whereas the Department of Education MSP program does not. The NSF and Department of Education MSP programs are complementary and are both necessary to continue to reach the common goal of providing world-class science and mathematics education to elementary and secondary school students.

Improving geoscience education to levels of recognition similar to other scientific disciplines is important because:

- Geoscience offers students subject matter that has direct application to their lives and the world around them, including energy, minerals, water and environmental stewardship. All students should be required to take a geoscience course.
- Geoscience exposes students to a range of interrelated scientific disciplines. It is an excellent vehicle for integrating the theories and methods of chemistry, physics, biology, and mathematics. A robust geoscience course would make an excellent capstone for applying lessons learned from earlier class work.
- Geoscience awareness is a key element in reducing the impact of natural hazards on citizens—hazards that include earthquakes, volcanic eruptions, hurricanes, tornadoes, and floods. Informal geoscience education that leads to reducing risks and preparing for natural events should be a life-long goal.
- Geoscience provides the foundation for tomorrow’s leaders in research, education, utilization and policy making for Earth’s resources and our Nation’s strategic, economic, sustainable and environmentally-sound natural resources development. There are not enough U.S.-trained geoscientists to meet current demand and the gap is growing. Support for geoscience research and education is necessary to stay competitive and to wisely manage our natural resources.

NOAA.—AGI supports the President’s request for increased funding for NOAA for a total budget of \$5.554 billion. AGI supports the requested increases for the National Weather Service for analysis, modeling and upgrading of observing systems; for the Oceanic and Atmospheric Research program; and for the National Environment Satellite, Data and Information Service. All three programs are critical for understanding and mitigating natural and human-induced hazards in the Earth system while sustaining our natural resources. AGI continues to support the implementation of the U.S. Ocean Action Plan of 2004 and believes the funding requests are consistent with the recommendations of the plan.

NIST.—We applaud the President’s request for an increase in research and related funding for NIST in fiscal 2011 for a total budget of \$919 million. Basic research at NIST is conducted by Earth scientists and geotechnical engineers and used by Earth scientists, geotechnical engineers and many others on a daily basis. The research conducted and the information gained is essential for understanding climate change and natural hazards in order to build resilient communities and stimulate economic growth with reduced impact from risk.

In particular, we strongly support increases for Measurements and Standards for the Climate Change Science Program, Disaster Resilient Structures and Communities and the National Earthquake Hazards Reduction Program (NEHRP). The climate change research will improve the accuracy of climate change measurements, may reduce satellite costs and may help to guide climate change policy. The hazards research will help to reduce the estimated average of \$52 billion in annual losses caused by floods, fires and earthquakes. NIST is the lead agency for NEHRP, but has received only a small portion of authorized and essential funding in the past. AGI strongly supports a doubling of the NIST budget over 5 to 7 years as authorized in the America COMPETES Act of 2007, so that core research functions at NIST are maintained, while needed funding for climate change and hazards are provided.

NASA.—AGI supports the vital Earth observing programs within NASA. AGI strongly supports the requested budget of \$1.8002 billion for Earth Science programs within the Science Mission Directorate at NASA. The investments are needed to implement the priorities of the National Academies Earth Science and Applications from Space Decadal Survey. NASA needs to maintain its current fleet of Earth-observing satellites, launch the next tier and accelerate development of the subsequent tier of missions. The observations and understanding about our dynamic Earth gained from these missions is critical and needed as soon as possible. In addition some satellites need to be launched at a particular time and in a particular sequence to meet mission objectives. The requested increase for fiscal 2011 and proposed increases for future years are wise and well-planned investments and AGI requests the support of the subcommittee for this budget outline.

I appreciate this opportunity to provide testimony to the subcommittee and would be pleased to answer any questions or to provide additional information for the record.

PREPARED STATEMENT OF SEARCH, THE NATIONAL CONSORTIUM FOR JUSTICE
INFORMATION AND STATISTICS

INTRODUCTION

I am Ron Hawley, executive director of SEARCH. Thank you, chairwomen and members of the subcommittee for the opportunity to speak to you today and for your past support. The efforts of your outstanding subcommittee staff are also greatly appreciated. SEARCH has requested a \$500,000 earmark from the Department of Justice, Byrne Discretionary Grant Program in the Commerce, Justice, Science, and Related Agencies appropriation bill for the SEARCH Justice Information Sharing Technical Assistance Program.

SEARCH is a State criminal justice support organization comprised of Governors' appointees from each State. Each State pays dues annually. SEARCH's mission is to promote the effective use of information and identification technology by criminal justice agencies nationwide.

PAST SEARCH PROGRAMS

SEARCH has a well-earned record for providing on-site technical assistance and training to State and local criminal justice agencies in the planning, development, implementation and management of information sharing activities for over 40 years. This record and our qualifications were recognized by the U.S. House of Representatives in Resolution 851 passed on November 17, 2009. Because of these qualifications, SEARCH has been a key partner with the U.S. Department of Justice and member of the Global Information Sharing Initiative (Global) working to develop the tools and resources needed by these agencies. This participation uniquely positions SEARCH with expert knowledge of the design, use and implementation of these resources.

For more than 20 years, SEARCH operated the highly regarded National Technical Assistance and Training Program, the only no-cost service for small- and medium-sized criminal justice agencies to assist them in: (1) enhancing and upgrading their information systems; (2) building integrated information systems that all criminal justice agencies need; (3) promoting compatibility between local systems and State, regional and national systems; (4) developing and delivering high-tech anti-crime training; and (5) providing computer forensic technical assistance support.

However, in recognition of the rapid advancements in information sharing technology, SEARCH has updated and improved our program offerings and proposes to implement a new program, the SEARCH Justice Information Sharing Technical Assistance Program.

THE SEARCH JUSTICE INFORMATION SHARING TECHNICAL ASSISTANCE PROGRAM

The SEARCH Justice Information Sharing Technical Assistance Program would support Congress and the administration's goals in reducing crime and recidivism. SEARCH proposes to use the funding to provide direct assistance to State and local criminal justice agencies in the Sacramento area and throughout California where those activities can influence and assist in the effective implementation of information sharing systems by law enforcement, courts, correctional agencies and other State and local criminal justice agencies throughout the Nation. The technical assistance will help agencies plan for and implement the standards, tools and resources developed by the U.S. Department of Justice in partnership with Global to

support standardized information sharing across the country. The program will contribute to the overall safety of our communities by making sure decisions made by our law enforcement, courts, correctional agencies and others are based on access to timely, secure and accurate information. Through the program, SEARCH will provide needed expertise to allow these agencies to leverage scarce resources in these economically challenging times. All of this will be done with a fundamental focus on safeguarding privacy and civil liberties.

Over the past several years, the U.S. Department of Justice has effectively developed numerous standards, templates, policies and tools to facilitate information sharing. While these tools represent great strides in facilitating consistent information systems and practices across agencies nationwide, they are complicated to understand and implement. Thus, many State and local agencies require expert assistance to adopt them, and they typically do not have the staff expertise or funding to support such assistance.

Congress and the administration have focused renewed attention on solving prevailing problems in the justice arena: youth and gang violence; jail and prison crowding; successful reentry and second chance act programs; evidence-based policing; and tracking potential terrorists, arsonists and bombers, to name a few. While there are many policy and operational considerations in dealing with these issues, one that cannot be overlooked is the information sharing that is critical to the effectiveness of these programs. Without State and local automated information sharing capabilities, these programs will be greatly hampered in meeting their goals and objectives. If information sharing is improved effectively, it often creates opportunities to hire or deploy more line officers through resource efficiencies.

Because SEARCH works nationally, we will be able to replicate successful implementation strategies in California and from one State or locality and disseminate and transfer those strategies to other States and localities. This unique program not only helps State and local agencies work more efficiently and effectively through the deployment of advanced information sharing techniques, but it also creates a foundation for a national information infrastructure for interoperable justice systems.

SEARCH TECHNICAL ASSISTANCE EXAMPLES

During the past year, SEARCH has provided on-site and in-house technical assistance to California agencies that has helped improve information sharing, reduce administrative costs, enhance operational efficiencies and better protect data that is shared.

SEARCH is helping Marin County, California, develop a secure solution for law enforcement and fire safety personnel to share critical event information instantly and accurately. SEARCH is examining the network security in a multi-disciplinary public safety environment to ensure law enforcement has access to criminal justice information while protecting the information from unauthorized users.

SEARCH is helping the California Department of Justice meet national standards for information sharing. The Department requested SEARCH help assure the system—as designed—complied with the National Information Exchange Model (NIEM) developed by the U.S. Department of Justice (DOJ) and the Global Justice Information Sharing Initiative. Compliance with NIEM is a requirement under several DOJ grant programs and is designed so that systems developed around the country will adhere to standards that will enable them to share information.

SEARCH is helping Napa County, California, replace several major justice agency systems with a new system. The goals of the effort are to improve public safety decisionmaking effectiveness, county administrative efficiency, and reduce overall costs in implementing new information sharing systems. SEARCH is assisting Napa with all phases of its process, including planning, comprehensive definition of needs, development of technical architecture and adherence to procurement best practices.

SEARCH develops resources for the rest of the country through the work it does in California. For example, SEARCH visited Los Angeles County, California, to do a thorough assessment and case study of its intelligence sharing processes. In a detailed publication that was developed as a result of this analysis, other States, large counties and regional consortia will be able to understand how Los Angeles has set up its intelligence sharing solution and what lessons learned can be transferred to their own environment.

INTENDED USE OF FUNDING FOR FISCAL YEAR 2011

For fiscal year 2011, SEARCH is requesting \$500,000 for the SEARCH Justice Information Sharing Technical Assistance Program. This request reflects continuing high demand for technical assistance from State and local criminal justice agencies in California and throughout the Nation.

If SEARCH is provided with the requested funding, SEARCH intends to utilize the funds to address goals in its information sharing work. Specifically, SEARCH intends to: (1) support through technical assistance the adoption of national law enforcement and public safety information technology standards; (3) contribute to the development of new and emerging law enforcement and public safety standards; (4) develop specific information sharing requirements for the re-entry of prisoners into society following incarceration; and (5) improve agencies' ability to measure and manage their information sharing initiatives.

THE PRESIDENT'S FISCAL YEAR 2011 BUDGET AND BYRNE GRANT PROGRAMS

I would also like to take this opportunity to address the President's fiscal year 2011 budget. The budget provides no funds for the Byrne Discretionary Grant Program. This approach has been used by the President in the budget proposals for many years, but fortunately Congress has recognized the inappropriateness of the approach and restored it to acceptable levels. Hopefully Congress will again recognize that the needs met in the past by this funding continue today and will again restore it to an adequate level.

I would also ask for enhanced funding for the Byrne Competitive Grant Program. The fiscal year 2008 Omnibus Appropriations Act established the competitive grant process for programs of national significance to prevent crime, improve the administration of justice, and assist victims of crime. The process is administered by the Office of Justice Programs (OJP) and national program organizations have been selected according to congressional objectives. However, the total amount of grant funding provided to all of the competing national programs has never exceeded \$40 million nor been able to fund even one-half of the worthy proposals received in response to the grant solicitation. The President's fiscal year 2011 budget provides \$30 million for this program. However, we believe that funding in the range of at least \$65 million is the minimum necessary to permit a workable and effective competitive grant program on a national scale. Otherwise, the under-funded program greatly reduces its chance for success.

Finally, I want to call your attention to a new program for State and local law enforcement assistance. This program, "Justice Information Sharing and Technology," is intended to support critical information sharing activities of the Department of Justice and its Global partners. SEARCH is encouraged to see the recognition for this program need and encourages its funding at the proposed level of \$15 million. SEARCH believes the program will be extremely valuable to justice information sharing nationwide.

CONCLUSION

Congressional support for the SEARCH Justice Information Sharing Technical Assistance Program is vital. The Federal investment of \$500,000 can be leveraged many times over by contributing to the ability of State and local criminal justice agencies to provide timely, accurate and compatible information throughout the Nation. On behalf of SEARCH, its Governors' appointees, and the thousands of criminal justice officials who participate in the SEARCH network and who benefit from SEARCH's efforts, I thank you for your consideration.

PREPARED STATEMENT OF THE ANIMAL WELFARE INSTITUTE

The Animal Welfare Institute welcomes this opportunity to submit testimony as you consider fiscal year 2011 funding priorities under the Commerce, Justice, Science and Related Agencies Appropriations bill. Our testimony will address activities under the Department of Justice (DOJ), including the FBI, and the International Whaling Commission, and requests \$720,000 for the National Animal Cruelty and Fighting Initiative under DOJ's Office of Justice Programs' (OJP) competitive Byrne Grant program.

DEPARTMENT OF JUSTICE

We wish to commend the DOJ's OJP for awarding, through its Bureau of Justice Assistance, a grant to the Association of Prosecuting Attorneys (APA) for its new program of training, technical support, and other assistance for prosecutors, members of the law enforcement community, and other involved parties to enhance the prosecution of animal abuse and animal fighting crimes. This is a very exciting development and we are proud to support APA in this new effort and to have been their partner for the first national training conference upon which the new program is built. We respectfully urge the subcommittee to provide \$720,000 to the BJA's Na-

tional Animal Cruelty and Fighting Initiative and to encourage its continued interest in addressing animal-related crimes.

The connection between animal abuse and other forms of violence has been firmly established through experience and through scientific studies. For example, dog fighting is prevalent among gang members. Also—as evidence of one of the most well-documented relationships—up to 71 percent of victims entering domestic violence shelters have reported that their abusers threatened, injured, or killed the family pet; batterers do this to control, intimidate, and retaliate against their victims. In 1997, the Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) released the results of a review of animal cruelty cases it had prosecuted between 1975 and 1996. Seventy percent of the individuals involved in those cases had been involved in other crimes, and animal abusers were five times more likely to commit a violent offense against other people.

Animal abuse is, however, more than a “gateway” behavior. It is also a crime in its own right. It is a crime everywhere in the United States, and certain egregious acts are felonies in 46 States and the District of Columbia. But not all laws are created equal; a felony in one State may still be a misdemeanor in another. In some States, cruelty rises to a felony only upon a second or third offense, or only if the animal dies; if he survives, no matter how severe his injuries, it is still a misdemeanor.

The key to offering animals the most protection possible, however weak or strong the statute, lies in vigorous enforcement of the law and prosecution of violators. While there are many in law enforcement and the courts who recognize animal abuse for the violent crime that it is and act accordingly, there are those who do not take it seriously, treating it as no more urgent than a parking infraction. Others genuinely want to act decisively but may lack the necessary resources, support, or expertise. Moreover, enforcement can be complicated by the laws themselves—weak laws are bad enough, but additional problems may arise from confusion over jurisdiction or limitations in coverage—or by pressure to dispose of cases quickly.

This is where the Association of Prosecuting Attorneys’ animal cruelty/animal fighting program comes in. APA recognizes that animal cruelty and animal fighting crimes not only victimize some of the most innocent and vulnerable members of society, but they also create a culture of violence—and a cadre of violent offenders—that affects children, families in general, and society at large. Therefore, preventing and prosecuting these crimes will benefit not only the animals, but the entire community by reducing the overall level of violence.

In order to support and enhance the effectiveness of prosecutors in their efforts to achieve this goal, APA, thanks to BJA’s support, is implementing a program to provide the following: training conferences and webinars; publications; technical assistance; and online resources, including a library of briefs, motions, search warrants, legal memos, and state-by-state case law. It has assembled an advisory council composed of prosecutors, investigators, law enforcement, veterinarians, psychologists, members of the animal protection and domestic violence communities, and others, to identify issues, resource needs, and strategies. It brings these same professionals together to provide its multidisciplinary training, and also calls on them individually for topic-specific web-based training and materials.

All of this is directed toward two audiences: those who still need to be convinced of the importance of preventing and punishing animal-related crimes, for the sake both of the animals and of the larger community; and those who are dedicated to bringing strong and effective cases against animal abusers but may need assistance to do so.

OJP/BJA showed great vision in recognizing that by identifying precursor crimes, such as animal cruelty and animal fighting, and ensuring adequate adjudication of such cases, our criminal justice system can reduce the incidence of family and community violence and change the path of potential future violent offenders. Its support of the APA program sends a very strong message to prosecutors and law enforcement that crimes involving animals are to be taken seriously and pursued vigorously.

FEDERAL BUREAU OF INVESTIGATION

BJA’s recognition not only of the relationship between animal cruelty and other forms of violence, but also of the value of addressing animal cruelty crimes as part of an overall strategy for creating safer communities, raises the issue of tracking such crimes. Specifically, for many years the animal protection community has urged the FBI to include animal cruelty in its Uniform Crime Reporting/National Incident-Based Reporting System (UCR) program. As noted above, animal abuse is a crime, and in some cases a felony. It is part of the cycle of violence in commu-

nities, including domestic abuse and gang activity. Having data about animal-related crimes would enable law enforcement agencies and researchers to track these offenses; to understand better the factors associated with animal abuse and the characteristics of the perpetrators; and to identify when and where such crimes occur, thus facilitating more effective interventions.

Yet, for purposes of the UCR, statistics related to animal abuse are recorded under the category of "other," making them inaccessible for retrieval and analysis. In a report compiled in response to a Congressional request, even the FBI acknowledged substantial benefits to be achieved through the inclusion of animal cruelty data in its UCR: It would "enrich the NIBRS database" and "be advantageous to law enforcement, social scientists, and others studying the topic to have comprehensive data about these offenses." Most tellingly, the report noted that "because felony convictions for cruelty to animals are a disqualifier for prospective volunteers under the Prosecutorial Remedies and Other Tools to End the Exploitation of Children Today Act of 2003 (PROTECT Act), Public law 108-21, data about these offenses are vital to law enforcement."

Despite the recognized value of this information, however, the FBI has not made any move to capture and report it in a usable form in its crime database. The FBI's failure in this regard is especially ironic since it was among the first to identify the link between animal cruelty and other crimes, identifying it as a behavior common among serial killers.

A new proposal is being prepared for presentation to the FBI that is simpler than previous proposals and would meet the dual need of gaining important information about animal cruelty crimes while minimizing cost and disruption for the FBI. This proposal would not involve creating a separate reporting category for animal cruelty crimes; rather it suggests adding "animal" to the victim segment of the 52 existing data elements. (Currently, the victim segment includes such victim details as age, gender, race, relationship to offender, and type of injury.) No new data elements would be created and no segments of the data elements would be expanded.

We respectfully ask the subcommittee to direct the FBI to give serious consideration to this proposal and to work with interested Members of Congress and representatives of the animal protection community to include animal cruelty crimes in the Nation's crime report in order to achieve the benefits of such inclusion as outlined above and recognized by the FBI.

DEPARTMENT OF COMMERCE

While we enthusiastically support funding worthwhile programs such as those of the BJA, we cannot support funding for programs whose outputs conflict with the interests of the American public. Sadly, that is the case with the current situation with respect to commercial whaling, which the National Oceanic and Atmospheric Administration seems intent on helping to revive. Indeed, the United States stands on the brink of dismantling one of the cornerstone measures of American conservation leadership—the moratorium on commercial whaling—and with it, sealing the fate of many of the world's whales whom we once thought we had saved.

Years of bipartisan leadership saw the commercial whaling moratorium adopted during the Reagan administration, while the Clinton administration saw the establishment of the Southern Ocean Whale Sanctuary. Despite these massive initiatives and assurances by the current administration for sound science, transparency, and that "the commercial whaling moratorium is a necessary conservation measure," it now appears that U.S. influence is being used to broker an ad-hoc "deal" at the International Whaling Commission (IWC). This so-called deal would: (1) overturn the intent behind the moratorium, allowing for a resumption of commercial whaling at a time when whales are still recovering from years of overexploitation and are facing ever increasing anthropogenic threats, and (2) legitimize the commercial whaling undertaken by Japan as a way of flouting the moratorium by conducting it under the guise of scientific research. Further, the deal will permit the continuation and potential expansion of the international trade in whale products and discontinue annual meetings of the IWC—the very body established to conserve and manage the world's great whales.

The justification for this remarkable deal is to placate three nations—Japan, Norway and Iceland—that persist in whaling for commercial gain despite the rest of the world having agreed decades ago that the great whales are worth more alive than dead—as key components of our oceans' ecosystems and as global species enjoyed by millions of people through whale-watching. Moreover, despite repeated international efforts, supported by the majority of IWC member nations, asking these three countries to cease their whaling practices, they have ignored such requests and have actually expanded their whaling operations.

Not only will the deal undermine decades of conservation gains for whales, but the process used to produce it also lacked any of the transparency that the Obama administration purports to promote. Not only were the negotiations that led to the deal held behind closed doors, but the U.S. delegation to the IWC, led by Ms. Monica Medina, NOAA's Principal Deputy Under Secretary for Oceans and Atmosphere and U.S. Commissioner to the IWC, also failed to engage U.S. non-governmental organizations in a meaningful or substantive dialogue about U.S. negotiating positions at the meetings. Furthermore, AWI believes it is entirely disingenuous to claim that the U.S. position on the deal has yet to be determined, considering that the United States both initiated the process to develop a deal and was the leading proponent of finding a compromise that would ostensibly satisfy all. This deal is not acceptable to AWI or, we suspect, to the vast majority of American citizens, your constituents, who strongly oppose killing whales for commercial gain.

Unfortunately, time is short—the principles of the deal were already presented at an IWC meeting held in early March, and it is now being finalized for discussion and a vote at the full Commission in June. We urge the subcommittee to demand that the United States' position on whales, whaling, the IWC, and most importantly, on the current "deal," be provided forthwith and that any future funding of NOAA's IWC program be contingent on its providing complete and satisfactory answers as well as maintaining the historic U.S. leadership role in protecting whales and opposing commercial whaling.

PREPARED STATEMENT OF THE COUNCIL ON UNDERGRADUATE RESEARCH

The Council on Undergraduate Research (CUR) is an organization dedicated to the promotion of undergraduate research as a means by which students of mathematics, technology, the natural, physical and social sciences, as well the arts and humanities may participate in the intellectual life of our society. To this end, CUR encourages faculty and their students to collaborate as partners in their explorations of uncharted intellectual terrain.

The symbiosis established between the faculty member and the undergraduate collaborator energizes and informs the faculty member's teaching and research while simultaneously introducing the student to the joys of discovery, as well as to lessons in persistence, problem-solving, and critical thinking. Faculty conducting research with undergraduates benefit enormously by having undergraduate collaborators invested in the research enterprise help to advance the faculty research program. Undergraduate students benefit from the opportunity both to learn the breadth and depth of their chosen fields of inquiry as well as to contribute meaningfully to the expansion of knowledge.

Presently, individual and institutional members representing nearly 600 colleges and universities from across the United States support the educational and research initiatives established by CUR to ensure that research partnerships between faculty and their students are encouraged and nurtured. A primary concern for CUR is that these partnerships facilitate the attainment of professional productivity and intellectual integrity at the standards of excellence consonant with those recognized by professional scholarly and research societies.

Research and research infrastructure funding provided by the National Science Foundation has been critical for the support of original, significant research that involves undergraduates, not only personally, but for the entire membership represented by CUR. Additionally, funding and legislative acknowledgment of the benefits of undergraduate research can help to reduce or minimize the barriers to undergraduate research, while promoting innovation in postsecondary education.

Accordingly, CUR strongly urges the subcommittee to increase funding for dedicated funding streams that support undergraduate research at the National Science Foundation and requests that the subcommittee include the below report language in the fiscal year 2011 Commerce, Justice, Science and Related Agencies bill:

"Undergraduate research programs are flourishing at various types of institutions of higher education around the country and funding should be used to expand or improve these programs or help develop new programs at emerging research institutions. The subcommittee acknowledges that studies show that participation in undergraduate academic research programs improves college persistence rates among students, particularly among minority, low income, and first generation college students. Reviews of existing undergraduate research programs have also shown that these programs can boost undergraduate students' interest in entering STEM fields and other high-demand career paths."

To provide a clear understanding of the importance of support for undergraduate research and the value of funding research on the Federal level, below are examples from CUR members on the impact of undergraduate programs funded by the National Aeronautics Science Administration, National Institute of Standards and Technology, and the National Science Foundation.

ROGER S. ROWLETT, PROFESSOR OF CHEMISTRY AT COLGATE UNIVERSITY (NY)

The NSF-MRI (Major Research Instrumentation) program and its predecessors provided essential research instrumentation at Colgate, which is a predominantly undergraduate institution, and has allowed faculty to learn state-of-the-art research techniques. NSF funds have allowed Colgate to have access to modern high-field NMR and protein and small-molecule X-ray crystallography. Colgate is the only undergraduate institution in the Nation to have a dual-beam X-ray diffractometer, and our students use the NSF-funded equipment in their research routinely.

Undergraduate access to modern research instrumentation is critical to training the next generation of scientists, and is a powerful enticement for recruiting a highly motivated and diverse pool of students into science careers. Over 90 percent of research students who have conducted research in my laboratory in the last decade have pursued postgraduate studies or careers in the sciences. The NSF-RUI (Research in Undergraduate Institutions) program has been a stalwart at providing the necessary support for individual faculty to conduct high-quality, publishable research with undergraduates at predominantly undergraduate institutions.

Historically, the NSF-REU (Research Experiences for Undergraduates) program has also helped establish our well-recognized summer undergraduate research program. The Department of Chemistry at Colgate held several consecutive REU grants in the 1990s which allowed Colgate to offer full-time summer research opportunities to not only our own students but also students from other institutions, some of which do not offer research opportunities to their undergraduates. The legacy of NSF-REU funding at Colgate is a self-sustaining and well-organized summer research program that supports 80 or more students in the natural sciences each year.

Support of high-quality research at undergraduate institutions is critical to the national science enterprise, and is a wise investment. Not only does research at predominantly undergraduate institutions result in original discoveries that are published in the scientific literature, it also sustains excellent teaching by keeping faculty at these institutions intimately embedded in their scholarly communities and current in their fields of study. Undergraduates who have research experiences are more likely to consider post-graduate studies in the sciences or pursue science careers, if my personal experience is any guide.

In addition to re-affirming its commitment to undergraduate research embodied in current programs which have been highly successful in improving undergraduate research and education, perhaps NSF should consider establishing new ("starter") faculty research grant opportunities.

CHRIS HUGHES, ASSOCIATE PROFESSOR OF PHYSICS, JAMES MADISON UNIVERSITY (VA)

The Physics and Astronomy Division of CUR (CUR-P&A) has recently worked with all of the major national physics organizations to develop a statement which says "We call upon this Nation's physics and astronomy departments to provide, as an element of best practice, all undergraduate physics and astronomy majors a significant research experience." Additionally, the American Astronomical Society (AAS), Society of Physics Students (SPS), American Physical Society Committee on Education (APS-CoE), and the American Association of Physics Teachers (AAPT) have adopted this or similar statements in agreement with CUR-P&A.

These statements are a significant signal that the academic physicists in the United States believe that an undergraduate education in physics or astronomy is incomplete without the experiential learning that comes from a research experience. Research is the utmost form of inquiry in the sciences and data shows that physics and astronomy majors who participate in research programs see improvement in their classroom performance and increased retention to graduation. Already, surveys of the approximately 6,000 graduates in P&A each year show that around 70 percent participate in some form of undergraduate research. This is an impressive figure, but it also means that there is an immediate need for opportunities for around 1,800 students each year.

One of the primary programs for funding undergraduate research has traditionally been NSF's REU. We would like to see these programs augmented to support even more students. Another program that will be critical to meeting this need is the NSF CCLI (Course, Curriculum and Laboratory Improvement) since this ad-

dresses the issue of building the infrastructure needed to support experiential learning at many institutions where this is not currently available.

DIANE HUSIC, PROFESSOR OF BIOLOGICAL SCIENCES, MORAVIAN COLLEGE (PA)

In 2004, I had just moved to Moravian College to chair and help revitalize the biology department. The college didn't have a strong track record of grant writing, but had hired several new faculty who were interested in both teaching and scholarship. As I took the new position, I also had just become a co-PI on an NSF Undergraduate Research Center pilot grant. The goal of our proposed project was to develop a consortium of faculty and students at seven institutions to promote greater interest amongst students in plant science. Living near the Palmerton Superfund site, we tapped into contacts at the Lehigh Gap Nature Center and Wildlife Refuge (LGNC) that had purchased 750 acres of the site and was beginning a restoration project using warm season native grasses. Our initial visit and subsequent summer research "field trip" prompted by the NSF-URC grant has subsequently led to wonderful partnerships and collaborative research that has transformed not only a mountainside, but also an academic department. Over the past few years, we have had 10 students and 2 faculty engaged in research there, the results of which have been presented at regional and national meetings. We are in the process of writing an ecological assessment report to be used by the LGNC, the EPA and other State and Federal agencies in developing the adaptive management plan for the site. Our department has taken the lead in organizing a consortium of researchers at 12 other partner colleges and universities and a number of State and Federal agencies who are involved in some aspect of the revitalization of the Lehigh Gap. State and Federal funds are supporting much of these efforts, and the site recently received funding from the Audubon/Toyota Together Green program—a project that brings together the local Audubon chapter and community and college volunteers.

The Department of Biological Sciences at Moravian College now routinely brings classes to the refuge/Superfund site for field trips and class-based research projects. Not only are biology and environmental studies majors benefitting from this unique outdoor laboratory, but also students in science courses that are required as part of the liberal studies curriculum. We have developed a new Conservation Biology and Ecological Restoration course in partnership with the Lehigh Gap Nature Center, and students in the premiere offering of course participated in the experimental design for the Together Green projects of habitat enhancement and deer exclosure studies which are now being implemented. Faculty are involved with K-12 teacher workshops in conjunction with the Lehigh Gap Nature Center and, along with some of the research students, serve as mentors to a youth naturalists group, the members of which are also involved in authentic research at the site. These youth were recently recognized by the National Audubon Society. This exhilarating partnership between citizen scientists, an academic department, other campuses, State and Federal agencies and the local community was prompted by a mere \$50,000 NSF grant!

Despite the examples of success stories noted above, there are many campuses where the teaching and research facilities and other infrastructure lag sorely behind and can't provide up-to-date inquiry-based learning opportunities for students, much less support faculty-student research. Economic difficulties threaten many, if not all, of our campuses and our collective efforts to enhance undergraduate scholarship and to be innovative in our research and curriculum. These threats come at a time when there is unprecedented evidence of the value of undergraduate scholarship for students in terms of engagement, learning, and retention. They also come at a time when President Obama and Congress have expressed deep concerns about the slipping status of U.S. competitiveness internationally.

Essential to the innovation that will be needed to meet these challenges is the development of a research-rich curriculum, high-quality undergraduate research experiences, first-rate faculty scholars and research mentors, modern outfitted facilities for teaching, learning and research and funds to support the actual research projects. Federal support, including grant funding from the National Science Foundation, is essential to enabling this innovation which can and does happen at undergraduate institutions and as a result of collaborative research between faculty and undergraduates.

PREPARED STATEMENT OF THE WILDLIFE SOCIETY

The Wildlife Society (TWS) appreciates the opportunity to submit testimony concerning the fiscal year 2011 budget for the National Science Foundation (NSF). TWS requests that the subcommittee work to provide the National Science Foundation (NSF) with the \$7.424 billion requested by the President for fiscal year 2011, allow-

ing NSF to fund its many important programs, including the Biological Sciences directorate (BIO) at \$767.81 million.

The Wildlife Society was founded in 1937 and is a non-profit scientific and educational association representing over 9,100 professional wildlife biologists and managers, dedicated to excellence in wildlife stewardship through science and education. Our mission is to represent and serve wildlife professionals—the scientists, technicians, and practitioners actively working to study, manage, and conserve native and desired non-native wildlife and their habitats worldwide.

As stated in its mission, NSF exists to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. The budget for fiscal year 2010, along with the much-needed funding provided by the American Recovery and Reinvestment Act, were essential in enabling NSF to carry out its mission. However, this budget needs to be sustained in coming years if we are to benefit from the true potential of our Nation's scientific enterprise. Because of the issues posed to our national safety, infrastructure, and environment by a changing climate and a high jobless rate, TWS urges strong support for NSF in fiscal year 2011 to tackle these issues.

The basic, fundamental research performed with funding from NSF at our universities and research centers fuels innovation and drives economies around the Nation. NSF was the second largest provider of Federal R&D funding in 2008 (the latest year in which data is available), providing an excess of \$3.8 billion across numerous academic fields. These funds employ the scientists and personnel that conduct research and maintain equipment, they support graduate student salaries and undergraduate training opportunities, and they provide early career scientists with the support that enables them to develop successful lifelong research programs. In short, NSF provides the sturdy foundation upon which our Nation's impressive scientific legacy has been built.

This scientific legacy has not only allowed the United States to lead the world in scientific, engineering, and medical breakthroughs, but it also provides us with a means for continuing to lead the world through the pressing social issues of today. Our world needs science more than ever to research and develop practices that will enable us to adapt to climate change, conserve natural resources, and mitigate environmental degradation. NSF will play a major role in this as the largest single-agency funder of academic R&D in the environmental and basic non-medical biological sciences, having spent over \$1.057 billion in these two areas in 2008 alone.

The mission of the BIO directorate is to enable discoveries for the understanding of life, and its mission is particularly critical to the wildlife scientists represented by TWS. The basic biological and environmental science being performed by NSF scientists within the BIO directorate helps us determine the best strategies for fire prevention, illuminates effects of nitrogen on wildlife habitats, and helps us predict how air pollution affects organisms in glacial lakes. This sort of research provides us with resources for monitoring ecosystems and adapting to change. For example, a recent NSF-funded modeling study showed that diverting sediment-rich water from the Mississippi River through cuts in the levees below New Orleans could generate new land in the river's delta in the next century, equaling almost one-half the land that is expected to disappear in the same amount of time due to sea-level rise, storms, and erosion. Studies such as this will be invaluable for adapting New Orleans and other large centers of human population for the inevitable environmental changes of the coming centuries.

NSF also plays a major role in understanding how human, wildlife, and environmental health are closely intertwined. An example of this is a joint NSF and National Institutes of Health program on the ecology of infectious diseases that supports research into the underlying ecological and biological mechanisms behind environmental changes and the emergence of these diseases. Projects funded through programs such as this allow scientists to study how large-scale environmental changes, such as habitat destruction, invasive species, and pollution enable emergence of viral, parasitic and bacterial diseases in humans, domestic animals, and wildlife. This sort of research not only allows us to understand how disease is transmitted, but also helps scientists determine the unintended consequences of development projects and gives them the capacity to forecast disease outbreaks.

Moreover, NSF adds value to the lives of Americans by playing a role in conserving of our valuable natural resources, such as iconic species like the American Bison, and treasured landscapes like the Sonoran desert. These natural resources are managed and monitored by legions of natural resource professionals, including wildlife and fisheries biologists, conservation scientists, foresters, ecologists, range managers, wildlife veterinarians, and marine biologists, among others. In 2008, the Bureau of Labor Statistics estimated that there were approximately 30,000 conservation scientists employed in the United States; add to this number all of the

other professionals who work on ecological and natural resource issues, and many hundreds of thousands of individuals are employed in jobs that support our environment. NSF plays a key role in training these professionals to safeguard America's environment: during the course of their educational and research careers, most wildlife and ecological scientists receive training or mentoring made possible by NSF.

We ask you to keep NSF's vital role in mind as you continue through the fiscal year 2011 appropriations process, and fully fund NSF with the \$7.424 billion as requested by the President. This will allow NSF to provide \$767.81 million to the BIO directorate to continue to support the biological and environmental sciences that play an integral role in our national health, environment, and security.

We thank you for considering the views of wildlife professionals.

PREPARED STATEMENT OF THE FLORIDA STATE UNIVERSITY

Summary of Request.—Florida State University is requesting \$3.5 million from the National Oceanic and Atmospheric Administration (NOAA) Air Research Laboratory (ARL) Account to fund the Consortium for the Study of Mercury in the Atmosphere.

Mr. Chairman, I would like to thank you and the members of the subcommittee for this opportunity to present testimony before this subcommittee. I would like to take a moment to briefly acquaint you with Florida State University.

Located in Tallahassee, Florida's capitol, FSU is a comprehensive Research university with a rapidly growing research base. The University serves as a center for advanced graduate and professional studies, exemplary research, and top-quality undergraduate programs. Faculty members at FSU maintain a strong commitment to quality in teaching, to performance of research and creative activities, and have a strong commitment to public service. Among the current or former faculty are numerous recipients of national and international honors including Nobel laureates, Pulitzer Prize winners, and several members of the National Academy of Sciences. Our scientists and engineers do excellent research, have strong interdisciplinary interests, and often work closely with industrial partners in the commercialization of the results of their research. Florida State University had over \$200 million this past year in sponsored research awards.

Florida State University attracts students from every State in the Nation and more than 100 foreign countries. The University is committed to high admission standards that ensure quality in its student body, which currently includes National Merit and National Achievement Scholars, Rhodes and Goldwater Scholars, as well as students with superior creative talent. Since 2005, FSU students have won more than 30 nationally competitive scholarships and fellowships including 3 Rhodes Scholarships, 2 Truman Scholarships, Goldwater, and 18 Fulbright Fellowships.

At Florida State University, we are very proud of our successes as well as our emerging reputation as one of the Nation's top public research universities. Our new President, Dr. Eric Barron, will lead FSU to new heights during his tenure.

Mr. Chairman, let me summarize our primary interest today. It is known that the atmosphere dominates mercury transport pathways, yet the fraction of mercury entering lakes and rivers that is natural vs. man-made, or global vs. local, is unknown. Most U.S. mercury emissions occur in the Northeast yet most mercury falls on Florida and the northern gulf coast. The sources of mercury falling on Florida are increasingly thought to be global rather than regional. Regional and global distributions of gaseous elemental mercury are unknown even though vapor mercury is the largest source of mercury to the atmosphere. These gaps in scientific knowledge undermine public policy initiatives to protect human health and natural environments and to find safe energy solutions to our power and transportation needs. Because of the critical impacts of mercury emissions on ecosystem and human health and the reliance of America's electric power grid on coal, a focused effort on the atmospheric mercury cycle is required to predict and regulate the dominant man-made sources.

The Southeastern Mercury Consortium, a partnership between NOAA's Air Resources Lab (ARL), Florida State University, Georgia Tech, the University of Miami, and the University of Tennessee Space Institute (UTSI) will study the large-scale sources and fates of atmospheric mercury. ARL's mercury research group pioneered ground and airborne measurements and models of atmospheric mercury. FSU's Oceanography and Isotope Geochemistry Programs in the National High Magnetic Field Lab excel in ultra-trace element chemistry and isotopes of mercury in global atmospheric and aquatic environments. GaTech's Schools of Earth and Atmospheric Sciences and Civil and Environmental Engineering have extensive regional and global programs in urban photochemistry, "tailpipe" and "smoke stack" gases, and

global mapping of reactive trace gases and aerosols from research airplanes and satellites. UM's Rosenstiel School has advanced new technologies to detect atmospheric mercury speciation. UTSI is pioneering sampling capabilities needed for next generation atmospheric mercury analyses with their existing research airplanes. Our efforts to map gaseous elemental mercury and reactive gaseous mercury in the air over the southeastern United States will fill the gap between ground-based time series observations in the coastal zones by adding synoptic flight level measurements. We are requesting \$3.5 million for this initiative.

Additionally, Mr. Chairman, I want to briefly address a reprogramming request that you have pending from the National Oceanographic and Atmospheric Administration (NOAA) related to the creation of NOAA Climate Service line office. The reorganization is an extremely important addition to NOAA and our Nation to bring together the agency's strong climate science and service delivery capabilities. This approach has been in discussion within the scientific community for some time, and the time has come for such an important action to be implemented. I join with many others representing that community in respectfully requesting this subcommittee approve NOAA's reprogramming request to create a Climate Service office.

With respect to the National Science Foundation (NSF), the President's request for fiscal year 2011 has requested \$6,018,830 for the Research and Related Activities appropriations account. Florida State University strongly supports that request and encourages the subcommittee to make every effort to find funds to reach that requested level. The NSF provides over one-third of all Federal funding received by FSU, the largest amount provided by any Federal agency to FSU. With NSF's traditional support for peer-reviewed competitive research projects, their strong support for the scientists and engineers at FSU is indispensable for our students, faculty, and for our Nation as well. Yet with all the fine work and programs at NSF, there is a glaring programmatic gap in the way NSF funds some research instrumentation. They have programs for smaller instrumentation (<\$5 million with MRI) and for large instruments and facilities (>\$100 million with MREFC), but no program for those instruments in the "mid-range" between these two programs. We encourage the subcommittee to review this programmatic gap at NSF and consider appropriate actions to redress this issue.

Mr. Chairman, this project and these issues are very important and I appreciate your consideration.

PREPARED STATEMENT OF THE AMERICAN SOCIETY FOR MICROBIOLOGY

The American Society for Microbiology (ASM) is pleased to submit the following testimony on the fiscal year 2011 appropriation for the National Science Foundation (NSF). The ASM is the largest single life science organization in the world with approximately 40,000 members. The ASM mission is to enhance the science of microbiology, to gain a better understanding of life processes, and to promote the application of this knowledge for improved health and environmental well being.

The ASM strongly supports the administration's fiscal year 2011 budget proposal for the NSF of \$7.4 billion, an 8 percent increase over the fiscal year 2010 appropriation.

The NSF is the only Federal agency dedicated to the support of basic research and education across all fields of science and engineering. Since 1950, the NSF has stimulated advances in multiple disciplines, through competitive grant awards. Seventy-four percent of the NSF's annual budget funds academic institutions, in support of approximately 241,000 scientists, students and teachers in all 50 States, the District of Columbia and Puerto Rico. NSF funding has supported 187 Nobel laureates, including 21 in the last 5 years alone. The ASM commends Congress for increasing NSF funding over the past 2 years, helping to reverse the erosion of Federal support for basic and applied research which declined from 64 percent to 60 percent between 2005 and 2008.

The American Recovery and Reinvestment Act (ARRA) provided additional funding that has helped NSF build on the Nation's past investment in research. In fiscal year 2009, the NSF evaluated over 45,000 grant proposals and made roughly 14,700 new awards, of which about 4,700 were ARRA funded. The ARRA grants are supporting more than 6,700 investigators, including 2,350 who had not previously received NSF funding.

Increased funding for the NSF in fiscal year 2011 will stimulate future discoveries by NSF supported researchers at nearly 2,000 U.S. institutions. The latest NSF report on science and engineering indicators, indicates that U.S. global R&D competitiveness is at risk. The United States accounts for about one-third of the \$1.1 trillion in annual global R&D expenditures. However, U.S. growth in R&D funding

averaged 5 to 6 percent annually between 1996 and 2007, while comparable growth rates in Asia were 10 to 20 percent. In the same period, U.S. technology export shares fell by about one-third, while China's share more than tripled. The NSF is critical to increasing public and private investment in R&D and encouraging technology and business innovation in the United States.

DIRECTORATE FOR BIOLOGICAL SCIENCES (BIO)

The ASM urges congress to fund BIO with \$767 million in fiscal year 2011, a 7.5 percent increase. BIO provides about 68 percent of Federal funding for nonmedical, academic basic research in the life sciences, including the environmental biology research needed to answer questions related to climate change. In addition, BIO researchers work to find solutions to create national energy independence, as well as the development of new biologically based materials for diverse applications and better management of the environment.

Researchers supported by NSF grants regularly make compelling discoveries that impact human health and well-being. Recent discoveries supported by the NSF include: (1) the isolation of one of the smallest known microbes found more than 3 km deep in an ice core and estimated to be more than 120,000 years old. This organism will help scientists to understand and study the limits of life and will also provide important information on the functionality of biomolecules in cold temperatures. (2) Research involving a representative legume, a group of plants that collectively feed one-third of the world's population. This has revealed a crucial control of the symbiosis through which a certain bacteria fixes nitrogen from the atmosphere in a form useful for plants. This research may lead to significant improvements in agricultural production and reduced dependence on fertilizers that require fossil fuels for production. (3) Researchers have used the growth responses of a common bacterium in stressful conditions as the basis for developing mathematical models to illuminate the complex decisionmaking behavior of humans. The responses of some microbes provide valuable insights about the kinds of processes that humans use in a range of activities from politics to economics.

The BIO funding portfolio reflects the ongoing evolution of biology from once distinct disciplines into multi faceted interdisciplinary programs comprising diverse institutions, research specialties, and mission priorities. For example, BIO is a key contributor to the U.S. Global Change Research Program involving 13 U.S. agencies, and a partner in the NSF Centers program supporting over 100 centers in 7 interdisciplinary program areas. These large collaborative programs tackle complex problems requiring significant investments in equipment, facilities, personnel and other crucial resources.

BIO also leverages multidisciplinary expertise in its own focus areas, including its Emerging Frontiers (EF) Division, which is designed as an incubator for 21st century biology. Programs include "Assembling the Tree of Life" (ATOL), an effort to assemble phylogenetic data for all major lineages of life, and "Ecology of Infectious Diseases" (EID), which includes goals to develop better predictive models of disease transmission. Recently awarded EID grants include spatial modeling of onchocerciasis in Africa by remote sensing, epidemiology of leptospirosis in Latin America, the role of environment and direct transmission in chronic wasting disease, and incidence gradients in Lyme disease in the eastern United States.

BIO has also developed a major new multidisciplinary initiative, "Dimensions in Biodiversity" that is intended to dramatically transform what we know and how we perceive Earth's living systems.

The ASM supports the administration's funding level of \$20 million for the National Ecological Observatory Network (NEON) in fiscal year 2011. NEON is an EF initiative and the first observatory of its kind. Designed to detect and enable forecasting of ecological changes, NEON will use cutting edge technology to collect data on climate change at 62 sites across the United States. It also will incorporate data from airborne observations, land use studies, invasive species studies and on-site experiments. The proposed \$20 million for NEON represents the 1st year of a 5 year project, with construction scheduled to begin this fiscal year and completion expected in fiscal year 2016. The data collected will be available to all users, serving a diverse constituency, and will help scientists forecast change at continental scales over multiple decades.

DIRECTORATES OF GEOSCIENCES, ENGINEERING, MATHEMATICAL AND PHYSICAL SCIENCES

The ASM urges congress to fund the Geosciences Directorate (GEO) the Engineering Directorate (ENG), and the Mathematical and Physical Sciences Directorate

(MPS), with the administration's proposed increases of 7.4 percent, 11 percent, and 4.3 percent, respectively.

The Geosciences Directorate encompasses wide ranging research activities that study living systems within the changing physical environment. For example, GEO supports the new Water Sustainability and Climate initiative that will understand and predict interactions among water quality and climate change, land use, present day water systems and services, and ecosystem characteristics. Within GEO, the Division of Earth Sciences (EAR) supports research that examines the shifting relationships between living and non living systems. The ongoing Continental Dynamics Program, for example, is identifying links between the geosphere, hydrosphere, atmosphere, and biosphere, funding large projects drawing from multiple disciplines. EAR funded research recently resulted in a discovery by geomicrobiologists that microbes living as biofilms in dark, oxygen free caves produce energy through previously unknown mechanisms that are still being studied. In an exploration of deep-sea venting systems, other researchers have shown that rare members of microbial communities can become dominant members; this result has broad implications for understanding the importance of microbial biodiversity in terrestrial and aquatic ecosystems.

NSF funding accounts for 39 percent of academic basic research in all engineering fields and is a significant contributor to the knowledge base and workforce development essential for U.S. economic vitality. Through advances in innovative biosensors, biomaterials, bioimaging, waste and water treatment, food engineering and more, the Engineering Directorate's Chemical, Bioengineering, Environmental and Transport Systems Division (CBET) funds research that affects industry, including those producing pharmaceuticals, food, and medical devices. This year, CBET is soliciting new grant proposals for its Biosensing Program, targeting identification and detection of existing or emerging pathogenic microorganisms and toxins, as well as smart field deployable molecular sentinels for monitoring food, water, and air quality.

Support of the Mathematical and Physical Sciences Directorate is critical to all scientific disciplines, as innovation increasingly depends on state of the art cybertools and computational techniques. NSF underwrites 65 percent of basic academic research in mathematics, 47 percent in physical sciences and 82 percent in computer sciences. Efforts in molecular biology, genomics and metagenomics, predictive infectious disease modeling, high volume drug discovery, and other fields now require collection and evaluation of massive amounts of data. MPS supports the development of new and innovative mathematical and statistical methods to better evaluate DNA sequence data. For example, MPS recently requested that researchers work to find new and improved mathematical and statistical methods to better evaluate an exponential increase in DNA sequence information for biological threats.

In addition, MPS funding for fiscal year 2011 will boost the directorate's broad impact programs. Including the Science and Engineering Beyond Moore's Law (SEBML) initiative to overcome current limits in communications and computation capability. MPS will also contribute to a new NSF wide priority investment, Science and Engineering Education for Sustainable Well Being (SEES), designed to integrate NSF's existing efforts in climate and energy research with new education and cyber based activities.

WORKFORCE DEVELOPMENT AND TRAINING

The ASM supports increased funding allocated to strengthen the NSF's own workforce, which is responsible for administering programs of impressive scope and complexity. For example, NSF staff facilitated nearly 239,000 proposal reviews in fiscal year 2009, involving almost 46,000 external reviewers.

NSF supports the Nation's goal of advanced training and education in science and engineering through its extensive system of fellowships, training grants, and investigator grants that benefit both graduate and undergraduate students. Training tomorrow's technical workforce is vital to sustaining and enhancing the Nation's scientific and economic competitiveness. To promote greater STEM training, NSF's fiscal year 2011 funding opportunities include: Interdisciplinary Training for Undergraduates in Biological and Mathematical Sciences (a joint BIO/MPS program); Cyberinfrastructure Training, Education, Advancement, and Mentoring for Our 21st Century Workforce (CI-TEAM); and a new program, Comprehensive Broadening Participation of Undergraduates in STEM. The success of these programs relies on adequate, consistent and long term funding in fiscal year 2011 and beyond.

CONCLUSION

The National Science Foundation supports multiple research disciplines and its far-sighted approaches to research at the frontiers of discovery have pushed the Nation toward ever greater scientific achievements. The ASM urges Congress to provide an 8 percent increase for the NSF to ensure that basic and applied research in the United States is sustained in fiscal year 2011 and beyond.

The ASM appreciates the opportunity to provide written testimony and would be pleased to assist the subcommittee as it considers the fiscal year 2011 appropriation for the National Science Foundation.