DEFICIENCIES IN THE PERMITTING PROCESS FOR OFF-SHORE SEISMIC RESEARCH

OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

OF THE

COMMITTEE ON NATURAL RESOURCES

U.S. HOUSE OF REPRESENTATIVES

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OVERSIGHT HEARING ON DEFICIENCIES IN THE PERMITTING PROCESS FOR OFFSHORE SEISMIC RESEARCH

Friday, January 19, 2018
U.S. House of Representatives
Subcommittee on Energy and Mineral Resources
Committee on Natural Resources
Washington, DC

The Subcommittee met, pursuant to call, at 9:01 a.m., in room 1324, Longworth House Office Building, Hon. Paul A. Gosar [Chairman of the Subcommittee] presiding.
Also Present: Representatives Johnson and McEachin.
Dr. GOSAR. The Subcommittee on Energy and Mineral Resources will come to order.
The Subcommittee is meeting today to hear testimony on the deficiencies in the permitting process for offshore seismic research.
I ask unanimous consent that the gentleman from Louisiana, Mr. Johnson, and the gentleman from Virginia, Mr. McEachin, be allowed to sit with the Subcommittee and participate in the hearing. Without objection, so ordered.
Under Committee Rule 4(f), any oral opening statements at the hearings are limited to the Chairman, the Ranking Minority Member, and the Vice Chair. This will allow us to hear from our witnesses sooner and help Members keep to their schedules. Therefore, I ask unanimous consent that all Members’ opening statements be made part of the hearing record if they are submitted to the Subcommittee Clerk by 5:00 p.m. today. Without objection, so ordered.

STATEMENT OF THE HON. PAUL A. GOSAR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ARIZONA

Dr. GOSAR. Today, we meet to discuss the findings of the December 2017 GAO report that examined the convoluted and politicized process for reviewing and issuing permits to conduct seismic surveying. From failures in the simplest of management tasks, such as recording start dates, to blatant, politically driven maneuvers, the GAO report identified poor practices that led to the delayed issuance of permits by over 1,000 days.
This hearing seeks to shed light on these findings, to highlight exactly what seismic surveying is, and to address potential solutions to ensuring these permits are issued in a responsible and timely manner.
Seismic surveying itself is the safest and least intrusive way of imaging both underground and subsea geology. The process sends acoustic waves down into the earth, which then rebound and are...
subsequently received and recorded by seismophones or receiving phones. Essentially, this is ultrasound technology, as acoustic waves are used to produce an image.

Seismic surveying data is used to identify offshore reservoirs with production potential. To be clear, the seismic surveying process is completely distinct from the National OCS Oil and Gas Leasing process. It is seismic data that informs the leasing process, specifically the decision to lease and the value of the assets.

In addition to offshore oil and gas planning, the data collected serves a variety of purposes. For instance, seismic tests allow researchers to examine the movement of tectonic plates and to identify sand and gravel resources used to shore up hurricane-ravaged coastlines. Furthermore, the military makes extensive use of this data when planning offshore infrastructure or exercises. Despite these multiple uses, we have not conducted offshore seismic surveys in over 30 years in the Atlantic and Pacific, and much of the Alaskan OCS.

To perform seismic surveys, a seismic operator must apply to BOEM for a geological and geophysical, or G&G, permit. Operators seeking studies on the Atlantic, Pacific, and Alaskan coasts also apply for an Incidental Harassment Authorization permit, or an IHA, from the National Marine Fisheries Service, NMFS, or the Fish and Wildlife Service. BOEM typically issues the G&G permits rather quickly, usually within 100 days.

The IHAs are the real problem. They are required under the Marine Mammal Protection Act (MMPA) to ensure that no marine mammals are harassed or disturbed by any human activity. It should be noted that, to date, there has been no instance of harm or disturbance to a marine mammal from acoustic seismic testing. The MMPA stipulates that NMFS and the Fish and Wildlife Service have 120 days to review and issue an IHA. However, GAO found that NMFS never recorded the accurate and completeness date of the IHA applications.

Without something as basic as a start date, NMFS and Fish and Wildlife were not able to track permitting timelines, and were unable to determine whether they were meeting their statutory obligations. The basic failure to record a start date threw IHA permits into uncertainty, with the agencies failing to meet statutory time limitations on review and issuance of permits. This is a completely unacceptable instance of regulatory failure.

On top of all of this is the politicization of these permits. Under the Obama administration, there were six G&G permits that were essentially yanked from the applicants for purely political reasons. These permit applications were rejected because, under the former administration’s extremely limited 5-year leasing plan, no leases or production could take place in the Atlantic.

Thankfully, President Trump identified the unlawful misinterpretation of the seismic and leasing processes and reinstated review of these permits. Yet, these permits are still undergoing review, as they have for over 1,000 days at this point in time.

Failure to properly process these permits, and failure to develop a proper path forward for future permits, keeps our country in the dark about our offshore resources, hindering our Nation’s ability to make informed, long-term leasing decisions. Today, we examine the
regulatory failures that took place as we seek to improve access to this invaluable seismic data.

[The prepared statement of Dr. Gosar follows:]

PREPARED STATEMENT OF THE HON. PAUL A. GOSAR, CHAIRMAN, SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

Today, we meet to discuss the findings of the December 2017 GAO Report that examined the convoluted and politicized process for reviewing and issuing permits to conduct seismic surveying. From failures in the simplest of management tasks, such as recording start dates, to blatantly, politically driven maneuvers, the GAO report identified poor practices that led to the delayed issuance of permits by over a thousand days. This hearing seeks to shed light on these findings, to highlight exactly what seismic surveying is, and to address potential solutions to ensuring these permits are issued in a responsible, and timely manner.

Seismic surveying itself is the safest and least intrusive way of imaging both underground and subsea geology. The process sends acoustic waves down into the earth, which then rebound and are subsequently received and recorded by seismophones or receiving phones. Essentially, this is ultrasound technology, as acoustic waves are used to produce an image.

Seismic surveying data is used to identify offshore reservoirs with production potential. To be clear, the seismic surveying process is completely distinct from the National OCS Oil and Gas Leasing process. It is seismic data that informs the leasing process, specifically the decision to lease and the value of the assets. In addition to offshore oil and gas planning, the data collected serves a variety of purposes. For instance, seismic tests allow researchers to examine the movement of tectonic plates and to identify sand and gravel resources used to shore up hurricane ravaged coastlines. Furthermore, the military makes extensive use of this data when planning offshore infrastructure or exercises. Despite these multiple uses, we haven't conducted offshore seismic surveys in over 30 years in the Atlantic and Pacific, and much of the Alaskan OCS.

To perform seismic surveys, a seismic operator must apply to BOEM for a Geological and Geophysical, or G&G, permit. Operators seeking studies on the Atlantic, Pacific, and Alaskan coasts also apply for an Incidental Harassment Authorization Permit, or “IHA,” from the National Marine Fisheries Service (“NMFS”) or the Fish & Wildlife Service. BOEM typically issues the G&G permits rather quickly, usually within 100 days.

The IHAs are the real problem. They're required under the MMPA (Marine Mammals Protection Act) to ensure that no marine mammals are “harassed” or disturbed by any human activity. It should be noted that, to date, there has been no instance of harm or disturbance to a marine mammal from acoustic seismic testing. The MMPA stipulates that NMFS and Fish & Wildlife have 120 days to review and issue an IHA. However, GAO found that NMFS never recorded the “accurate and completeness” date of the IHA applications. Without something as basic as a start date, NMFS and Fish & Wildlife were not able to track permitting timelines, and were unable to determine whether they were meeting their statutory obligation. The basic failure to record a start date threw IHA permits into uncertainty, with the agencies failing to meet statutory time limitations on review and issuance of the permits. This is a completely unacceptable instance of regulatory failure.

On top of all of this is the politicization of these permits. Under the Obama administration, there were six G&G permits that were essentially yanked from the applicants for purely political reasons. These permit applications were rejected because, under the former administration’s extremely limited 5-year leasing plan, no leases or production could take place in the Atlantic. Thankfully, President Trump identified the unlawful misinterpretation of the seismic and leasing processes, and reinstated review of these permits. And yet, these permits are still undergoing review, as they have for over 1,000 days at this point. Failure to properly process these permits, and failure to develop a proper path forward for future permits, keeps our country in the dark about our offshore resources, hindering our Nation’s ability to make informed, long-term leasing decisions. Today, we examine the regulatory failures that took place as we seek to improve access to this invaluable seismic data.

Dr. GOSAR. I now recognize the Ranking Member for his testimony.
STATEMENT OF THE HON. ALAN S. LOWENTHAL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. LOWENTHAL. Thank you, Mr. Chairman. And thank you to the witnesses for being here today.

The Interior Department’s just-released plan to open every region of the Outer Continental Shelf to oil and gas development is the latest example of the Republicans governing for the benefit of corporations, not citizens.

Under the plan, the risks from offshore drilling would extend from coast to coast, from the shores of Maine down to the Florida Everglades, and from the California beaches to fishing and native communities in Washington State and in Alaska.

In total, Secretary Zinke wants to satisfy Big Oil’s insatiable appetite with over 1.6 billion acres of America’s oceans, all while rolling back the safety protections developed in response to the 2010 Deepwater Horizon disaster. But I have news for Secretary Zinke, Americans have zero interest in handing more of our oceans over to oil and gas corporations.

Our coastlines are home to 123 million citizens, and along with the oceans, these resources serve as a massive economic engine. For example, in my home state of California, coastal counties account for 68 percent of the state’s population and over 80 percent of our GDP. But now for the first time since 1984, the Interior Department has proposed new Federal oil and gas leases off California’s coast.

Had the Secretary consulted California residents and elected officials before his decision, he would have learned why Federal offshore leases have not been offered in over 30 years and why our legislature prohibited leasing in state waters in 1994. But since he didn’t, I will enlighten him.

In 1969, a well blowout 6 miles off the coast of Santa Barbara resulted in over 3 million gallons of oil gushing into the ocean. The spill created a 35-mile long oil slick along California’s coast and killed thousands of fish, birds, and marine mammals. To date, it is the largest oil spill in the state’s history and the third largest in our Nation’s.

A silver lining of the Santa Barbara spill is that it woke the environmental consciousness of many Americans, and it was integral to the development of today’s regulatory framework that governs our natural resources. In 1970, the National Environmental Policy Act was signed into law, the Environmental Protection Agency was created, and Earth Day was established.

A bipartisan California legislature banned offshore drilling in state waters in 1994, and between 1981 and 2008, the U.S. Congress prevented Federal leasing off the Pacific and Atlantic coasts.

Today, Americans who live along our shores understand their critical importance and want the government to protect these resources, not risk them for another drop or two of fossil fuels.

But Secretary Zinke could not care less about California’s history or about the local voices vehemently opposed to his drill-everywhere plan. A few days after releasing his proposal, Secretary Zinke tweeted out that he met with Florida Governor Rick Scott,
and then after just a few minutes, decided that the offshore leasing plan would no longer include Florida. Sadly, I have had trouble deciding what is more flagrantly inappropriate, that Governor Scott is running for Senate against an incumbent Democrat, that President Trump owns a coastal resort in Palm Beach, Florida and profits from its success, or that Secretary Zinke’s announcement circumvents the process and disregards the local voices opposed to offshore drilling in every other coastal state.

Secretary Zinke’s reasoning that, “Florida is unique and its coasts are heavily reliant on tourism as an economic driver,” reveals his tweet is nothing more than a political ploy. I am confident my coastal colleagues and I could easily point to the uniqueness of our coasts and the local businesses that are economically reliant upon a healthy and oil-free environment.

Mr. Chairman, I would like to enter two letters into the record.

The first is a letter from the 36 Members of our California Congressional Delegation to Secretary Zinke opposing our state’s inclusion in the leasing plan. A second is from 151 Members of the House opposing the inclusion of the Atlantic, Arctic, Pacific, and the East Coast regions in the leasing plan.

Californians have experienced catastrophic oil spills before and we will do everything in our power to prevent them from happening again.

I thank the witnesses for being here, and I yield back.

[The prepared statement of Mr. Lowenthal follows:]

PREPARED STATEMENT OF THE HON. ALAN S. LOWENTHAL, RANKING MEMBER, SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

Thank you, Mr. Chairman, and thank you to the witnesses for being here.

The Interior Department’s just-released plan to open every region of the Outer Continental Shelf to oil and gas development is the latest example of Republicans governing for the benefit of corporations, not citizens.

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Our coastlines are home to over 123 million citizens, and along with the oceans, these resources serve as a massive economic engine. In my home state of California, coastal counties account for 68 percent of the state’s population and over 80 percent of our GDP. But now, for the first time since 1984, the Interior Department has proposed new Federal oil and gas lease sales off California’s coast.

Had the Secretary consulted California residents and elected officials before his decision, he would have learned why Federal offshore leases haven’t been offered in over 30 years, and why our Legislature prohibited leasing in state waters in 1994. But since he didn’t, I’ll enlighten him.

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Sadly, I’ve had trouble deciding what’s more flagrantly inappropriate: that Governor Scott is likely running for Senate against an incumbent Democrat; that President Trump owns a coastal resort in Palm Beach, Florida, and profits from its success; or that the Secretary’s Twitter announcement circumvents the process, and disregards the local voices opposed to offshore drilling in every other coastal state.

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Californians have experienced catastrophic oil spills before, and we’ll do everything in our power to prevent them from happening again.

I thank the witnesses again for being here, and I yield back.

Dr. GOSAR. Without objection, so ordered, to be included in the record.

Mr. LOWENTHAL. Thank you, Mr. Chairman.

Dr. GOSAR. Now I will introduce our witnesses. First, we have Dr. Walter Cruickshank, Acting Director of the Bureau of Ocean Energy Management. Did I say that right?

Dr. CRUICKSHANK. Yes, you did. Thank you.

Dr. GOSAR. OK. Dr. Jon Ludwigson, Acting Director of the Government Accountability Office; State Senator Tom Davis, District 46, South Carolina Legislature; and Mr. Ryan Steen, Partner, Stoel Rives, LLP.

Let me remind the witnesses that under Committee Rules, they must limit their oral statements to 5 minutes, but their entire statement will be entered into the record. Our microphones are not automatic, so you are going to have to push the button. You are going to see some lights there. For the first 4 minutes, it will be green, then it will turn yellow. When you see it red, we need to summarize, get caught up, because we will have votes here early this morning.

And with that, now I will recognize Dr. Cruickshank for his testimony.

STATEMENT OF WALTER CRUICKSHANK, Ph.D., ACTING DIRECTOR, BUREAU OF OCEAN ENERGY MANAGEMENT

Dr. CRUICKSHANK. Thank you, and good morning.

Chairman Gosar, Ranking Member Lowenthal, and members of the Subcommittee, I am pleased to be here today to discuss the Bureau of Ocean Energy Management’s oversight of geological and geophysical surveys on the Outer Continental Shelf. Such surveys
support BOEM’s mission to ensure the responsible development of conventional and renewable energy offshore, as well as marine mineral resources, while protecting the environment.

Geological and geophysical data are critically important to understanding the bathymetry of the ocean floor as well as the vast area beneath the seabed. There are numerous technologies that can be employed to gather this data which are used for a variety of purposes, including hydrocarbon exploration and production, aiding in the siting of renewable energy structure such as offshore wind turbines, locating potential sand and gravel resources for coastal restoration projects, identifying possible seafloor or shallow geologic hazards, and locating potential archeological resources and hard bottom habitats that should be avoided. G&G surveys also help to advance fundamental scientific knowledge and are currently conducted in countries throughout the world.

One common method of procuring this data is with seismic surveys. Those surveys use sound waves sent through the ocean floor to map the subsurface. Modern seismic acquisition and processing techniques can provide data sets that significantly enhance subsurface imaging, leading to improved oil and gas resource assessments and more informed administration of regulatory responsibilities.

One of the principal environmental issues with seismic surveys is the potential impact of associated noise on various marine species. Our environmental studies program is one of the earliest Federal programs to sponsor research on ocean sounds beginning in the early 1980s. Since 1998, BOEM has partnered with academia and other experts to invest more than $50 million on protected species and noise-related research. This work has helped inform development of mitigation measures to protect marine species from potential adverse impacts of survey-related activity.

On April 28 of last year, the President issued Executive Order 13795, entitled “Implementing an America-First Offshore Energy Strategy.” The Executive Order calls for the Secretary of the Interior to develop and implement, in coordination with the Secretary of Commerce, and to the maximum extent permitted by law, a streamlined permitting approach for privately-funded seismic data research and collection and in expeditiously determining the offshore energy resource potential for the United States.

The Executive Order further states that the Secretary of the Interior and the Secretary of Commerce shall, to the maximum extent permitted by law, expedite all stages of consideration of incidental take authorization requests and seismic survey permit applications under the Outer Continental Shelf Land’s Act and the Marine Mammal Protection Act.

The directive in the Executive Order for a streamlined permitting approach is predicated on industry and other stakeholder complaints of the ramifications from exceedingly long, unpredictable, and inconsistent processes for agencies to reach permitting decisions, mainly under the Marine Mammal Protection Act, but also to a lesser degree, under the Endangered Species Act.

Over the past 6 months, BOEM and the National Marine Fisheries Service, both leadership and staff, have met to discuss possible procedural approaches and statutory or regulatory changes
for streamlining the permitting process. Collectively, we are committed to creating a streamlining framework if it could lead to the implementation of process-oriented solutions and guidance for administering and implementing the ESA and the MMPA for oil and gas activities generally, and G&G permitting, specifically.

BOEM is committed to continuing the streamlining efforts with National Marine Fisheries Service and the U.S. Fish and Wildlife Service and continuing to communicate and coordinate with other stakeholders on this issue as the process moves forward.

I would also like to note that we have a very strong, long-standing working relationship with the Department of Defense on all aspects of the OCS program, including G&G permitting, and we look forward to working with that department as well.

Finally, I would also like to acknowledge the Government Accountability Office’s recent report titled, “Offshore Seismic Surveys, Additional Guidance Needed to Help Ensure Timely Reviews.” BOEM worked closely with the GAO to provide accurate and up-to-date information for this report, which does not include any recommendations for BOEM action.

Mr. Chairman, thank you again for the opportunity to be here today to discuss the Bureau’s efforts to execute its missions, to safely and responsibly reduce our dependence on foreign oil, and create jobs through the development of important energy resources. I would be happy to answer any questions that you or members of the Subcommittee may have.

[The prepared statement of Mr. Cruickshank follows:]

PREPARED STATEMENT OF WALTER CRUICKSHANK, ACTING DIRECTOR, BUREAU OF OCEAN ENERGY MANAGEMENT, U.S. DEPARTMENT OF THE INTERIOR

Chairman Gosar, Ranking Member Lowenthal, and members of the Subcommittee, I am pleased to appear before you today to discuss the Bureau of Ocean Energy Management’s (BOEM) oversight of geological and geophysical (G&G) surveys on the Outer Continental Shelf (OCS). Such surveys support BOEM’s mission to ensure the responsible development of conventional and renewable offshore energy and marine mineral resources while protecting the environment.

BACKGROUND

Geological and geophysical data is critically important to understanding the bathymetry of the ocean floor, as well as the vast area underneath. There are numerous technologies that can be employed to gather this data, which is used for a variety of purposes, including hydrocarbon exploration and production, aiding in siting renewable energy structures by characterizing the ocean floor, locating potential sand and gravel resources for coastal restoration projects, identifying possible seafloor or shallow depth geologic hazards, and locating potential archaeological resources and potential hard bottom habitats that should be avoided. One common method of procuring this data is with seismic surveys; those surveys use sound waves, sent through the ocean floor, to map the subsurface.

BOEM scientists are experts in the use of the newer survey data to make more informed decisions concerning potential oil and gas lease sales, ensure appropriate development of OCS energy resources, and assure the receipt of fair market value for any leasing of public lands. Modern two-dimensional (2D) and three-dimensional (3D) acquisition and processing techniques can provide data sets that significantly enhance subsurface imaging, leading to improved oil and gas resource assessments and more informed administration of regulatory responsibilities.

G&G surveys are not used exclusively for oil and gas exploration. Seismic surveys and geologic coring are also helpful in identifying sand used for restoration of our Nation’s beaches and barrier islands following severe weather events and for protecting coasts and wetlands from erosion. Recent examples of BOEM’s sand restoration projects include New Jersey, where Long Beach Island has been restored in response to erosion caused by Hurricane Sandy; Louisiana, where 1,100 acres of
marsh, dune, and beach habitat at Whiskey Island have been reconstructed; and
Florida, where a final environmental assessment on a shoreline restoration project
in Brevard County totaling over 1.7 million cubic yards of sand was recently com-
pleted in response to erosion caused by Hurricane Matthew. Seismic and geologic
coring surveys also provide information that is vital to the siting and development
of offshore renewable energy facilities.

G&G surveys also help to advance fundamental scientific knowledge and are
currently conducted in the Gulf of Mexico and in countries around the world.

One of the principle environmental issues with seismic surveys is the potential
impact of associated noise on various marine species. Our environmental studies
program was one of the earliest Federal pioneers in sponsoring research on ocean
sounds beginning in the early 1980s such as funding a 1985 study on the effects
of drilling noise on whales in the Beaufort Sea. Since 1998, BOEM has partnered
with academia and other experts to invest more than $50 million on protected
species and noise-related research. BOEM has funded, developed, and overseen critical
studies on marine mammals, such as evaluation of seismic survey impacts on
endangered sperm whales, and has conducted numerous expert stakeholder work-
shops to discuss what is known and to identify further information needs on
acoustic impacts in the ocean.

ENDANGERED SPECIES ACT (ESA) AND MARINE MAMMAL PROTECTION ACT (MMPA)
STREAMLINING EFFORT

and Economic Growth” was issued by the President. The Executive Order
called for executive agencies to immediately review existing regulations that poten-
tially burden the development or use of domestically produced energy resources and
appropriately suspend or rescind those that are found unduly onerous. Additionally,
on April 28, 2017, the President issued Executive Order 13795 entitled,
“Implementing an America-First Offshore Energy Strategy” (April 28, 2017). The
Executive Order calls for the Secretary of the Interior to "develop and implement,
in coordination with the Secretary of Commerce and to the maximum extent per-
mitted by law, a streamlined permitting approach for privately funded seismic data
research and collection aimed at expeditiously determining the offshore energy re-
source potential of the United States.” E.O. 13795 further states that “The Secretary
of the Interior and the Secretary of Commerce shall, to the maximum extent per-
mitted by law, expedite all stages of consideration of Incidental Take Authorization
requests, including Incidental Harassment Authorizations and Letters of Authoriza-
tion, and Seismic Survey permit applications under the Outer Continental Shelf
Lands Act, 43 U.S.C. 1331 et seq., and the Marine Mammal Protection Act, 16
U.S.C. 1361 et seq.” To further implement this guidance, on May 1, 2017, Secretary
of the Interior Zinke issued Secretarial Order 3350 entitled, “America-First Offshore
Energy Strategy.”

The directive in the Executive Order for a streamlined permitting approach is
predicated on industry and other stakeholder complaints of ramifications from ex-
ceedingly long, unpredictable and inconsistent processes for agencies to reach per-
mitting decisions, mainly under the Marine Mammal Protection Act (MMPA) but
also to a lesser degree under the Endangered Species Act (ESA).

In an effort to implement this direction, a streamlining team led by BOEM and
consisting of Department of the Interior solicitors and BOEM and Bureau of Safety
and Environmental Enforcement (BSEE) staff, was created to address and establish
ways in which to build greater efficiencies, predictability and consistency in imple-
mentation of the ESA and MMPA for BOEM and BSEE activities through a com-
bination of process oriented solutions, enhanced research, and possible statutory/
regulatory approaches. Specifically, the streamlining team developed a set of rec-
ommendations aimed at reducing undue burdens and increasing decision timeline
predictability, while still ensuring needed environmental protections are set in
place. While these recommendations are focused on permitting for oil and gas activi-
ties, most of them also benefit other ocean activities, such as construction, offshore
wind facilities, sand mining, and naval operations.

Over the past 6 months, BOEM and the National Marine Fisheries Service
(NMFS) leadership and staff have met to discuss possible procedural and statutory/
regulatory approaches for streamlining. BOEM has shared specific options with
NMFS for their review and input. BOEM, BSEE, and NMFS are committed to cre-
ating a streamlining framework that could lead to the implementation of process-
oriented solutions and guidance for administering and implementing the ESA and
MMPA for oil and gas activities and G&G permitting specifically. BOEM is com-
mited to continue the streamlining efforts with NMFS and the U.S. Fish and
Wildlife Service and to continue to communicate and coordinate with other stakeholders, such as the Navy and industry, on this issue as the process moves forward.

G&G PERMITTING IN THE ATLANTIC

S.O. 3350 included a directive for the expedited consideration of appealed, new, or resubmitted seismic permitting applications for the Atlantic; BOEM has resumed the evaluation of the Atlantic G&G permit applications. Five NMFS Draft Proposed Incidental Harassment Authorizations (IHAs) were published in the Federal Register on June 6, 2017, starting a 30-day public comment period that was further extended and closed on July 21, 2017. NMFS is currently processing the Atlantic IHAs. In addition, BOEM is also working with NMFS to finalize the associated ESA Section 7 consultation covering both BOEM seismic permits and NMFS MMPA IHAs. This ESA Section 7 consultation is being treated by NMFS as a subset of the existing programmatic G&G Consultation initially completed in July 2013 and re-initiated by BOEM in October 2015. Once this smaller consultation is complete, it is BOEM’s understanding that NMFS will complete the re-initiated Programmatic consultation.

G&G PERMITTING IN THE GULF OF MEXICO

In the Gulf Of Mexico Region (GOMR), from 2011–2016, BOEM issued 251 G&G permits (approximately 42 annually); the majority related to oil and gas. BOEM’s overall permitting approval process takes approximately 60 days to complete once an application is deemed “complete.” This includes conducting a NEPA analysis, associated environmental reviews, and consultations for ESA, Coastal Zone Management Act (CZMA), Essential Fish Habitat (EFH) and National Marine Sanctuaries Act (NMSA). A seismic survey permit covers a 1-year period.

In addition to the above required permits and associated environmental reviews for seismic surveys, MMPA authorization of industry activity may be needed as well. Under the MMPA, “take” from harassment of marine mammals is permitted only if either an Incidental Harassment Authorization (IHA) or Incidental Take Regulations (ITRs) are in place. IHAs are usually applied for individual, one-time activities. IHAs are valid for 1 year. NMFS has 120 days (by statute) to issue an IHA, which includes a 30-day public comment period. ITRs can be issued to accommodate similar or multiple activities taking place over time, which is the case in the GOMR where multiple surveys occur year-in and year-out. In the GOMR, an ITR, if issued, would cover multiple oil and gas related G&G activities for a 5-year period. (ITRs are valid for 5 years only and then must be re-issued). Under an ITR, applicants (industry) seek annual Letters of Authorization (LOAs) pursuant to the rule. The ITR timelines are not prescribed by statute, but NMFS estimates a 12–18 month time frame. The ITR process includes two comment periods for the public, which are usually 30 and 60 days. There is no comment period associated with LOA issuance.

In the GOMR, even though G&G permits have been issued, the process to issue ITRs for oil and gas related G&G activities has gone through multiple starts and stops to address evolving issues since the first petition was submitted in 2002. Following a BOEM/NMFS restart in 2013, in October 2016, BOEM petitioned on behalf of industry, and at the request of NMFS, to create a more efficient process for addressing exposures and takes to marine mammals from cumulative oil and gas related seismic activity in the GOM. Having a rule in place would allow NMFS to address impacts to marine mammals from seismic surveys programmatically versus survey-by-survey, which in theory, would reduce the workload for NMFS, allowing industry operators to receive their MMPA authorizations in a timely manner.

Based on the October 2016 petition, NMFS submitted a draft proposed ITR to OMB for review on October 2, 2017. OMB is still reviewing the proposed ITR.

In a June 2010 lawsuit, NRDC v. Jewell, filed against DOI and oil and gas industry representatives, several environmental conservation groups claimed DOI failed to prepare an environmental impact statement.

The settlement of NRDC v. Jewell, filed in the U.S. District Court for the Eastern District of Louisiana, allows permits to be issued in the GOM pursuant to the NRDC settlement. Under the settlement, Industry Intervenors agreed to abide by the mitigation measures described in the settlement agreement, which include measures such as passive acoustic monitoring, time area closures, and minimum separation distances between surveys, among others. During the stay, Plaintiffs agreed not to challenge the permitted surveys that abide by the above mitigation measures. Under the settlement agreement and stay, permits in the GOM are not conditioned on the applicant processing/obtaining an IHA.
Outside of the NRDC Settlement Agreement, BOEM includes (and has included in the past) a suite of mitigation measures for G&G permits as they relate to marine mammals. These measures provide protection to marine mammals by requiring G&G operations to avoid and minimize impacts to and take of marine mammals.

**GAO SEISMIC SURVEY REPORT**

Last, the Government Accountability Office recently published a Report titled: *OFFSHORE SEISMIC SURVEYS: Additional Guidance Needed to Help Ensure Timely Reviews* (GAO–18–60: Published: Dec 11, 2017. Publicly Released: Jan 4, 2018). BOEM worked closely with the GAO investigators and authors to provide accurate and up-to-date information for this report. The report did not implicate BOEM nor did it make any recommendations for BOEM action.

**CONCLUSION**

Mr. Chairman, thank you again for the opportunity to be here today to discuss the Bureau’s effort to execute its missions to safely and responsibly reduce our dependence on foreign oil and create jobs through the development of important energy resources. I am happy to answer any questions that you or members of the Subcommittee may have.

**QUESTIONS SUBMITTED FOR THE RECORD TO DR. WALTER CRUICKSHANK, ACTING DIRECTOR, BUREAU OF OCEAN ENERGY MANAGEMENT**

Dr. Cruickshank did not submit responses to the Committee by the appropriate deadline for inclusion in the printed record.


1. Early last week, Associate Deputy Secretary James Cason briefed our staff about Secretary Zinke’s reorganization plan for DOI and mentioned recombining BOEM and BSEE. He stated that the staff of the two agencies were currently analyzing the pros and cons of recombination.

   1a. Is that correct, and if so, what is the status of that analysis?
   
   1b. When do you expect to have that analysis completed, or when have you been instructed to have that analysis completed by?

   1c. Has the Department estimated the amount of time and money required to recombine them?

2. Late last month, William K. Reilly, co-chairman of the national Oil Spill Commission formed after the Deepwater Horizon disaster and EPA administrator during the term of President George H.W. Bush, weighed in with his thoughts on the proposed recombination. He said, “If you have one part of your operation bringing in $18 billion dollars a year and another part that does inspections, what part would you pay attention to? It is very unwise to mix those two under one head.”

   2a. Considering that even the spokeswoman for the National Ocean Industries Association admitted that, “we did not ask for it”—referencing the recombination—and that industry lobbyists are concerned that it will ultimately distract agency staff, who was responsible for calling for this review in the first place?

3. You have been a career Interior Department employee for many years, and you worked at the agency both before and after the Deepwater Horizon disaster.

   3a. Do you believe that recombining BOEM and BSEE is the most efficient use of taxpayer dollars and—more importantly—will doing so increase the human and environmental safety of offshore oil and gas operations?

4. Can you briefly mention why the Minerals Management Service was reorganized in 2010 and 2011, how the split was made, and the amount of time and money that was required to fully separate the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement? Was it a simple process that occurred quickly?

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Questions Submitted by Rep. Lowenthal

Question 1. Dr. Cruickshank, during the Subcommittee hearing, you agreed to provide a variety of documents relating to the development of the Draft Proposed Program (CDPP) and the subsequent decision of the Secretary to announce that he was removing Florida from the DPP. As such, please provide:

1a. Copies of any correspondence that exists between employees of the Department of the Interior and anyone in the Florida Governor’s Office regarding the potential inclusion of waters around Florida in the Draft Proposed Plan.

1b. Copies of any correspondence that exists between the Bureau of Ocean Energy Management and the Florida Governor’s Office after publication of the Draft Proposed Program and before the Secretary’s meeting with the Governor on January 9.

1c. Copies of any correspondence that exists between the Secretary’s Office, Deputy Secretary’s Office, or Office of the Assistant Secretary for Land and Minerals Management and the Florida Governor’s Office after publication of the Draft Proposed Program and before the Secretary’s meeting with the Governor on January 9.

1d. Copies of any correspondence that exists related to discussions between the Bureau of Ocean Energy Management and the Secretary, the Deputy Secretary, the Assistant Secretary for Land and Minerals Management, or anyone in their offices, regarding the Secretary’s decision to tweet on January 9 that Florida would be removed from consideration for offshore oil and gas leasing.

1e. Copies of any instructions sent to the Bureau of Ocean Energy Management from any other officials in the Department of the Interior regarding how they should treat the waters around Florida in developing the next step of the offshore leasing program.

Question 2. Mr. Cruickshank, the Marine Mammal Protection Act creates a mechanism for the incidental take of “small numbers” of marine mammals. Can you explain why the “small numbers” requirement is a constraint on the ability to issue seismic permits?

Question 3. As noted by Mr. Steen in his testimony, the seismic permits for the Atlantic Ocean were initially submitted in 2014. Following removal of the Atlantic from the 2017–2022 Five-Year Program and due to the significant concern for negative impacts on marine life, the seismic permits were denied in January 2017. In fact, the prior Director of BOEM stated: “In the present circumstances and guided by an abundance of caution, we believe that the value of obtaining the geophysical and geological information from new airgun seismic surveys in the Atlantic does not outweigh the potential risks of those surveys’ acoustic pulse impacts on marine life.”

3a. Is it not unusual to simply pick up review of these seismic permits where things left off in the review process?

3b. Shouldn’t both BOEM and the Fisheries Services have required applicants to resubmit new applications incorporating the best scientific information available when this issue was reopened 5 months later in May 2017 (i.e., 3 years after the applications were originally submitted)?

Question 4. Mr. Cruickshank, scientific studies in the last few years have found that seismic airgun surveys can cause undue harm to marine life. Research shows that seismic airguns negatively impact many marine species, including whales, fish, lobsters, scallops, oysters and even zooplankton—the very foundation of the marine food-chain.

4a. Are you aware of these scientific studies?

4b. Are you willing to allow undue harm to these marine species for the sake of oil and gas exploration and drilling in the Atlantic—an area where the coastal states and their constituents are clearly opposed to it?

Question 5. The state of North Carolina recently requested a supplemental consistency certification under the Federal Coastal Zone Management Act for all companies proposing to conduct seismic blasting off the state’s coast. Their request was based on significant new information regarding the detrimental impact of seismic blasting on fish, zooplankton, and other marine life. The commercial and recreational fishing industries support 22,500 jobs, $787 million in income, and contribute almost $2 billion in business sales annually to the state’s economy.

5a. Can you assure me that BOEM will consider this objection and adequately respond to it before granting permits for seismic blasting?
5b. Can you assure me that BOEM will support the state's request, and to await the conclusion of any consistency review, including resolution of any state objections to consistency, before granting permits for seismic blasting?

Dr. Gosar. Thank you, Dr. Cruickshank.
I now acknowledge Mr. Ludwigson for his testimony.

STATEMENT OF JON LUDWIGSON, ACTING DIRECTOR, GOVERNMENT ACCOUNTABILITY OFFICE

Mr. Ludwigson. Thank you.
Thank you, Chairman Gosar, Ranking Member Lowenthal, and members of the Subcommittee. I am pleased to be here today to discuss Federal oversight of offshore seismic surveys.

Earlier this month, as was mentioned, we released a report on offshore seismic surveys based on work requested by the Full Committee. I will summarize that report, but I ask that the report be entered into the record.

My statement today will provide information on three topics. First, the review process and time frames for seismic survey applications in the Gulf of Mexico, Alaska, and the Atlantic regions from 2011 through 2016. Second, the review process and time frames for incidental take applications over the same period. And finally, basic information about six applications in the Atlantic region.

By way of background, offshore oil and natural gas are important sources of energy and revenue in the United States, comprising about 18 percent of national oil production and about 4 percent of natural gas production. They also provided $2.8 billion in revenue to the Federal Government in Fiscal Year 2016.

Development of these offshore oil and gas resources is complex, relying on private companies to understand the geology through use of tools, such as seismic surveys, under authorizations obtained from Federal agencies. Entities seeking to conduct seismic surveys in the Outer Continental Shelf must generally obtain a permit from Interior's Bureau of Ocean Energy Management, which I will refer to in my statement as BOEM.

Because seismic surveys may disturb or injure marine mammals, referred to as a taking, entities seeking to conduct them may also need to obtain an incidental take authorization under the Marine Mammal Protection Act from Commerce's National Marine Fisheries Service or Interior's Fish and Wildlife Service.

Regarding BOEM's process and time frames for reviewing seismic survey applications, we found key differences. In terms of process, BOEM is not required to issue permits within a specific time frame, and the agency reviews, once it determines the application is complete. We found that BOEM reviewed 297 applications and issued 264 permits between 2011 and 2016, and the time frames varied.

For example, BOEM issued 250 permits for the Gulf of Mexico, about 95 percent of its total, in a time frame ranging from the same day the application was deemed complete to 287 days after that date. Of the 250 permits in the Gulf, 218 were issued within 100 days.
Regarding review of incidental take applications, we found the agencies did not have accurate information, and as a result, we could not document how long these reviews took. Marine Fisheries and Fish and Wildlife follow a similar process requiring complete applications before beginning formal processing. In the Gulf of Mexico region, BOEM has generally issued seismic survey permits without requiring incidental take authorizations.

In total, Marine Fisheries and Fish and Wildlife reviewed 35 applications and approved 28 between 2011 and 2016. We found that Fish and Wildlife did not record the date the application was complete, and Marine Fisheries could not provide accurate dates because it lacked guidance on documenting the date. By law, the agencies are to review one type of incidental take authorization application, referred to as an Incidental Harassment Authorization, within 120 days.

Without knowing when these applications were complete, Marine Fisheries and Fish and Wildlife cannot determine how long the reviews take and whether they are completed within the statutory time frame. In addition, it is not clear how much time private companies should build into their exploration plans.

During the course of our work, we also identified six pending applications to conduct seismic surveys in the Atlantic region. We have detailed the specific circumstances of these applications in our report, but in summary, these applications were filed in 2014, denied in January 2016, and are now being reconsidered.

In conclusion, offshore seismic surveys provide Federal agencies and private companies with a wide range of useful information. We found that BOEM has information on applications it reviews, but Marine Fisheries and Fish and Wildlife lack key information. Without this information, the agencies cannot accurately evaluate the timeliness of their reviews. In our report, we made four recommendations to those agencies for improving this process and examining whether they are meeting their statutory review time frames.

Chairman Gosar, Ranking Member Lowenthal, this concludes my statement. I would be happy to answer any questions you may have.

[The prepared statement of Mr. Ludwigson follows:]

PREPARED STATEMENT OF JON LUDWIGSON, ACTING DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Chairman Gosar, Ranking Member Lowenthal, and members of the Subcommittee: I am pleased to be here today to discuss our recent report on the Federal offshore seismic permitting process. As you know, offshore oil and natural gas are important sources of energy and revenue for the United States—constituting about 18 percent of our Nation’s total oil production and about 4 percent of our total gas production, and providing the Federal Government with about $2.8 billion in revenue in Fiscal Year 2016.

Federal agencies and private companies use information about potential oil, gas, and other resources in the Outer Continental Shelf (OCS) to make regulatory,
My testimony today discusses the key findings from our December 2017 report on the Federal offshore seismic permitting process. Accordingly, this testimony examines (1) BOEM’s review process, the number of permit applications reviewed from 2011 through 2016, and its review time frames; (2) NMFS’s and FWS’s review process, the number of incidental take authorization applications reviewed from 2011 through 2016, and their review time frames; and (3) the status of pending seismic survey permit applications and related incidental take authorization applications in the Atlantic OCS region. In addition, I will highlight several key actions that we recommended in our report that NMFS and FWS can take to address challenges associated with their review processes.

To conduct the work for our December 2017 report, among other things, we analyzed relevant laws and regulations that govern the review processes, reviewed and analyzed agency guidance, and interviewed BOEM, NMFS, and FWS agency officials. In addition, we identified and interviewed knowledgeable stakeholders selected to reflect a range of industry groups, a research institution, and environmental organizations to obtain their views on the seismic survey permitting and incidental take authorization application processes. In our preliminary work on all four OCS regions, we determined there had been no new oil and gas related seismic activity in the Pacific OCS region in the last two decades; as a result, we excluded the Pacific OCS from our review. We also obtained data from BOEM, NMFS, and FWS on the number of permit and incidental take authorization applications each agency reviewed and the number of permits and authorizations the agencies issued in each of the three selected OCS regions. We focused our review of pending applications on the Atlantic region because it was the only region that had applications pending at the time of our review. Our December 2017 report includes a detailed explanation of the methods used in our work. We conducted the work on which this testimony is based in accordance with generally accepted government auditing standards.

The Outer Continental Shelf (OCS) is outside the territorial jurisdiction of all 50 states but within the jurisdiction and control of the U.S. Federal Government, and consists of submerged Federal lands, generally extending seaward between 3 geographical miles and 200 nautical miles off the U.S. coastline. The Department of the Interior has oversight over 1.7 billion acres of submerged lands in the OCS. There are four OCS regions in the United States: the Alaska, Atlantic, Gulf of Mexico, and Pacific regions. Companies that develop and produce oil and gas from Federal waters do so over a specified period of time under leases obtained from and administered by the Bureau of Ocean Energy Management.

Because this was a nonprobability sample of stakeholders, their views are not generalizable beyond those groups but provide illustrative examples of the views of such stakeholders.

To assess the reliability of the data, we used publicly available information on the number of permit and authorization applications to check the data provided by BOEM, NMFS, and FWS. We found the data on the number of permits and authorizations to be sufficiently reliable for our purposes.
As we stated in our December 2017 report, BOEM has a documented process for reviewing seismic survey applications in each of the three selected OCS regions that differs in one part depending on the region. In the Atlantic region, prior to issuing a permit, BOEM intends to require incidental take authorizations related to the seismic survey activities proposed in the permit application to be in place before issuing permits, but in the Alaska region, BOEM issues conditional permits while waiting for incidental take authorizations. In the Gulf of Mexico region, BOEM has generally issued permits without requiring incidental take authorizations to be in place, although it is working to address some aspects of its process in response to a recent settlement agreement.

Based on our review of agency data, from 2011 through 2016, BOEM reviewed 297 applications for seismic survey permits. Of the 297 seismic survey permit applications reviewed, BOEM issued 264 permits during this period, and the number of applications reviewed and permits issued varied by OCS region (see Table 1).

### Table 1: Bureau of Ocean Energy Management’s Seismic Survey Permit Applications Reviewed and Issued by Three Outer Continental Shelf Regions, 2011–2016

<table>
<thead>
<tr>
<th>Seismic survey permit applications</th>
<th>Outer Continental Shelf Region</th>
<th>Alaska</th>
<th>Atlantic</th>
<th>Gulf of Mexico</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewed</td>
<td></td>
<td>13</td>
<td>16</td>
<td>268</td>
<td>247</td>
</tr>
<tr>
<td>Pending</td>
<td></td>
<td>0</td>
<td>7</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Withdrawn by applicant</td>
<td></td>
<td>4</td>
<td>3</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td>Deferred by applicant</td>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Issued</td>
<td></td>
<td>8</td>
<td>8</td>
<td>258</td>
<td>264</td>
</tr>
</tbody>
</table>

Source: GAO analysis of Bureau of Ocean Energy Management data. GAO–18–342T

Note: This table includes seismic survey permits for high-resolution seismic surveys, deep-penetration seismic surveys, and vertical seismic profile surveys. The six permits issued in the Atlantic region were for high-resolution seismic surveys for non-oil and gas mineral resources and, according to Bureau of Ocean Energy Management officials, did not include the use of airguns. This table does not include the Pacific Outer Continental Shelf region because, from 2011 through 2016, the Bureau of Ocean Energy Management did not receive applications for or issue any seismic survey permits in that region. BOEM issued a permit for the pending application in the Gulf of Mexico region in April 2017. This table does not include Notices of Scientific Research, of which there were 2 in the Atlantic region, 13 in the Gulf of Mexico, and none in Alaska during this period. The Notices of Scientific Research do not result in a permit.

BOEM does not have statutory review time frame requirements for issuing geological and geophysical seismic survey permits. The range of BOEM’s review time frames—from the date the agency determined that an application was complete to when BOEM issued a seismic survey permit—varied by OCS region (see Fig. 1).

### Figure 1: Number of Seismic Survey Permits Issued by Bureau of Ocean Energy Management Regions and Associated Time Frames, 2011–2016

Source: GAO analysis of Bureau of Ocean Energy Management data. GAO–18–342T
Neither NMFS nor FWS Guidance Sufficiently Describes How to Record Certain Review Dates

As we stated in our report, NMFS and FWS follow a similar process for reviewing incidental take authorization applications related to seismic survey activities. From 2011 through 2016, NMFS and FWS reviewed 35 and approved 28 such applications across the three OCS regions we reviewed, including some authorizations related to BOEM permits as well as research seismic surveys not associated with BOEM permits.

However, neither NMFS nor FWS guidance sufficiently describes how to record certain review dates. As a result, NMFS was unable to provide accurate dates for when the agency determined an application was adequate and complete—and FWS does not record this date. For example, based on our review of NMFS data, in at least two cases, the date NMFS recorded the application had been determined adequate and complete was after the date the proposed authorization was published in the Federal Register.

Because the agencies either do not record the date the application is deemed adequate and complete or do not record the date consistently, the agencies are not able to determine how long their formal processing takes. As a result, in our December 2017 report, we recommended that the agencies should develop guidance that clarifies how and when staff should record the date on which the agency determines the “adequacy and completeness” of an incidental take authorization application. NMFS agreed with our recommendation, FWS partially concurred with the recommendation, noting that it plans to develop guidance for recording the “adequate and complete” date of incidental harassment authorization applications; however, it did not indicate that it would develop such guidance for the other type of incidental take authorization—the incidental take regulations. As we stated in the report, we believe that FWS should develop guidance for both. Such guidance is necessary to maintain consistency with Federal internal control standards, which call for management to use quality information to achieve agency objectives and design control activities, such as accurate and timely recording of transactions, to achieve objectives and respond to risk.

Further, under the Marine Mammal Protection Act, the agencies are to issue one type of incidental take authorization—incidental harassment authorizations—within 120 days of receiving an application. NMFS and FWS have not conducted an analysis of their review time frames. As a result, in our December 2017 report, we recommended that both agencies should analyze their time frames for reviewing incidental harassment authorization applications—from the date the agency determines that an application is adequate and complete until the date an application is approved or denied—and compare the agency’s review time frames to the statutory review time frame. Both NMFS and FWS agreed with our recommendation.
BOEM and NMFS Have Been Reviewing Certain Seismic Survey Permit and Incidental Take Authorization Applications in the Atlantic OCS for Several Years

As we stated in our December 2017 report, as of October 2017, in addition to the six permits BOEM issued in the Atlantic OCS from 2011 through 2016, another seven permits were pending a decision. Of these seven, BOEM received six applications for deep penetration seismic survey permits in the Atlantic region from March to May 2014 (see Fig. 2).

Figure 2: Bureau of Ocean Energy Management (BOEM) Review Timeline of Six Pending Seismic Survey Permit Applications in the Atlantic Outer Continental Shelf Region, 2014–2017

Source: GAO analysis of BOEM data and interviews with BOEM officials. GAO–18–342T

Note: Five of the six applicants submitted their related incidental-harassment applications to the Department of Commerce’s National Marine Fisheries Service (NMFS) from August 2014 through January 2016. According to BOEM officials, the agency was awaiting NMFS's issuance of incidental harassment authorizations before issuing seismic survey permits. Before such authorizations were issued, in January 2017, BOEM denied these applications, citing, among other things, the 5-year leasing plan, which removed the area from all leasing during the period from 2017 through 2022.

Of the six applicants that applied to BOEM during that time, five also applied to NMFS for incidental harassment authorizations related to their seismic survey permit applications, from August 2014 to January 2016 (see Fig. 3). The sixth applicant that applied to BOEM for a seismic survey permit in the Atlantic OCS region did not apply for an incidental harassment authorization with NMFS, according to NMFS officials. These five incidental harassment authorizations were pending a decision by NMFS, as of October 2017, and NMFS did not have an estimate as to when it would issue a decision.

Figure 3: National Marine Fisheries Service (NMFS) Review Timeline of Five Pending Incidental Harassment Authorization Applications Related to Seismic Survey Permit Applications in the Atlantic Outer Continental Shelf Region, 2014–2017

Source: GAO analysis of NMFS data and interviews with NMFS officials. GAO–18–342T

Chairman Gosar, Ranking Member Lowenthal, and members of the Subcommittee, this concludes my prepared statement. I would be pleased to answer any questions that you may have at this time.

12 GAO–18–60.
Dr. GOSAR. Thank you, Mr. Ludwigson.
I now recognize Senator Davis for his testimony.

STATEMENT OF STATE SENATOR TOM DAVIS, DISTRICT 46, SOUTH CAROLINA LEGISLATURE

Mr. Davis. Good morning, Chairman Gosar, Ranking Member Lowenthal, and honorable Committee members. I greatly appreciate the opportunity to testify before you today about the importance of protecting the Atlantic Coast from offshore drilling and seismic airgun blasting.

My testimony today will cover the impacts of seismic testing and offshore drilling, the lack of jurisdiction for changing the permitting process, the legal and transparency problems associated with seismic airgun blasting, the significant economic impacts offshore drilling and seismic testing would bring to our coast, and the large bipartisan opposition to offshore drilling and seismic airgun blasting.

Seismic testing involves firing loud sonic guns into the ocean floor every 16 seconds to read echoes from the bottom geology, with a test taking place over miles of ocean for months at a time. Scientists agree that seismic airgun blasts could alter the marine animals’ behavior, affecting their migration patterns, mating habits, and how they communicate with each other. Most animals in the ocean use sound the way animals on land use eyesight. Saturating their environment with noise will have an impact.

NOAA estimates that 138,000 marine animals could be injured and 13.6 million could have their migration, feeding, or other behavioral patterns disrupted. I have cited numerous scientific studies, which are footnoted in my testimony, as substance for those particular effects on marine animals.

Accidents occur in a world where human error or mechanical imperfections and coastal hurricanes all play unexpected roles. When you drill, you spill. It is inevitable. The oil industry touts a 99 percent safety record, but that 1 percent is pretty horrific for people living in the vicinity of a spill when it occurs.

The Federal Government predicts at least one spill a year for every 1,000 barrels in the Gulf of Mexico over the next 40 years, a spill of 10,000 barrels or more every 3 or 4 years. We saw what happened in the Gulf of Mexico in 2010 when the BP Deepwater Horizon rig spilled millions of barrels of oil into the Gulf. It was a disaster. But thankfully, the Gulf's bowl-like shape contained the spill in that region.

A similar spill off the Atlantic Coast would be a disaster of epic proportions. If oil entered into the Gulf stream, it would be forced into the Chesapeake Bay, the Hudson River Valley, the Gulf of Maine, and the Grand Banks, some of the richest fishing grounds in the world.

The Gulf of Mexico BP Deepwater Horizon blowout also showed that oil cannot be removed from salt marshes and other wetland systems. Coastal salt marshes in South Carolina are among the most productive ecosystems in the world and nursery grounds for many estuarine and marine species. Toxic substances from oil spills, both chronic and acute, will put all these organisms at risk.
Even if a spill never occurs, and both the oil industry and the Federal Government admit that spills are inevitable, there is still an adverse impact to South Carolina’s coast in that the land-based infrastructure necessary to support offshore drilling is dirty and highly industrial. Moreover, even the most lucrative oil and gas scenario generates less than 1 percent of the economic impact of what tourism has in South Carolina, $2.7 billion accrue in South Carolina over a two-decade period. We realized $20 billion in tourism in the year 2015 alone.

I also want to point this out: along the Gulf Coast, beachgoers are provided with wipes to clean the oil and tar balls from their feet after walking on the beach. To the residents of South Carolina, that scenario is unacceptable, as our beaches are major revenue generators and part of our way of life.

Also, the DoD has admitted, or has stated, that there are mission compatibility inconsistencies with offshore leasing. We have considerable military installations in South Carolina, and the Department of Defense concerns in this regard must be noted.

It was pointed out earlier that Secretary Zinke has already exempted Florida from the exploration and drilling. That raises serious due process, equal protection concerns, and arbitrary and capricious standards, which I will be happy to talk about in follow-up questions.

In closing, I would say the opposition is bipartisan and wide-ranging. More than 160 municipalities along the East Coast have passed resolutions opposing offshore oil and gas drilling and exploration. In addition, the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils for the Department of Defense, Air Force, and NASA have all weighed in to express concerns.

More than 42,000 businesses and 500,000 fishing families have also joined this overwhelming chorus of voices that have said no to testing or drilling.

Seismic testing and oil drilling pose unknown threats to our coast and could include devastating damage to our beach communities and the water quality we enjoy. Oil and water should not mix, and now is the time of choosing. We must pick one or the other. Coastal communities and local voices have already voiced their choice. We want to protect our water, our coast, and our way of life from the unacceptable and devastating impacts of seismic testing and offshore drilling. Washington, please, needs to listen.

I thank you for the opportunity to testify today, and I look forward to answering your questions.

[The prepared statement of Mr. Davis follows:]

Good morning, Chairman Gosar, Ranking Member Lowenthal, and honorable Committee members. My name is Tom Davis, and I am a Republican State Senator from Beaufort, South Carolina. I greatly appreciate the opportunity to testify before you today about the importance of protecting the Atlantic Coast from offshore drilling and seismic airgun blasting. My testimony today will cover the impacts of seismic testing and offshore drilling, the lack of justification for changing the permitting process, the legal and transparency problems associated with seismic airgun blasting, the significant economic impacts offshore drilling and seismic testing would bring to our coast, and the large, bipartisan opposition to offshore drilling and seismic airgun blasting.
IMPACT OF SEISMIC TESTING

Seismic testing involves firing loud sonic guns into the ocean floor every 16 seconds to read echoes from the bottom geology, with the tests taking place over miles of ocean for months at a time. The National Oceanic and Atmospheric Administration (NOAA) confirms that the sound from the seismic airguns can be recorded from sites more than 1,860 miles away, equivalent to the distance from Washington, DC to Las Vegas.

Scientists agree that seismic airgun blasts could alter marine mammals' behavior, affecting their migration patterns, mating habits and how they communicate with each other. Most animals in the ocean use sound the way animals on land use eyesight; saturating their environment with noise will have an impact. NOAA estimates that 138,000 marine animals could be injured, and 13.6 million could have their migration, feeding, or other behavioral patterns disrupted.

Proponents of seismic airgun blasting often mischaracterize an old quote from Dr. Bill Brown of BOEM, claiming that seismic airgun blasting has no impact on marine mammal populations—populations being the key qualifier. However, there is a substantial body of peer-reviewed science showing that seismic airgun blasting negatively affects marine mammals, potentially even at the population level. For example, whale researchers demonstrated that seismic airgun noise stop producing vocalizations that are essential to feeding, avoiding predators, breeding, and raising their young. In the baleen whales, these impacts can occur across vast distances, as much as 100,000 square kilometers or more around a single seismic array. Recent science shows that there are population level impacts.1

Furthermore, scientific studies show behavioral and physiological impacts to marine life. These include a 2017 study documenting seismic airgun blasting killing zooplankton up to three-quarters of a mile away;2 a 2017 study documenting seismic airgun blasting causing mass mortality in scallops and severely impacting the remaining scallops' immune systems;3 a 2017 study documenting that seismic airgun blasting increases stress levels, which according to the study, causes the oysters to stop feeding and breathing;4 a 2017 study documenting seismic airgun blasting depressing longline cod and haddock catch by 70–80 percent;5 and a 2017 study documenting a 78 percent decline in reef-fish abundance after seismic airgun blasting was conducted in the area.6

GAO STUDY OF SEISMIC PERMITTING

The new study by the Government Accountability Office (GAO) that is the topic of this hearing does not, in fact, identify any significant deficiencies in the permitting process for offshore seismic surveys. The GAO conducted an extensive review, and its expert reviewers do not propose any of the drastic changes that were included in H.R. 3133, legislation that recently passed this Committee. H.R. 3133 would eviscerate the balanced process for issuing Incidental Harassment Authorizations (IHAs) in order to fast-track seismic airgun surveys and other industrial actions in the ocean that can harm whales, dolphins, and other marine mammals.

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The GAO reviewers’ recommendations are minor. They recommend that the two agencies that issue Incidental Harassment Authorizations, the National Marine Fisheries Service and the Fish and Wildlife Service, develop guidance on when and how staff should record the date on which the agency determines the “adequacy and completeness” of the application. Then the agencies should analyze their time frames for reviewing IHAs and compare them to the statutory time frames. These are trivial process recommendations and do not provide justification for wholesale changes that undermine important and necessary protections for marine mammals.

Furthermore, since 2006, the Fisheries Service issued 25 out of 26 IHAs for offshore oil and gas activities involving seismic surveys within its own 6- to 9-month target time frame.8 While four IHAs exceeded the time frame from the original submission date, only one exceeded the time frame from the date of final revisions to the application. In these four cases, the additional time was minimal—1 to 3 months.9 For the four Letters of Authorizations, two were issued in the 12- to 18-month time frame, one took 24 months, and the time frame for one is unclear.10 The applicants are often the source of delay. If the applicants do not provide enough information, the Fisheries Service must return the application for revisions and addendums.11 The MMPA statutory standards are neither ambiguous nor the source of the alleged delay.

RESULTS OF SEISMIC TESTS WOULD BE PROPRIETARY TO PRIVATE COMPANIES

Proponents for testing and drilling often argue that seismic tests are necessary in order to provide coastal communities with data about oil and gas deposits off their shores to assess whether it makes economic sense to move forward with drilling for those resources. But that information is considered proprietary by the private companies conducting them. Local decision makers won’t have access to it, nor will the public. Not even Members of Congress can get their hands on it.

Currently, there are five companies awaiting final permits from the Bureau of Ocean Energy Management (BOEM) to conduct seismic testing along the Atlantic Coast. Many of these companies are European and will not be investing in American communities. In fact, Reuters reported that a French-based company, CGG, is dependent on the Atlantic contract to avoid bankruptcy.12 Therefore, BOEM is literally putting French business interests ahead of hard-working American workers who are dependent on healthy ocean ecosystems for survival.

DAMAGES ASSOCIATED WITH DRILLING

Accidents happen in a world where human error, mechanical imperfections and coastal hurricanes all play unexpected roles. When you drill, you spill. It is inevitable. The oil industry touts a 99 percent safety record, but that 1 percent is pretty horrific for people living in the vicinity of a spill when it occurs. The Federal Government predicts at least one oil spill a year for every 1,000 barrels in the Gulf of Mexico over the next 40 years—a spill of 10,000 barrels or more every 3 to 4 years.

We saw what happened in the Gulf of Mexico in 2010 when the BP Deepwater Horizon rig spilled millions of barrels of oil into the Gulf. It was a disaster, but thankfully the Gulf’s bowl-like shape contained the spill in that region. A similar spill off the Atlantic Coast would be a disaster of epic proportions. If oil entered the Gulf Stream it could be forced up into the Chesapeake Bay, the Hudson River Valley, the Gulf of Maine, and the Grand Banks, which are some of the richest fishing grounds in the world.

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8 NOAA Fisheries, Oil & Gas: Incidental Take Authorizations, http://www.nmfs.noaa.gov/pr/permits/incidental/oilgas.htm (last visited Jan. 8, 2018); see also Attachment 2—Timeframe for Incidental Take Authorizations for Oil and Gas Activities Involving Seismic Surveys (1998–Present). The time frames are not mandatory, but estimates of how long it will take for the Fisheries Service to process the applications.

9 See Attachment 2—Timeframe for Incidental Take Authorizations for Oil and Gas Activities Involving Seismic Surveys (1998–Present).

10 See id.

11 As the Fisheries Service notes: “If your application is incomplete, it will be returned to you with an explanation. The formal processing of the request does not begin until the application is deemed adequate and complete (with enough information for us to analyze the potential impacts on marine mammals, their habitats, and on the availability of marine mammals for subsistence uses).” NOAA Fisheries, Apply for an Incidental Take Authorization, http://www.nmfs.noaa.gov/pr/permits/incidental/instructions.htm (last visited Jan. 8, 2018).

The Gulf of Mexico BP Deepwater Horizon blowout showed that oil cannot be removed from salt marshes and other wetland systems. It can remain in the sediments for decades, as was seen in marshes in Massachusetts. Coastal salt marshes in South Carolina are among the most productive ecosystems in the world and are nursery grounds for many estuarine and marine species. Toxic substances from oil spills, both chronic and acute, will put all of these organisms at risk.

Even if a spill never occurs—and both the oil industry and the Federal Government admit that spills are inevitable—there’s still an adverse impact to South Carolina’s coast in that the land-based infrastructure necessary to support offshore drilling is dirty and highly industrial. Also, the infrastructure required to transport offshore oil is devastating. For example, a series of canals built across Louisiana wetlands to transport oil has led to vast destruction of marshlands. Healthy marshlands are a critical component of our ecosystem.

Sometimes we hear elected officials claim that they want to explore and drill for natural gas only, while leaving the oil in the ground. One doesn’t explore for just gas. By law, they must first produce the oil before they produce the gas in order to “maximize ultimate recovery . . .” This is because when oil and gas occur together in a reservoir, as the oil is produced, the gas cap expands helping to remove the oil, essentially pushing it out of the rocks. When exploration wells are drilled, one finds oil and/or gas and/or water and/or nothing. Then the oil company determines if it’s economical to produce the reserves they found, and if so, submits a plan to BOEM about how they will produce the well.

**ECONOMICS**

Hydraulic fracking has increased domestic petroleum production by 64 percent. The Federal Energy Information Administration now predicts the Nation will be a net energy exporter within a decade—for the first time since the 1970s. There’s no need for offshore oil production off South Carolina’s coast, especially in light of the costs noted above.

The American Petroleum Institute says oil and gas drilling could result in $2.7 billion to South Carolina over a two-decade period. That sounds like a fairly big number, but according to the South Carolina Department of Parks, Recreation, and Tourism, tourists in South Carolina spent nearly 10 times that amount—more than $20 billion—in 2015 alone, with about 60 percent of that resulting from tourism to coastal areas. Even the most lucrative oil and gas scenario would generate less than 1 percent of the economic impact tourism has on the state. Further, these industries do not live harmoniously. Along the Gulf Coast, beachgoers are provided with wipes to clean the oil and tar balls from their feet after walking the beach. To the residents of South Carolina, that scenario is unacceptable, as our beaches are major revenue generators, and part of our way of life. Moreover, tourism revenue increases every year with no signs of that trend slowing; the same cannot be said of the demand for oil.

This new National OCS Program proposes to offer leases in areas that have extensive military operations, thus risking our national security training and readiness. The draft plan deviates from the long-standing tradition of deference to the Department of Defense (DoD) when offering offshore drilling leases in Federal waters. The Atlantic and Eastern Gulf of Mexico are home to critical coastal military facilities, including Norfolk Naval Station—the largest naval station in the world. In the Atlantic Ocean, DoD conducts extensive readiness operations including live fire tests, air-to-surface bombing exercises, homing torpedo testing, supersonic test flights, laser targeting operations, and both Naval Air and Sea Systems Command. DoD’s 2015 report on mission compatibility with offshore leasing indicated that significant restrictions on oil and gas activity in the Mid-Atlantic and South Atlantic planning regions would be necessary to ensure that DoD activities would not be impaired.

Furthermore, DoD has made it clear that the continuation of the moratorium on oil and gas leasing in the Eastern Gulf of Mexico is essential to vital military readiness activities. An April 2017 letter from the Office of the Under Secretary of Defense states, “The Department of Defense (DoD) cannot overstate the vital importance of maintaining this moratorium.” The letter continues, “The moratorium on oil and gas ‘leasing, pre-leasing, and other related activities’ ensures that these vital military readiness activities may be conducted without interference and is critical to their continuation. Emerging technologies . . . will require enlarged testing and training footprints, and increased DoD reliance of the Gulf of Mexico Energy
That total amount of energy resources, according to Department of the Interior estimates, would keep the United States in oil for 61 days. And there's no guarantee that the drilling will pan out at all. Five wells have been drilled in this section of the Atlantic in the past, the last being in 1962. All were abandoned. Cuba has put down four wells as recently as 2012, and all were found to be uneconomical, and have been capped. These numbers are peanuts compared to what South Carolina produced annually in GDP and jobs generated by healthy ocean ecosystems including fishing, recreation and tourism. In 2014 alone, these industries generated over $4.4 billion in GDP and nearly 79,000 jobs. Industrializing our coast and risking our ocean and way of life is not worth the economic trade-off.

ALTERNATIVE ENERGY

We must wean ourselves from dirty, nonrenewable fossil fuels and invest more in renewable sources such as wind, solar, and geothermal. External costs, or externalities, are never fully allocated to companies that drill for oil—and that gives such companies an unfair advantage over companies developing alternative sources of energy—sources that tend to be, by design, cleaner and more sustainable.

FORMS OF OPPOSITION TO OFFSHORE SEISMIC TESTING AND DRILLING

Legal: When the prior administration removed the Atlantic coast from the Five-Year Plan for 2017–2022, they also rejected six permits pending to begin seismic testing for oil and gas. Instead of requiring new seismic survey applications, the Secretary of Interior remanded the applications. These now outdated applications are currently in the process of being reviewed by the Bureau of Ocean Energy Management (BOEM) and associated Federal agencies, including the National Marine Fisheries Service (NMFS). In order for the seismic permits to move forward, NMFS must first issue “Incidental Harassment Authorizations” to allow the “taking” of marine mammals. There is no new significant science that counters the logic used by the previous administration’s reasoning for denying these permits. If anything, the science has increasingly shown harm to marine life from seismic airgun blasting. Worse, if the seismic permits are issued, paving the way for oil and gas exploration and drilling the Administration should expect immediate litigation from state and local governments, constituents and NGOs across the Atlantic coast.

Political: Recently, Secretary Zinke met with Florida Governor Rick Scott on the tarmac of the Tallahassee Airport, where in front of several TV cameras, the Secretary announced that due to the Governor’s opposition to Florida being included in the 5-year plan, and Florida’s unique coastal environment and tourism, the state will now be removed from the 5-year plan. While that is great that the Governor and Secretary are listening to local leaders, businesses and constituents, nearly every other state along the Atlantic Coast has requested the same treatment Governor Scott received. In fact, on the East Coast, governors from Florida, South Carolina, North Carolina, Virginia, Maryland, Delaware, New Jersey, New York, Rhode Island, New Hampshire, Connecticut, and Massachusetts all oppose the newly released draft 5-year plan. It should be noted that the governors of Georgia and Maine have recently shifted their position from supporting more offshore drilling off their coast to expressing concerns with this new National OCS program. Additionally, it’s not entirely clear that Florida is removed, formally, until the Proposed Program is released.

BOTTOM LINE: WHO DO WE WANT TO BE?

The opposition is bipartisan and wide-ranging. More than 160 municipalities along the East Coast have passed resolutions opposing offshore oil and gas drilling and exploration. In addition, the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils; the Department of Defense; Air Force; Florida Defense Support Task Force and NASA have all weighed in to express serious concerns or opposition to these activities. More than 42,000 businesses and 500,000 fishing families have also joined this overwhelming chorus of voices and officially said “no” to testing and/or drilling.

Some politicians try to straddle the fence, saying they want the jobs the oil industry would bring, but they don’t want to do anything to harm our beaches and resources. It is time to put the science behind the economic arguments and think about what this Administration really wants for our future—something that is strong, resilient, and healthy. We must be cautious of the promises of the oil industry and weigh the true long-term consequences of industrializing our coast.
tourism. But you can’t have both. You cannot wholeheartedly protect the environment South Carolina is fortunate to enjoy, yet be willing to risk it for the unknown. Seismic testing and oil drilling pose unknown threats to our coast that could include devastating damage to our beach communities and the water quality we enjoy. Oil and water should not mix, and now is a time of choosing. We must pick one or the other. Coastal communities and local voices have already voiced their choice. We want to protect our water, our coast, and way of life from unacceptable and devastating impacts of seismic testing and offshore drilling. Washington needs to listen.

I thank you for the opportunity to testify here today and I look forward to answering your questions.

Dr. GOSAR. Thank you, Senator Davis.

Mr. Steen, you are recognized for 5 minutes.

STATEMENT OF RYAN STEEN, PARTNER, STOEL RIVES, LLP

Mr. STEEN. Thank you, Chairman Gosar, Ranking Member Lowenthal, and members of the Subcommittee. My name is Ryan Steen, and I am a partner in the law firm of Stoel Rives. I present this testimony on behalf of my client, the International Association of Geophysical Contractors. I appreciate the Subcommittee’s invitation to testify regarding the significant need for and support for modernizing the Marine Mammal Protection Act, known as the MMPA. My testimony is based upon my experience representing a variety of clients in Federal regulatory and litigation matters involving many aspects of the MMPA and related environmental statutes.

Although well intended at the time it was enacted, the MMPA has proven unworkable in many contexts, particularly its provisions for the authorization of incidental take. In a nutshell, those provisions are hopelessly ambiguous and give no clear direction to agencies or to the regulated community. Additionally, Incidental Harassment Authorizations involving offshore oil and gas activities are rarely, if ever, issued within the required time frames.

Unfortunately, the MMPA provides no consequence or remedy for such delay. In the past decade, these problems have manifested in the form of routinely delayed permitting processes, inaccurate analyses of potential impacts, and opportunistic advocacy litigation intended to impede offshore development.

None of this is faithful to Congress’ mandate that the Federal Government pursue the “expeditious and orderly” development of the Outer Continental Shelf. These serious problems have most recently been on display in the Federal Government’s processing of applications to conduct seismic surveys in the Atlantic. The permitting process for these applications is a bureaucratic maze, as depicted by the figure on the screen.

After extensive environmental review at the programmatic level, the Bureau of Ocean Energy Management published a record of decision in July 2014 authorizing the consideration of permits for seismic surveys in the Atlantic. Since then, the pending permit applications have been subjected to a regulatory process plagued with delays and uncertainty, capped by the Obama administration’s abrupt political decision on the eve of a new Presidency to summarily deny all permit applications.
BOEM has since correctly reinstated the permit applications which remain under agency review. While there have been many unprecedented and extra statutory comment periods added to this process, the Atlantic delays are due in large part to the National Marine Fisheries Service’s extreme delay in its processing of applications for marine mammal incidental take authorization.

To date, NMFS is delinquent in meeting the statutory timeline by well over 2 years. NMFS has largely blamed this delay on the supposed need to continue to evaluate various forms of purported new information; however, as the courts have routinely held, an agency cannot “revise its action every time new data or a new model is announced because doing so would lead to significant costs and potentially endless delays in the approval processes.”

As another example, over the past decade, almost every MMPA incidental take regulation issued for offshore oil and gas activities in the Arctic has been challenged in court by advocacy organizations attempting to exploit many of the MMPA’s ambiguous provisions and related duplicative processes. In every instance and on all counts, the regulations have been upheld by the Federal, district, and appellate courts. However, as intended by advocacy groups, these lawsuits have cost the courts, agencies, and applicants substantial time and money.

As environmental advocacy groups increasingly view offshore issues, specifically opposition to seismic surveys as a lucrative source of fundraising, MMPA incidental take authorizations for those activities will become increasingly contentious. Without changes to the MMPA to create accountability and clear standards, NMFS will continue to be frozen by controversy and ambiguous statutory direction, which in turn will breed more litigation.

The Secure American Energy Act would establish firm deadlines for each stage of the MMPA authorization process, including consequences for the failure to meet those deadlines. The bill would also eliminate duplicative and unnecessary standards and processes. The bill would retain all existing opportunities for public involvement. The bill would not, as has been suggested, eliminate mitigation requirements or reduce substantive protections for marine mammals. Rather, the bill helps to accomplish what any reasonable person would expect of a Federal regulatory program: transparent standards, firm timelines, efficient process, and elimination of redundancy.

Indeed, the only basis for opposing this bill would be an antagonism to efficient Federal processes and a desire for the ambiguities and inefficiencies that create opportunities for delay and litigation.

On behalf of IAGC, I urge the Committee on Natural Resources to support House passage of legislation to modernize the MMPA. This would, in my view and experience, significantly and objectively improve the administration of the MMPA.

Thank you for the opportunity to testify today.

[The prepared statement of Mr. Steen follows:]
Chairman Bishop, Ranking Member Grijalva, and members of the Subcommittee, for the record, my name is Ryan Steen and I am a partner in the law firm of Stoel Rives, LLP. I have extensive experience in environmental regulation and litigation, particularly in matters involving the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), and the National Environmental Policy Act (NEPA). Over the past decade, I have assisted clients with obtaining regulatory authorizations for offshore activities in the Beaufort Sea, the Chukchi Sea, the Cook Inlet, the Gulf of Mexico, and the Atlantic Ocean. I have also represented clients in litigation involving challenges to some of those authorizations, including in multiple proceedings before the Alaska Federal District Court and the Ninth Circuit Court of Appeals. In addition to my law degree, I have a Bachelor of Science degree in fisheries. Prior to beginning my law career, I worked as a fisheries biologist for the University of Washington. My professional career has therefore had a strong focus on the management of ocean resources, both from the perspective of a scientist and from the perspective of a lawyer.

I present this testimony on behalf of my client, the International Association of Geophysical Contractors (IAGC). The IAGC is the international trade association representing all segments of the geophysical industry, essential to discovering and delivering the world’s energy resources. The IAGC member companies play an integral role in the successful exploration and development of hydrocarbon resources, onshore and offshore, through the acquisition and processing of geophysical data. For more than 45 years, IAGC has been the global voice of the geophysical industry and is the only trade organization solely dedicated to the industry. The IAGC represents more than 110-member companies from all segments of the geophysical industry. These members help to shape industry priorities and positions through IAGC chapters, committees, and workgroups.

I appreciate the opportunity to testify before the Subcommittee on Energy and Mineral Resources regarding the significant need and support for modernizing the MMPA. This need was recently accentuated by the December 2017 Report to the Chairman, Committee on Natural Resources, House of Representatives from the U.S. Government Accountability Office entitled "Offshore Seismic Surveys—Additional Guidance Needed to Help Ensure Timely Reviews," GAO–18–60 (GAO Report). Below, I first provide important background information regarding the key MMPA provisions, and related legal processes, at issue here. I then discuss the application of those provisions and processes in the context of two case studies. Following that discussion, I address the negligible impact of seismic survey activities, recommendations for improvements to the MMPA, and the related positive aspects of the Strengthening the Economy with Critical Untapped Resources to Expand American Energy Act (the “SECURE American Energy Act”).

LEGAL FRAMEWORK

In the Outer Continental Shelf Lands Act (OCSLA), Congress expressly mandated the "expeditious and orderly development" of the Outer Continental Shelf (OCS) "subject to environmental safeguards." 43 U.S.C. § 1332(3). Courts have since confirmed that "the expeditious development of OCS resources" is OCSLA's primary purpose. California v. Watt, 668 F.2d 1290, 1316 (D.C. Cir. 1981). Congress enacted OCSLA to "achieve national economic and energy policy goals, assure national security, reduce dependence on foreign sources, and maintain a favorable balance of payments in world trade." 43 U.S.C. § 1802(1). Congress expressly intended to "make [OCS] resources available to meet the Nation's energy needs as rapidly as possible." Id. § 1802(2)(A). Seismic surveying has been and continues to be essential to achieving OCSLA’s requirements because it is the only feasible technology available to accurately image the subsurface of the OCS before a single well is drilled.

Offshore seismic surveys require authorizations from the Bureau of Ocean Energy Management (BOEM), pursuant to OCSLA. See id. § 1340. There is no requirement for an applicant for an offshore survey permit under OCSLA to obtain an incidental take authorization under the MMPA. However, unlawful "takes" of marine mammals incidental to lawful activities (such as a permitted offshore seismic survey) may nevertheless be subject to MMPA-based penalties. See 16 U.S.C. § 1375. Accordingly, many applicants for offshore survey permits from BOEM also request incidental (i.e., unintentional) take authorization under the MMPA from the
National Marine Fisheries Service (NMFS) and/or the U.S. Fish and Wildlife Service (FWS).

In this context, it is important to recognize that the permit issued by BOEM authorizes the seismic survey and the MMPA authorization narrowly addresses the incidental take associated with the seismic survey. NMFS and FWS do not have jurisdiction over the survey; their authority under the MMPA extends only to the authorization of incidental take. Notwithstanding the limited role of FWS and NMFS, MMPA authorizations are often the primary cause of administrative delay in the offshore seismic survey permitting process.

The MMPA establishes a prohibition on the “taking” of marine mammals in U.S. waters, unless the taking is authorized by NMFS or FWS. The MMPA provides mechanisms for authorizing the taking of marine mammals, including the taking of marine mammals incidental to lawful activities under Section 101(a)(5). See id. §1371(a)(5). “Take” means “to harass, hunt, capture or kill” a marine mammal, or attempt to do so. Id. §1362(13). “Harassment” is, in turn, defined as “any act of pursuit, torment, or annoyance” that either:

—(i) “has the potential to injure a marine mammal or marine mammal stock in the wild” (referred to as Level A harassment) (id. §1362(18)(A)(i)); or
—(ii) “has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering” (referred to as Level B harassment) (id. §1362(18)(A)(ii)).

NMFS has established acoustic guidelines that it applies to determine whether sound at certain decibel levels may cause Level A or Level B harassment.

For many years, NMFS and FWS have authorized the incidental taking of marine mammals for activities related to offshore oil and gas exploration, including seismic surveys. The vast majority of MMPA incidental take authorizations associated with offshore oil and gas activities has involved short-term, temporary behavioral harassment (Level B). These authorizations have been made through either (i) the issuance of “incidental take regulations” (ITRs) under Section 101(a)(5)(A), which are effective for a period of up to 5 years, or (ii) the issuance of “incidental harassment authorizations” (IHAs) under Section 101(a)(5)(D), which are effective for a period of no more than 1 year.

Because the issuance of an incidental take authorization under the MMPA is a “Federal action,” it triggers an informal or formal consultation under Section 7 of the ESA and review under the NEPA. Although current law requires ESA compliance for MMPA authorizations, compliance provides no additional substantive protection to marine mammals because, as courts have confirmed, the “negligible impact” standard for issuing an incidental take authorization under the MMPA is more stringent than the standard applicable to a finding of “no jeopardy” under Section 7 of the ESA. See In re Polar Bear Endangered Species Act Listing & 4(d) Rule Litig., 818 F. Supp. 2d 214, 233 n.18 (D.D.C. 2011).

The MMPA establishes deadlines for the processing of IHA applications. Specifically, Section 101(a)(5)(D) states that the “Secretary shall issue a proposed authorization not later than 45 days after receiving an [IHA] application and request public comment. 16 U.S.C. §1371(a)(5)(D)(iii). After holding a 30-day comment period, the Secretary “shall issue” the IHA within 45 days of the close of the comment period, so long as the required MMPA findings are made. Id. These deadlines are particularly important because IHAs are issued for a period of only 1 year and planning for offshore surveys is complicated and very time-sensitive. Indeed, Congress specifically intended the issuance of IHAs to be an “expedited process” that was “needed to address the procedural problems that have arisen in seeking authorizations for harassment takes under existing section 101(a)(5) of the MMPA.” H.R. Rep. No. 103–439, at 29 (1994). The MMPA does not contain timing requirements applicable to the issuance of ITRs under Section 101(a)(5)(A).

Some observations regarding the regulatory processes described above warrant particular emphasis here:

- IHAs involving offshore oil and gas-related activities are rarely, if ever, issued within the timing requirements of the MMPA. NMFS even states on its website that the IHA permitting process takes at least 6 to 9 months to complete. The process often takes much longer. The MMPA provides no
consequences for such delay, nor does it provide any incentives to NMFS and FWS to avoid delay.

- Because the MMPA contains no timing requirements applicable to ITRs, the regulatory process for the issuance of ITRs often takes years and, in my view, is de-prioritized by the agencies because other agency obligations are subject to timing requirements and consequences.

- The ESA Section 7 consultation process is cumbersome and time-consuming. The Section 7 process is also subject to statutorily mandated deadlines, but those deadlines are routinely ignored by NMFS and FWS without consequence. The Section 7 consultation process is often a significant cause of the delay in the issuance of an authorization under Section 101(a)(5) of the MMPA, even though the substantive standard governing the Section 7 process is less stringent than the MMPA’s “negligible impact” standard.

- Another significant source of delay in the issuance of MMPA incidental take authorizations involves the estimation of the number of “takes” that are expected to occur. Because the MMPA’s definition of “take” is extraordinarily broad and ambiguous (more so than the ESA’s definition of “take”), FWS and NMFS struggle to determine what activities actually cause take and, as a result, they apply extremely conservative assumptions to ensure that their take estimation modeling encapsulates all conceivable take (and more). This process results in take estimates that are inaccurate and vastly exaggerate the number of takes that will actually occur.

- The take estimation modeling exercises are considerably more complicated and play an unduly important role in the permitting process because the agencies are required to demonstrate that the incidental take authorization will not only have a “negligible impact” on the potentially affected marine mammal stocks but also affect “small numbers” of marine mammals. The term “small numbers” has no biological significance whatsoever to the marine mammal population and is a legal term of art that has notoriously confused courts and regulators alike.

- All of these regulatory problems and inefficiencies create fertile ground for legal challenges by advocacy groups that will readily file any and all available lawsuits for the sole purpose of impeding and preventing the development of the OCS.

**REGULATION OF OFFSHORE ACTIVITIES—TWO CASE STUDIES**

**Atlantic**

Approximately 30 years have passed since the potential hydrocarbon resource base of the U.S. Atlantic OCS has been assessed with seismic surveys. In the meantime, seismic surveys for “scientific research” have been conducted fairly regularly in the Atlantic OCS, in addition to other geophysical surveys used to characterize the seabed and subsurface for suitability of offshore wind energy facilities. Six IAGC member companies have applied to BOEM for permits to conduct seismic surveying in the Atlantic OCS—a process that started 7 years ago when the first permit application was filed. These proposed surveys are essential to the “expeditious and orderly development” of the OCS, as mandated by Congress.

After extensive environmental review at the programmatic level, BOEM published a Record of Decision in July 2014, authorizing the consideration of permits for seismic surveys in the Atlantic OCS. Since then, the pending permit applications have been subjected to a regulatory process plagued with delays and uncertainty. This inexplicable process was capped by the Obama administration’s abrupt political decision, on the eve of a new presidency, to summarily deny all permit applications. BOEM has since correctly reinstated the permit applications, which remain under agency review.

Needless to say, obtaining a permit to conduct a seismic survey in the Atlantic OCS has been a seemingly unending process that has included many environmental impact analyses, multiple opportunities for public comment and review, including additional and unprecedented public comment periods that are not required by statute or regulation, and reviews by bordering states. See Attachment A. However, the most concerning and problematic delays primarily relate to the difficulties faced by the applicants in acquiring IHAs from NMFS for the incidental take of marine mammals pursuant to the MMPA. BOEM has indicated that it will not issue decisions on the pending seismic survey permits until NMFS has also authorized IHAs for the proposed activities.

As part of the permitting process to move forward with data acquisition on the Atlantic OCS, IAGC members have applied to NMFS for the issuance of IHAs. The
IHA applications were submitted in 2014 (with some of them updated in the summer of 2015). The proposed IHAs were not issued until June 6, 2017. Again, under the MMPA, the proposed IHAs were required to have been issued within 45 days of NMFS’ receipt of the applications. This substantial delay was exacerbated by NMFS’ decision to issue the IHA applications for public comment—an unprecedented procedure that is not required or contemplated by the MMPA. Under the MMPA, the final IHAs were required to have been issued within 45 days of the close of the 30-day comment period for the proposed IHAs. However, as of the date of this testimony, the final IHAs have still not been issued by NMFS. In sum, NMFS has exceeded the MMPA’s timing mandates for the processing of the Atlantic IHAs by more than 2 years (and the applicants still await their authorizations). This has not been the “expedited process” Congress envisioned when it enacted the MMPA’s IHA provisions. Unfortunately, the MMPA provides no remedy or consequence for this delay. This delay is specifically documented with detail in the GAO Report. See GAO Report at 31–36.

Many reasons have been speculated for the delays in NMFS’ issuance of decisions on the pending IHA applications. According to NMFS, some delay resulted from its receipt of an unpublished study from Duke University that, at that time, was unavailable to the public. At the request of environmental advocacy organizations, NMFS apparently stalled its processing of the pending applications to consider the unpublished study. Delay has also been attributed to uncertainty over the application of a series of drafts and final guidance addressing acoustic threshold levels for permanent and temporary auditory threshold shifts in marine mammals. In other words, NMFS has attributed significant portions of its delay to the agency’s receipt and processing of “new” information. However, the MMPA contains no provisions allowing NMFS or FWS to toll the statutory timing requirements based upon the receipt of new information. To the contrary, NMFS is required to make its decisions within the statutorily mandated time frames based on the best information available during those time frames. Moreover, as the courts have held, “an agency need not revise its action every time new data or a new model is announced because doing so would lead to significant costs and potentially endless delays in the approval process.” Dow AgroSciences LLC v. NMFS, 707 F.3d 462, 473 (4th Cir. 2013) (internal quotation marks omitted).

In addition, much has been made by advocacy groups and the media of the estimate for as many as 138,000 Level A (potentially injurious) “takes” in the BOEM’s programmatic environmental impact statement (PEIS) addressing the potential effects of seismic activities in the Atlantic Ocean. However, this estimate—like the other estimates in the PEIS—is, as BOEM has acknowledged, a substantial overestimate because it is based on an unrealistic scenario in which seismic survey activities are projected to result in thousands of incidental takes of marine mammals. The modeling exercise relied upon by BOEM and NMFS uses a multiplicative series of conservatively biased assumptions for all uncertain parameter inputs. These assumptions lead to accumulating bias as the cumulative conservative assumptions add up to increasingly unlikely statistical probabilities that are not representative of real-world conditions. Consequently, the results are improbable worst case scenarios, not accurate representations of likely effects. Using more realistic risk criteria and modeling assumptions, and taking into account standard monitoring and mitigation practices employed by the seismic industry, the more likely estimate of potential Level A takes is zero or a comparably small number. See Attachment B. This more likely estimate is corroborated by the best available information, which includes no observations of any harm to marine mammal populations (in any region) as a result of seismic exploration activities.

The IHA provisions of the MMPA were added by Congress to create an “expedited process.” H.R. Rep. No. 103–439, at 29. With over 2 years of delay, and a continuing lack of any final decisions by NMFS, the Atlantic IHAs have been anything but expedient. This excessive delay undermines Congress’ clear mandate in OCSLA to carry out the “expeditious and orderly” development of the OCS “subject to environmental safeguards.” As environmental advocacy groups increasingly view offshore issues—specifically opposition to seismic surveys—as a lucrative source of fundraising, MMPA incidental take authorizations for those activities will become increasingly contentious. If the Atlantic IHA process is any indication, NMFS will continue to be frozen by controversy and fail to meet its statutory obligations for future authorization processes involving offshore activities. Without amendments to the MMPA, there will be no accountability for such failures and the regulated

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2A technical critique of the agencies’ flawed, overly conservative approach, as reproduced in BOEM’s ITR petition for Gulf of Mexico activities, is provided in Attachment B.
community will be unable to reasonably carry out the work necessary to help the Federal Government fulfill OCSLA’s requirements.

Arctic

The oil and gas industry has routinely applied for and received incidental take authorizations pursuant to the MMPA covering geophysical and other exploration activities in the Arctic OCS, by NMFS and FWS on a project-by-project basis (i.e., IHAs) or through the issuance of ITRs and related letters of authorization. In the past decade, almost every MMPA ITR issued for Arctic oil and gas activities has been challenged by environmental advocacy organizations, and in every instance and on all counts, the authorizations have been upheld by the courts. The Arctic MMPA experience demonstrates the susceptibility of the MMPA and related Federal approvals to litigation, as a result of ambiguous statutory language and unnecessary regulatory processes.

Specifically, various advocacy organizations challenged the FWS’s 2006 Beaufort Sea ITRs, 2008 Chukchi Sea ITRs, and 2013 Chukchi Sea ITRs. Each of these lawsuits was litigated in the Alaska Federal District Court and appealed to the Ninth Circuit Court of Appeals. The plaintiffs asserted claims under the Administrative Procedure Act alleging violations of numerous provisions of the MMPA, including the “specified geographic area,” “specified activity,” “negligible impact,” “small numbers,” and “least practicable impact” standards. The plaintiffs also challenged related Federal documents, such as biological opinions prepared pursuant to the ESA and environmental assessments prepared pursuant to NEPA. The most recent lawsuit challenging the 2013 Chukchi ITR was an expressly admitted attempt by advocacy organizations to block Shell’s Chukchi Sea exploration program.

In all three cases, neither the Alaska district court nor the Ninth Circuit found merit in any of the claims raised by the advocacy groups. This track record of repeated MMPA ITR litigation in the Arctic strongly supports the notion that advocacy groups have leveraged their ability to challenge MMPA ITRs, and related documents prepared under the ESA and NEPA, as a means to attempt to block or impede lawful offshore oil and gas operations. Although these lawsuits have cost the courts, agencies, and applicants substantial time and money, they have accomplished no substantive result (other than delay, as intended by the advocacy groups).

When NMFS begins issuing MMPA authorizations for activities in the Atlantic OCS and the Gulf of Mexico OCS, it is reasonable to assume that a similar pattern of litigation will emerge. Certain environmental advocacy organizations have a well-established history of using the regulatory and litigation processes as means to attempt to impede and prevent any activities from occurring because they are fundamentally opposed to all offshore oil and gas activities (contrary to OCSLA’s mandate). Indeed, the testimony of South Carolina State Senator Tom Davis states that “[t]he South Carolina Environmental Law Project will file a lawsuit to stop implementation and a restraining order to postpone [seismic] testing [in the Atlantic OCS] until the case can be heard.” Clear statutory terms and the elimination of unnecessary processes would reduce the opportunity for the inappropriate use of litigation as a means to impede or prevent the “expeditious and orderly” development of the OCS.

In addition, the misguided intentions of environmental advocacy organizations in the Arctic have not consistently failed in court, but the allegations upon which they have based have not borne out in the scientific record. For example, oil and gas seismic exploration activities have been conducted in the Beaufort and Chukchi Seas of the Arctic Ocean for decades, with regular monitoring and reporting to NMFS pursuant to MMPA authorizations. During this lengthy period of acoustic exposures, and despite annual lethal takes by Alaska Natives engaged in subsistence activities, bowhead whales have consistently increased in abundance to the point that they are believed to have reached carrying capacity. Similarly, no effects of offshore exploration activities of which I am aware have been observed in Arctic ice seal, walrus, or polar bear populations. After decades of oil and gas exploration activities in the Arctic, there is no information demonstrating that any of the activities have had anything more than a negligible impact on marine mammal species. This finding has been repeatedly made by Federal agency scientists in numerous public documents.

Finally, notwithstanding the successful legal defense of ITRs issued for Arctic offshore activities, the underlying regulatory processes for the issuance of Arctic ITRs have been riddled with bureaucratic delay. Arctic ITRs are typically issued 1.5 to 3 years after an ITR petition has been submitted. That time period does not include the often substantial pre-application communications and processes involving the
agency and the petitioner. Because there are no MMPA timing requirements applicable to ITRs, there are no consequences for the delay.

THE NEGLIGIBLE IMPACT OF SEISMIC ACTIVITIES

For over 40 years, the Federal Government and academic scientists have studied the potential impacts of seismic survey activities on marine animal populations and commercial fishing, and have concluded that any such potential impacts are insignificant. This conclusion has been publicly reaffirmed on multiple occasions by BOEM.

To date, there has been no documented scientific evidence of noise from air guns used in geological and geophysical (G&G) seismic activities adversely affecting marine animal populations or coastal communities. This technology has been used for more than 30 years around the world. It is still used in U.S. waters off of the Gulf of Mexico with no known detrimental impact to marine animal populations or to commercial fishing.

BOEM, Science Notes (Aug. 22, 2014), http://www.boem.gov/BOEM-Science-Note-August-2014/; see also BOEM, Science Notes (Mar. 9, 2015), https://www.boem.gov/BOEM-Science-Note-March-2015/ (there has been "no documented scientific evidence of noise from air guns used in geological and geophysical (G&G) seismic activities adversely affecting animal populations"). These statements accurately summarize the best available scientific information regarding the potential effects of offshore seismic activities on marine life, and there are no other data to the contrary.

Indeed, the history of formal assessments of offshore seismic activities demonstrates that levels of actual incidental take are far smaller than even the most balanced pre-operation estimates of incidental take. More than five decades of worldwide seismic surveying and scientific research indicate that the risk of physical injury to marine life from seismic survey activities is extremely low. For example, as BOEM has concluded in a draft PEIS for Gulf of Mexico activities (DPEIS), “within the GOM, there is a long-standing and well-developed OCS [oil and gas] Program (more than 50 years) and there are no data to suggest that activities from the previous OCS Program are significantly impacting marine mammal populations.” DPEIS at 4–77.

Finally, a 2016 report from the National Academy of Sciences, Ocean Studies Board (the “NAS Report”), makes the following findings regarding marine sound from seismic acoustic sources:

• “The National Research Council report Marine Mammal Populations and Ocean Noise (NRC, 2005) noted that: ‘No scientific studies have conclusively demonstrated a link between exposure to sound and adverse effects on a marine mammal population.’ That statement is still true” (NAS Report at 16);

• “Evidence of the effects of noise on marine mammal populations is largely circumstantial or conjectural” (NAS Report at 28); and

• “The probability of marine mammals experiencing PTS [injury] from anthropogenic activities will likely be sufficiently low as to preclude any population-level effects” (NAS Report at 35).

In sum, the claims, frequently made in the media by environmental advocacy organizations, that offshore seismic surveying has detrimental impacts on marine mammal populations, other marine species, and commercial fisheries are not supported by the best available information. Decisions regarding the implementation of the MMPA, and related Federal processes, must be made based upon the best available information, not speculation or unsupported, politically motivated allegations.

RECOMMENDATIONS FOR MODERNIZING THE MMPA

When it was enacted in the early 1970s (and subsequently amended), the congressional intent behind the MMPA was cutting edge and forward-thinking. However, as described above, decades of regulation and litigation have exposed some significant flaws in the MMPA. The primary flaws in the MMPA stem from (i) poorly written statutory language that creates ambiguity and uncertainty in the application of the MMPA’s legal standards, and (ii) procedural duplication and inefficiency. These flaws result in agency delay, overly conservative and inaccurate impact analyses, confusion by agencies and courts, and exploitation by environmental advocacy

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groups. Fixing some of the obvious flaws in the MMPA could result in tangible regulatory improvements that increase efficiency, decrease uncertainty and risk, and ultimately benefit all stakeholders and the implementing agencies. The following addresses some of the key problematic areas, as well as potential solutions.

**Substantive Recommendations**

To issue an incidental take authorization under Section 101(a)(5) of the MMPA, the agency must show that the authorization will have no more than a "negligible impact" on marine mammal populations and result in "small numbers" of incidentally taken animals.

- **Problem:** (1) "Negligible impact" is not clearly defined; (2) "small numbers" is not defined at all; (3) there is significant overlap between these two ambiguous standards; and (4) the "small numbers" standard has no biological or otherwise scientific basis. These problems have led to regulatory uncertainty, inconsistent application by agencies, delay, and litigation.
- **Solution:** Create a redefined unambiguous "negligible impact" standard, and eliminate the "small numbers" requirement. A single, clear standard for authorizations would result in regulatory efficiency and predictability.

To issue an incidental take authorization under Section 101(a)(5) of the MMPA, the agency must require "other means of effecting the least practicable impact." These "other means" typically take the form of mitigation measures included as conditions of the authorization.

- **Problem:** "Least practicable impact" is not defined in the statute or in the implementing regulations. As a result, it is not consistently applied by agencies, there is very little guidance for the regulated community, and, most recently, the phrase has been unreasonably and ambiguously interpreted by the Ninth Circuit Court of Appeals.
- **Solution:** Create a new, clear definition for "least practicable impact." The definition should state that operational concerns and economic feasibility are primary factors in determining what mitigation is "practicable."

The MMPA permits the authorization of incidental take by "harassment."

- **Problem:** The definition of "harassment" is overly broad and ambiguous, and confusingly refers to "potential" harassment rather than actual harassment. This results in serious problems in the estimation of incidental take and unrealistic assumptions made by the implementing agencies.
- **Solution:** Redefine "harassment" to remove the word "potential" and to establish a more specific standard that provides better clarity for the agencies and the regulated community.

**Procedural Recommendations**

The process for issuing incidental take authorizations is routinely delayed by the implementing agencies. The current procedural requirements create little accountability for agencies because they are either ambiguous or establish no consequences or solutions for unreasonably delayed agency action.

- **Solution #1:** Revise the procedural requirements to set clear and firm deadlines for each stage of the permitting process, and establish consequences for when agency deadlines are not met (e.g., default approvals).
- **Solution #2:** Create a streamlined authorization process for certain low-effect, but common, activities (similar to the nationwide permit process under the Clean Water Act).

The MMPA creates a 5-year limit on ITRs that requires applicants to petition for a new set of regulations every 5 years. This results in unnecessary and burdensome administrative processes that create frequent opportunities for litigation.

- **Solution:** Remove the 5-year limit or, alternatively, create a simple and straightforward 5-year renewal process.
Issues involving the overlap of the MMPA, the ESA, and NEPA have proven difficult for the agencies, the courts, and the regulated community. Because the MMPA sets the most rigorous conservation-oriented standards of all these statutes, additional reviews and administrative processes under the ESA and NEPA are often unnecessary and redundant.

- **Solution:** Make statutory revisions to minimize or eliminate duplicative ESA and NEPA review processes for certain MMPA authorizations. This would substantially increase regulatory efficiency.

**SECURE AMERICAN ENERGY ACT**

In an effort to begin to bring certainty and clarity to the MMPA and address some of the problems outlined in my testimony above, Representative Scalise (LA) has introduced the SECURE American Energy Act. By making smart changes to improve the efficiency and workability of the MMPA incidental take authorization process, the SECURE American Energy Act will help to facilitate the “expeditious and orderly” development of the U.S. OCS. The SECURE American Energy Act addresses many of the recommendations described above.

- The bill would set clear and firm deadlines for each stage of the MMPA authorization process. Failure to meet those deadlines would result in the approval of the requested authorization based upon the detailed information and proposed mitigation measures included in the IHA application. This would significantly reduce delays in the processing of IHA applications. The bill retains all existing opportunities for public involvement.
- Because IHAs expire after 1 year, project proponents must re-apply over multiple years, even if there is little or no change in the best available science. The bill would allow IHAs to be renewed without lengthy and needless agency review so long as there have been no significant changes to the underlying activity or the status of the relevant marine mammal stocks.
- The bill would remove duplicative Federal agency processes involving the ESA. Again, this would result in no substantive change in the level of protection afforded to marine mammals because the MMPA’s standards are more stringent and protective than the ESA’s standards. This would greatly improve the efficiency of the regulatory process for issuing MMPA authorizations.
- The bill would eliminate the redundant, non-scientific “small numbers” requirement while retaining the “negligible impact” standard. This would provide clarity to NMFS and ensure that the applicable standard for MMPA authorizations is scientifically based upon potential impacts to marine mammal species or stocks.
- The bill would ensure that NMFS appropriately considers the feasibility of mitigation measures required for IHA applicants and that such measures meet the same standard applicable to “reasonable and prudent measures” imposed under the ESA.

**CONCLUSION**

Although well-intended at the time it was enacted many years ago, the MMPA’s ambiguous, outdated, and unclear language has proven unworkable for the issuance of incidental take authorizations for offshore activities. Changes to the statute, such as those described above, will significantly improve the regulatory process for both Federal regulators and the regulated community. Contrary to statements made in the media, these changes will not substantively reduce the protections afforded to marine mammals and will retain all existing opportunities for public involvement in the regulatory process. Indeed, the only basis for opposing this bill would be an antagonism to efficient Federal processes because inefficient processes and unclear standards create the opportunity to delay and block the development of the OCS. The basis for such opposition is, of course, directly contrary to OCSLA’s clear mandates.

IAGC believes it is unacceptable for seismic permit applicants to have to wait over 2 years for issuance of a simple IHA, when all the requisite environmental analyses, based on the best available science, have long since been completed. IAGC urges the Committee on Natural Resources to support and pass legislation to modernize the MMPA, including passage of the SECURE American Energy Act without delay.

Thank you for the opportunity to testify today.
The BOEM Gulf of Mexico DPEIS is structurally very similar to most recent NEPA analyses for environmental risk from manmade sound in the marine environment. The interaction of the source, the propagation of the sound from source to animals, and the resulting sound exposures interact to produce a calculated estimate of effect, usually stated as MMPA Level A and Level B “takes”, since the MMPA requires that the impact of an activity be quantified in those terms (NEPA and ESA do not have such strictly numerical requirements for estimating impact).

Historically and in this EIS, each element of the model is assessed relative to the available information and a value is selected that is considered sufficiently conservative or precautionary, given uncertainties about the scientific data or about natural variability in factors such as animal distribution, location and movement of the sound source or the sound propagating properties of the water column. Selection of conservative values in multiple steps of the model leads to an outcome that is not an average of the precautionary assumptions, or even an addition of uncertainty, but multiplication of each uncertainty by the uncertainty in the other steps. Simply put, doubling the expected value for four different parts of the model does not double the outcome, nor does it result in a $2+2+2+2 = 8$-fold increase in the predicted outcome. Instead the effect of multiple precautions is multiplicative, and the outcome is $2 \times 2 \times 2 = 16$-fold more than if the model was run with 'most likely' values like averages. Doubling all values out of precaution therefore does not predict an outcome of 200 takes when 100 was the most likely expected outcome, but instead produces an outcome of 1,600 takes.
As we will see from the following quick-look at the GOM DPEIS, there are many more variables in the model than the simple four variable example described above. And the levels of precaution are not simple doubling of expected values, but multiples that may range from addition of some percentage (less than doubling) to increases that are orders of magnitude greater than the “most reasonable” value (orders of magnitude are multiples of ten, such as 10, 100, 1000, etc.). The downstream consequences are also more complicated than the simple two times two example above, with some variables interacting in other than simple multiplicative ways.

For example, use of an 8000 cubic inch sound source rather than the mean or median of sizes actually used (5,600–5,100 cubic inches) would appear to only create a difference of about 30–37%, but that difference in size produces a difference in source sound level of 3–6 decibels, depending also on the number of elements in the source array. The difference in source level needs to get translated into a difference in the area covered by the sound from the two different sources, because that will change how many animals are within the two respective areas, all other factors being equal. The 33–37% difference in the size of the two arrays translates into an increase of some 45–50% (roughly) in the area exposed and therefore the number of animals taken. That is, if one uses an 8000 cubic inch array as the precautionary standard and that results in a take estimate of 150 individuals, then use of the more likely mean value of 5,600 cubic inches will result in a take of 100 individuals. Needless to say, this is a pretty large downstream consequence from alteration of a single value by what might superficially look like a pretty small amount. As we will see, factoring in the other parts of the model where similar conservative assumptions are exercised results in a prediction of takes that is millions, possibly billions, of times greater than the outcome predicted by using most likely outcomes only.

SUMMARY OF PRECAUTIONARY ASSUMPTIONS IN THE BOEM DPEIS

This list includes only the most obvious and clearly unsupported precautionary assumptions of the model:

- **Source**
  - Extreme array size and number of elements increases exposures by 1.5 to 2 times.
  - Six additional precautionary assumptions were not analyzed.

- **Propagation**
  - Conservative or simplifying assumptions about the propagating environment add 10–16 dB minimum to the propagated sound.
  - Combined with the precautionary source assumptions, this results in a 90–120 time increase in estimated takes, all other variables being equal.
  - Six additional precautionary assumptions were not analyzed.

- **Animal Abundance, Density and Movements**
  - NMFS’s Stock Assessment Reports (“SARs”) and Duke Model differ on average by a factor of 2. A minimum compromise for uncertainty would be to reduce abundance and density estimates by 25% to 1.5 times SAR.
  - Three specific groups showed even more extreme differences, but were not separated in this simple analysis: expansion of Bryde’s whale habitat leading to more takes; large increases in numbers of deep divers (beaked whales, sperm whales, Kogia); extremely large increases in pelagic dolphin numbers (over 80 times for two species)
  - Five additional precautionary assumptions were not analyzed.

- **Threshold Criteria**
  - Level A calculations from SPLrms and SEL used precautionary assumptions that overestimated take by 10–1,000 times. SPLpeak takes were overestimated at least twofold by using 6 dB instead of 15 dB to derive PTS from TTS.
  - Level B calculations make generous assumptions about the likelihood of response and assume all exposures that exceed threshold are biologically significant, over-estimated biological consequence by at least 1,000 to more than 100,000 times.
  - No allowance for reduced Level A due to behavioral avoidance of the source (reductions of Level A up to 85%).
o No allowance for hearing recovery between pulses (likely reduction of cumulative SEL from a continuous pulse train of 50% or more); no allowance for hearing recovery between passes separated by hours or days (fewer than 1% of successive passes, those within 8 hours or less, will accumulate and trigger Level A criteria).

o Four additional contributors to precautionary over-estimation were not analyzed, including application of weighting functions to impulse SPL metrics.

- Mitigation
  o No reduction in take was allocated for mitigation. While setting a specific value for mitigation may be difficult, it clearly is not zero and therefore some reduction of takes due to mitigation should be factored into the model.
  o Reductions from multiple proposed mitigations were not estimated.
    — Vessel separation and dolphin shutdowns modeled, with questionable effectiveness
    — Increased time/area closures and 10-25% effort reductions were not estimated.

- Total Multiplicative Precautions (short list)
  o \[(\text{Source+Propagation (90–120x)} \times \text{abundance (2x)} \times \text{conservative threshold criteria (100–10,000x)} \times \text{no recovery factor (10–100x)} \times \text{no allowance for aversion (6.7 x Level A)} \times \text{no mitigation (1.1 ¥ 2x)} =\]
  o 1.3 million to 3.2 billion more takes than the number that would be produced by using average or most likely values for all variables.

RECOMMENDATION

Re-calculate takes using average or most-likely values, quantify and report the overall level of uncertainty in the modeling results, and add an agreeable level of precaution to the final results, not the individual elements.

- Maybe double is reasonable?
- A statistical measure of extreme confidence like 3 sigma still covers 99.7% of all possible outcomes (370 times the central value) and is not nearly so unreasonable as the present model
- It seems unlikely that 1 million to 3 billion times the most likely outcome, which covers 99.9999% or more of all possible outcomes, is a reasonable level of ‘precaution’.

PRECAUTIONARY ASSUMPTIONS

The Sound Source

As discussed above, BOEM treats all geophysical surveys as if they were all conducted with the largest arrays in use. The nominal value of 8000 cubic inches is an approximation of the maximum array size currently used in the Gulf, typically 7900 to 8500 cubic inches. Based on a quick survey of IAGC members over the past decade, a little less than one third of all surveys use arrays of that size. The other two-thirds of surveys in the GOM use arrays that range in size from 6000–2000 cubic inches, for a mean array size of 5600 cubic inches. Since the different sizes are not distributed normally around that mean value (i.e. not a smooth bell shaped distribution), some other value of central tendency, like the median (5100 cubic inches) might be deemed a more appropriate central value. But in any case, using 8000 cubic inch sources for all modeled surveys greatly overestimates actual use.

The source level of a compressed air array increases as the cube root of its volume, all else being equal, so a difference of 8000 and 5600 cubic inches might seem trivial. But we have seen that it is not trivial in terms of the outcome of concern; the number of animals exposed, because of the resulting expansion of the acoustic ‘footprint’ of the array and the number of animals likely to be found within that footprint.

Furthermore, the modeled array is not only extreme in the total volume modeled, but also in the number of elements within the array. A typical large array of 8000 cubic inches might include 48 elements and sometimes as many as 60, but the BOEM DPEIS used 72 elements. Why is this important? Because array source level may only increase trivially with total volume, but it is directly proportional to the number of elements. An array with 72 elements has double the amplitude of an array of 36 elements; volume and air pressure being equal.
Therefore the combination of using an array at the extreme upper end of normally used array sizes, coupled with a number of elements in that array which also greatly exceeds the average, can by itself produce estimates of takes that are 1.5 to over 2 times as large as would be predicted by using the normal range of array sizes and numbers of elements actually in use. Based on this variable alone one would be justified in taking the final model predictions and halving them. But there are many more conservative assumptions in the model.

Also potentially capable of altering the model outcome, but not addressed in this quick analysis, are:

- The number of source vessels. When multiple source vessels are used they are used at intervals that are similar to a single source. The total acoustic energy is therefore not increased over using a single source operated at the same inter-pulse intervals, but the total area ensonified is slightly increased, depending on the spatial separation of the vessels. This may be compensated by the fact that each vessel is only producing sound every 60 seconds instead of every 15 seconds for a single source vessel. In the BOEM DPEIS, the maximum number of source vessels, four, is used for all surveys that might use multiple sources, even though many of those surveys, such as NAZ, WAZ and coil surveys, might more often use only one or two sources, and rarely use as many as four source vessels.

- Longitudinal tracks were only used during modeling on the slope region of the Gulf, which has the potential to alter sound fields and estimated takes relative to using both lateral and longitudinal tracks typical of most surveys.

- The choice of depth at which the array was towed was set at 8 meters, but other tow depths are common (6 meters is considered the default ‘standard’) and the choice of tow depth affects the frequency structure and propagation of the resulting sound field.

- The choice of pulse intervals typically varies from 10 to 20 seconds, with the DPEIS selection of 15 seconds being fairly typical. A four source survey would result in each source operating at 60 second intervals.

- Durations of surveys were not clear. On page 3–23 a nominal survey duration of 10.5 months was applied to all surveys, but elsewhere in the document, e.g. D–177, the survey durations varied.

- Survey areas, line separations, and other parameters on page D–177 appear to be in the same conservative direction as the array size and element count; suggesting that line spacing and area covered by a modeled 2D, 3D, WAZ or other survey may be greater than average and thus produce elevated sound exposures and take estimates.

**Sound Propagation**

BOEM is to be commended for having run some preliminary models (Phase I modeling in Appendix D) to quantify some of the consequences of using simplifying or conservative assumptions (e.g. see pages D–100; D–106; D–113; D–122). Therefore we can assign some quantities to what is otherwise a very complicated variable, the day-to-day fluctuations in wind, temperature, currents, and other factors that affect sound propagation through the water between the sound source and the animals of concern.

The modeling of sources of variance yielded a 10 decibel difference in sound transmission between an average sound speed profile in the water and the extreme case used in the model (10 decibels is an order of magnitude or ten times the average). Use of hard or median properties for the seafloor added another 4 dB over the most likely outcome, with most of the Gulf being covered with soft sediment that is a poor reflector of sound. Use of a flat sea surface instead of a rough sea surface adds another 2 dB minimum, resulting in a conservative value of over-estimated propagation of 16 decibels or 60 times (!) the amount of energy propagated than would be expected on average. Add this to the conservatism we saw for the source itself, and we already have an ensonified area and number of animals ensonified that would be 90 to 120 times the reasonably expected exposures. A “best reasonable estimate” of 100 would become an estimate of 9,000 to 12,000 from these two precautionary measures alone.
Also potentially capable of altering the model outcome, but not addressed in this quick analysis, are:

- A single uniform propagation regime is used for the entire deepwater zone (Zone 7). Assumptions of flat bottom and maximum depth are not met in all cases and propagation is therefore subject to additional over-estimation factors in the deep water region.
- Survey days and survey effort appear to have been evenly distributed across the area and seasons, although this is likely not the case for actual survey effort. Theoretically this might average out, but it is also possible that fewer actual survey days in winter, when propagation conditions are best, will lead to actual surveys producing fewer takes than the model estimated by using equal division across winter and summer.
- SPLrms for longer range propagation is derived from the SEL values produced by the model. As JASCO acknowledges (D–49), modeled SEL at range tends to predict SPLrms as the signal is spread over time. The resolution of the model also hinders accurate modeling of SPLrms based on proper analytic units such as rms.90 (average sound pressure over the time than encompasses 90% of the total pulse energy).
- Single frequency long range propagation modeling leads to increased errors in pulse properties with range. For modeling purposes a single frequency at the center of each 1/3 octave band is treated as ‘representative’ of all the sound energy within that frequency band. In practice, selection of a non-representative frequency (e.g. located at a ghost notch or filtered by propagating environment) can lead to errors in weighted SEL values needed for determining effects thresholds.
- Use of “maximum over depth” in some model estimates of take creates a worst-case scenario where all individuals are assumed to be at the depth of highest sound exposure all the time. It is not clear in what context JASCO used maximum over depth as a simplifying step in modeling, but it will always greatly over-estimate takes when used. (D–296)
- Ranges to effect for mitigation monitoring and shutdown (but not for take estimation?) were calculated from unweighted values, whereas hearing frequency weighting needs to be applied to SEL threshold values (JASCO also seems to have applied weighting to SPLrms data, which may also be inappropriate—see section on Threshold Criteria, below).

Animal Abundance, Density and Movements

This is a complex set of variables, with precautionary assumptions literally varying for each of the species modeled. But overall, the use of the Duke model creates an increase in predicted abundance that is about double the official NMFS abundance numbers in the SARs. Some additional modifications in the use of those data by JASCO add to the conservatism (over-prediction) by a fractional amount, in most cases.

The Duke model is a novel approach to forecasting animal distribution and density from historical correlations with readily available environmental data, typically not the true environmental predictors like prey patches or features like fronts, currents and eddies that are less easy to predict or track. As such, there are some things that the Duke model likely does better than the SARs, such as predicting average abundance of pelagic dolphins that move in and out of the U.S. EEZ from one survey to the next, leading to large sampling variability. However, other similar models for the U.S. west coast, for the UK, and for global oceans, have shown some extreme misses in their predictions, an expected outcome for models in the early stages of development for species that are infrequently counted and whose habits are still poorly understood relative to land animals for example. Too great dependence on a single very new model like the Duke model can therefore be expected to result in some improvements on the SAR or U.S. Navy NODES data resources, but is also likely to produce some extreme “misses”. Species with wide disparities between historical data and Duke model predictions include Atlantic spotted dolphins (from no historic estimates in SAR, to over 45,000 animals predicted by the Duke model), single them the third most abundant species in the Gulf, virtually overnight. Duke predictions of Clymene dolphin abundance are about 85 times higher than the SAR figures, Kogia numbers are increased by a factor of 12, rough-toothed dolphins by a factor of 8 and killer whales by a factor of more than 7. These are radical changes to our understanding of marine mammal abundance in the Gulf that require more than blind acceptance of a new model simply because it is generally “better” than the SARs (D–65).
Some of the animal abundance and distribution modeling may be unfamiliar and counter-intuitive to the average reader. The model in the BOEM DPEIS uses electronic representations of individual animals, or ‘animats’, to construct time series exposure for a realistic number of animals, ‘behaving’ in realistic ways, so that the animats move about and dive at realistic speeds and distances relative to the sound source, which is also moving. As might be expected, capturing the complexities of animal behavior and all of the other variability of the sound source and the propagating ocean is impossible, so certain statistical techniques are used to smooth out some of the variability in outcome that can occur just from sampling errors alone. These techniques, such as over-populating the sound field with hundreds or thousands of times more animats than animals (and then reducing the result proportionally to the actual population) do not affect the outcome but do reduce the likelihood of random extreme variation in outcomes. Monte Carlo methods, or running the same simulation over and over hundreds or thousands of times also helps smooth out the distribution of outcomes. Because the animats are seeded randomly for each model run and because they run independently according to user-specified rules, no single model run will produce the same result (as in real life) and so the model must be run many, many times in order to arrive at a statistical average. This process, which is widely accepted as statistically legitimate and even necessary to producing realistic model outcomes, should not be confused with the selection of variables to put into the animat models and Monte Carlo simulations: those variables, like the source and propagating environment variables, can and do produce biases in the outcome, as will be discussed in detail below.

Animal survey data for the Gulf of Mexico is sparse overall, and therefore statistically weak. Various techniques have been applied to the data to generate estimates of population abundance, density and distribution. The official NMFS Stock Assessment Reports (SAR) are an official estimate by NMFS of the best estimate of population abundance in a region, but they do not offer information about animal distribution, forcing the user to either evenly distribute the animals even across the habitat, even though it is known the animals do not use all of the habitat equally. Alternatively, the modeler can generate ‘expert’ assumptions about how the animals use the habitat, but those assumptions can create unrealistic estimates of take if the assumptions are not good. For example, JASCO placed all sperm whale animats in water depths greater than 1000 meters because sperm whales are deep divers that tend to occupy deep water. However, a look at the data show that many, if not most, sightings of sperm whales occur in water depths of 400–800 meters, and this is largely confirmed by tagged whale data from the BOEM SWSS research project.

Alternative to applying a population estimate for the entire Gulf evenly or selectively across the Gulf is to use habitat features correlated with animal sightings to predict where animals are most likely to be seen based on ‘suitability’ of habitat. The statistical aspect of this process is quite well worked out as in the Duke University model applied in the BOEM DPEIS, but there are still human-in-the-loop’ decisions that can affect model outcome. Something like the Duke model is therefore a “work in progress” in which model predictions may be more or less accurate, depending on the habitat variables available to the modeler and whether they are in fact strongly predictive of where animals will in fact be. A few “warning flags” about the novel predictions by the Duke model are:

- The distribution of Bryde’s whales across the entire GOM shelf edge by the inclusion of “unidentified baleen whale” data as Bryde’s whale data. Actual observations suggest that the Bryde’s whales are confined to a relatively small area of habitat around DeSoto Canyon in the Eastern Planning Area (CPA), and in fact this site has been selected as a special mitigation zone. But the Duke model “places” Bryde’s whales across large swaths of area where they have never been seen, greatly elevating the predicted takes in the WPA and CPA by what are probably orders of magnitude (hundreds or even thousands of modeled takes not supported by the real data).
- Several species for which there are low sighting data produced low likelihoods of occurrence across vast areas of the Gulf in the Duke model, which were further simplified to even probabilities across entire modeling zones: false killer whales, killer whales and several other species are therefore equally likely of being taken wherever surveys occur, when in reality there are probably higher and lower areas of likelihood. It is hard to predict how the “fuzzy” predictions of the Duke model, and the modifications of the JASCO model affect take outcomes but generally speaking, these species tend to have predicted abundances derived from Duke density models that are among the highest deviations of the Duke model from SARs (e.g. 6 times SAR for killer whale, 14 times SAR for pygmy killer whale).
Deep divers that are seldom seen during visual surveys were subjected to some assumptions about sightability that greatly elevated predicted abundance and greatly expanded habitat occurrence over the SARs; 12 times the SAR for Kogia and about 8 times the abundance for beaked whales (based on Cuvier’s beaked whale modeling). This radical departure from historical estimates of abundance is somewhat consistent with comparisons elsewhere (Atlantic, California, Bahamas, eastern north Atlantic sites), but on the high side. It is also higher than predictions by passive acoustic surveys and modeling by Hildebrand, Moretti, and others. Just how “precautionary” the Duke model is for these species is hard to estimate at this time, but it is fairly clear that the Duke model is over-predicting deep diver abundance and distribution leading to excessive estimates of takes.

Additional aspects of animal distribution and movements information that may lead to over-prediction of takes include:

- Assumptions used to deal with the large number of modeling cells that yield zero abundance and zero takes can lead to over-prediction of takes. JASCO notes that the outcomes that yielded a probability of Level A take greater than one (1) was less than 0.2% (i.e., only 2 out of a thousand model results yielded a take of 1 or more animals) (D–123, D–129). The average number of Level A takes was 0.0195 or about 2 per 100, the result of a very small number of model outcomes that yielded more than one Level A take.

- The 3MB model used to set swimming and dive parameters for the animals rely on limited data, quite often from related species studied at different locations than the Gulf. It is therefore hard to predict whether the overall effect of the values entered into the 3MB model resulted in over-prediction of takes or under-prediction, but the most likely outcome is that the values used were conservative, precautionary values that added to the over-prediction of takes.

- The modelers assumed that the animals did not undergo long-term, large-scale movements. Certainly it is widely assumed that animals do not migrate in and out of the Gulf in great numbers, although sperm whales, a variety of baleen whales, and probably many other species do move between the Gulf and Atlantic or Caribbean. But the currently available data do not offer enough information, especially for winter months, to determine whether other species exhibit moderate north-south or east-west movements with the seasons similar to the inshore-offshore movements of estuarine bottlenose dolphins in the late winter and spring, or during other seasons. It is well known that large numbers of animals may travel from east to west, tracking the warm core rings spun off by the Loop Current, but this phenomenon is not sufficiently documented to inform the model.

- JASCO modeled the effect of group size on outcome. They did not see a significant difference in average outcome from using single, ungrouped animals, although they did note that obtaining the same outcome regardless of group size means that there will be more zero-take model runs as group size increases (D–135; D–174).

- As animals move over time, and if animals are removed once they exceed a take threshold, then the probability of take will decline over time as there are fewer and fewer animals in the field. JASCO used a common technique for keeping the number of animals constant and thus keeping probability of take constant over time by introducing new animals on the opposite side from which an animal had just left (D–49; D–82; D201). It is also not clear if and how animals were removed or replaced once taken. This is especially important where animals were left in the field to accumulate SEL for days or weeks. There are other nuance to re-seeding the sound fields that can result in skewed results, but a full treatment is beyond the scope of this short review.

Take (Acoustic Risk) Thresholds

Both Level A and Level B thresholds range from more than 100 times higher than best scientific evidence to over 100,000 times higher. There are multiple conservative assumptions that produce this extraordinary outcome: the assumption that exposure equals take, the conservative linkage of permanent hearing decrements to temporary hearing decrements, assumptions about the accumulation of hearing effects over time without recovery between exposures, and assumptions about how many of these exposures actually have any meaningful biological consequences.

The MMPA defines “harassment” with reference to two categories: Level A harassment (potential to “injure”) and Level B harassment (potential to “disturb”).
NMFS applies acoustic thresholds to estimate the amount of harassment for each category that may result from an activity. The acoustic thresholds are often mistakenly assumed to mean that an injury or mortality will occur, with 100 percent of the exposed animals being injured or killed, or that 100 percent of exposures at behavioral thresholds will cause behavioral change and that the consequences of the change are a significant and meaningful loss of food, energy, or some other key biological function. In fact, both thresholds imply a probability of there being an effect upon exposure. BOEM was quite emphatic in stating that exposure does not equal take, but the model still treats any exposure that exceeds threshold as a take. This is the first of many features within the Acoustic Risk Threshold part of the model that lead to large over-estimates of take.

Additionally, the DPEIS is not always clear when and how animals are removed from the model to prevent multiple takes of the same individual (e.g., being counted as a Level B take and then exceeding Level A criteria and also being counted as a Level A take). Removals need to be handled carefully to prevent gradual reductions of animal interactions over time (e.g., ''hearing notch''), or the sound field as ''taken' animats'' in the sound field as ''taken' animats'' in the sound field as ''taken' animats'' in the sound field as ''taken' animats'' in the sound field.

The most recent threshold criteria for Level A takes are based on empirical data for the threshold at which a temporary decrease in hearing sensitivity (TTS) occurs across a narrow frequency range of hearing (NMFS, 2016; Finneran, 2015). BOEM also variously cites NMFS 1995; Southall et al 2007; Finneran and Jenkins, 2012: it is not yet clear which criteria they plan to use in the Final EIS, making analysis of the DPEIS difficult. JASCO in Appendix D modeled the 1995 threshold.

The simplest Level A threshold, long since superseded by scientific data but still in use by NMFS, is 180 dB SPL rms (root mean squared—average over some specified time period, and since it is an average of a logarithmic scale, dB, a square root of the mean of summed square values is required rather than a simple average). Despite being outdated by more than 20 years, BOEM still modeled takes using this hyper-precautionary threshold. This provides a threshold that is some 10 to 1,000 times more precautionary than the current best data derived from TTS thresholds for both impulse and tonal sources; the peak SPL or the summed sound energy over time (SEL), although we shall see later in this section that the SEL has also been subjected to additional conservative assumptions that render it some 10–1,000 times more conservative than SPLpeak. The values of 10 to 1000 times are based on SPLpeak thresholds of 230–200 dB SPL peak, and an estimate of 180 dB SPL rms being comparable to 190 dB SPL peak (200 dB is ten times 190 dB and 2230 dB is one thousand times 190 dB on the same scale, in this case SPLpeak).

Permanent Threshold Shift (PTS) is not tested directly, and is assumed to occur at a level above TTS consistent with marine mammal TTS data and human/lab animal data. PTS, as for TTS, is not a threshold for deafness or major loss of hearing, but for a small decrement of hearing sensitivity within a narrow frequency range, a ‘hearing notch’. This is a liberal interpretation of “injury”, since the original sense of the term in MMPA was intended for animals that lost eyes, limbs, or suffered broken bones and spinal injuries during interactions with fisheries or due to being struck by ships, shot at, or otherwise seriously injured.

The criterion is rendered even more conservative by the use of a 15 decibel difference between TTS and PTS when the data from other species, including humans, indicates PTS onset at 20–40 dB above TTS threshold. Since even this conservative addition of only 15 dB to TTS produces thresholds of PTS above the source level of the sound source, Southall et al (2007) and subsequent criteria (NMFS 2016) have arbitrarily set the SPL peak metric for PTS at a mere 6 dB above TTS threshold, or almost ten times lower (and therefore productive of ten times as many exposures and takes).

The best predictor of TTS and therefore PTS, at least for tonal sounds, is SEL, a product of both signal intensity (not amplitude) and duration. It is not clear how this relationship holds up for an impulse signal like compressed air (CA) sources, so relationships for tonal signals are applied to impulse thresholds. SEL is referenced to a time duration, typically one second, but for sounds less than 1 second long, like impulse sounds, SEL does not always hold up.

Furthermore, models like the BOEM DPEIS treat multiple exposures separated by many seconds or even hours or days, as if the sound exposure had been continuous. Near the source a geophysical survey produced 0.1 s of sound every 10–20 seconds, expressed as a “duty cycle” of approximately 1–2%. Further from the source the energy in the impulse may spread in time, increasing the duty cycle, but at ranges meaningful for Level A determination, the duty cycle remains below 10%, meaning that 90% of the time the ear is capable of recovering from some of the induced fatigue or threshold shift. Early PTS studies noted that the animals recovered from low levels of TTS within seconds or minutes, and subsequent ongoing studies
are consistent, suggesting that it make take considerably more intermittent exposures to produce TTS or PTS than would be predicted by simply adding up multiple pulses as if they all occurred in succession without any time for recovery (in other words 12 pulses of 0.1 second duration each are treated as a continuous 1.2 second pulse and not what they are, which 1.2 seconds of sound within ten 15 second intervals or 150 seconds of ambient sound only).

The case for some sort of recovery function is even stronger for intermittent passes of an array that may be separated by 4, 8, 16 or more hours, in which case hearing is likely fully recovered and no accumulation of SEL should be carried forward. NMFS has traditionally carried SEL forward for 24 hours, a scientifically unwarranted precaution that leads to over-estimations of take by another 10-100 times, if not more. The current modeling exercise suggests in places that SEL accumulation was carried forward even further for weeks or even months. Appendix K offers annual summations of SEL and a similar cumulative sound metric, Leq, for an entire year. This is not scientifically justified and leads to overestimates of takes by tens or even hundreds of thousands of takes, both Level A and Level B.

Because we do not have a specific recovery function to offer yet, BOEM has not included ANY recovery in their model, whereas a model consistent with best available science should include at the very least a recovery function consistent with human and other mammalian hearing. Absence of a recovery function is likely adding another 10 to 100 fold over-estimation to Level A take.

Thresholds for Level B take have been difficult to derive, although more and more publications have offered data and a proposed threshold function: most of these papers are not cited or reviewed in the EIS, or in the reference used by the Phase II model (Appendix D), which is an unpublished contract report to a California utility company (Wood et al 2012). Wood et al (2012) also presents a potential conflict of interest, since the author of Appendix H (Brandon Southall) is also a co-author of the Wood et al (2012) report. The industry is sponsoring a review of the behavioral effects literature, but that review will not be published in time to inform the current PEIS.

In any case, the Wood et al recommendation was a step function of increasing behavioral response at increasing exposure levels, and in this respect Wood et al (2012) is similar to other Level B risk assessments like the U.S. Navy Programmatic EISs (2009; 2014, draft 2017). All recognize that out of a given group of animals, a few will respond at low levels, with increasing recruitment up to an exposure level that approaches thresholds for TTS and PTS. BOEM also applied the outdated NMFS 1995 Level B threshold of 160 dB SPLrms.

The outcome of applying any of these thresholds is the generation of tens of thousands to millions of Level B takes in which the vast majority of “takes” are transitory disturbances that last hours or a day or two and have no impact at all on foraging success, breeding success, growth, health or any other biologically meaningful metric. The hypothetical possibility that cessation of feeding for a day or movement a few miles from the source, or a change in vocal behavior “might” lead to biologically meaningful consequences means that the model calculations are treated as “takes” under MMPA even though all acknowledge that exposures don’t equal takes and takes do not equal meaningful effects. The development of the PCOD model, and population of that model with data, confirm that behavioral disturbance from sound needs to be reduced to a “biologically significant” number that is a fraction of the counted exposures; anywhere from a conservative 1% to a more realistic 0.001% or less. In other words, estimates of thousand to millions of takes in the model are likely to result in fewer than 1 to 1000 takes with actual biological consequences. These numbers, spread across large areas like the Gulf and multiple species are mathematically too low to result in a population level consequence from Level B takes (e.g. elevation of baseline mortality, decrease in baseline fecundity). This is consistent with history, where more than five decades of regular geophysical survey effort all over the globe has not generated any evidence that observed behavioral responses to the sound has any biological consequence.

Calculation of grossly inflated Level B take numbers in the GOM DPEIS is not consistent with current best information, and greatly over-estimates the consequences for the stocks of marine mammals being managed.

Finally, behavioral aversion was not applied to this model, even though a preliminary Phase I model showed that even small amounts of aversive greatly affected both Level A and Level B takes. If behavioral aversion is a trigger for Level B take then it cannot subsequently be omitted from modeling of Level A takes, since the low level exposures that trigger aversion will reduce the likelihood of higher levels of exposure.
Additional aspects of threshold assessment that may lead to over-prediction of takes include:

- Conservative thresholds for low frequency whales. Current conservative thresholds for whales increase the estimated Level A and Level B takes for these species by some 4 to 10 times over best available science predictions. Arguments for unreasonable precaution in the face of uncertainty are not consistent with mammalian auditory biology in general.
- JASCO applied novel uses of weighting functions, using outdated M1 weighting functions from Southall et al (2007) on SPL thresholds, where weighting functions should not be applied.
- Kogia are considered to have the same hearing thresholds as porpoises, even though they are unrelated and the evidence for high sensitive is based largely on data about Kogia vocal behavior and some inconsistent evoked potential audiometry.
- Modifications to beaked whale Level B thresholds unique to this EIS are applied without justification other than precaution.

Mitigation

BOEM allowed no reduction in the estimated take for mitigation. This is a highly over-conservative assumption, justified by the relatively little data available on mitigation effectiveness, together with the likely variability in mitigation effectiveness between mitigation service providers, types of marine species present, monitoring conditions and other variables. Some analysis on page D–151 suggests ranges of observer mitigation effectiveness from near zero to over 70%. One cannot require mitigation and at the same time treat it as if it provides no reduction in takes. BOEM needs to come up with some metric for the benefits from required mitigation. A variety of other possible mitigations have been proposed in the GOM DPEIS, ranging from alternative source technologies and active acoustic mitigation to time/area closures, vessel separation schemes, and reduced quantities of geophysical survey effort of 10–25%. At least two of the suggested mitigation measures, vessel separation (Table ES–1; page 1–10; page 2–10; B–32; page 2–38; and D–162–163) and shutdowns for dolphins approaching vessels or bowriding (p. 2–24) offer the possibility of actually increasing takes through expansion of ensonified areas (vessel separation), or extremely high increases in shutdowns with associated prolongation of survey effort (and sound exposure) to achieve survey completion (an estimated 35–40% increase).

Dr. GOSAR. Thank you, Mr. Steen.

I thank the panel for their testimony. I will remind the members of the Committee that Committee Rule 3(d) imposes a 5-minute limit on questions. The Chairman will now recognize Members for questions, and I will start with myself.

Director Cruickshank, the OCS oil and gas leasing decisions made today directly impact our Nation’s energy, security, and Federal and state revenue streams for decades to come. It all starts with seismic surveying data. How does BOEM use geophysical data when making offshore leasing decisions?

Dr. CRUICKSHANK. Mr. Chairman, we use the G&G data we receive for a number of our responsibilities under the OCS Lands Act. For oil and gas, we use it to make our assessment of what resources are there. One of the factors that the Secretary is required to consider in putting together a recent program is what is the resource potential to the various areas.

We also use that data to help design the lease sales to try to focus them on the areas with most potential, and then when we have a lease sale and receive bids, we are using that data to help us determine whether the bids that are made are adequate to meet the fair market value standard of the OCS Lands Act. That is also used for regulatory purposes after areas go into production to help
monitor what is going on subsea, to make sure that operations are behaving as they should.

Dr. Gosar. In my comments, I highlighted that it has been 30 years since we have actually used seismic in some of these areas. How does that really impact us? The technology has become much more sophisticated, and these are outdated references, are they not?

Dr. Cruickshank. That is correct, Mr. Chairman. Some of the old data has been reprocessed so, to the extent that that data is there, we can get a slightly better image. And we also look at the other activity going on offshore in Canada, offshore in the Bahamas, and on the geographic margins of Africa, where they have the same geologic processes after the continent split. So, we have been able to improve our estimates a bit, but as you note, the data is old and those old technologies do not give as clear a picture or as deep a picture of what may lie beneath the seabed. We would certainly benefit from having better data to understand what resources may be there.

Dr. Gosar. I am going to stray just a little bit, some of the technology that goes into forming the new technology, like critical minerals and rare earths—when we were in Norway this summer, we were told that in their seismic explorations in the Arctic Sea, they found free-form nodules of rare earths. We are way behind the curve in that, because if we are looking at new technology and technology going forward, we need to have dependable supplies of rare earths. And China now controls 100 percent of that marketplace.

Dr. Cruickshank, our coastal communities and ecosystems are constantly eroded, whether it be from natural events such as hurricanes or man-made causes like infrastructure development. BOEM uses sand and gravel sources from OCS to replenish these environments. How is seismic used to identify suitable offshore sand and gravel resources?

Dr. Cruickshank. We do use seismic surveys to help delineate where there are OCS sand resources and the nature of those to try to meet the needs of states and local communities. It is a different type of seismic than is typically used for oil and gas exploration. Oil and gas exploration is very deep penetration, trying to see what is thousands of feet below the seabed, while for marine minerals and sand deposits, you are really only looking a few hundred feet down. So, it is a different type of seismic, but still seismic activity that is very important to be able to characterize those resources.

Dr. Gosar. Once again, BOEM recently announced an initiative to facilitate offshore wind project development on OCS. How do offshore wind developers rely on seismic surveying data for project planning and construction? And have you had any problems associated with marine life when it comes to seismic surveying for wind?

Dr. Cruickshank. We require seismic surveys, again, shallow, beneath the surface, to understand what the seafloor is like, where there might be geologic hazards. It is important to ensure when you are citing wind turbines that you don’t build them in a spot that may not be stable geologically or that you are not putting them where there are critical biological or archaeological resources.
So, we require seismic surveys, again, looking to shallow depths beneath the seabed to understand what is there.

As part of the renewable energy process for those surveys, we do consult with National Marine Fisheries Service to make sure we have appropriate mitigation measures in place to protect all the marine species from any sound that may occur during those activities.

Dr. Gosar. Thank you, Doctor.

I recognize the Ranking Member for his questions.

Mr. Lowenthal. Thank you.

Dr. Cruickshank, on January 9, Secretary Zinke met with Florida Governor Rick Scott at the Tallahassee airport, and after that meeting, he tweeted, and I quote, “After talking with Florida Governor Scott, I am removing Florida from the draft offshore plan.”

Less than 30 minutes later, he tweeted what he called a full statement, which included him saying: “I support the Governor’s position that Florida is unique and its coasts are heavily reliant on tourism as an economic driver. As a result of discussions with Governor Scott and his leadership, I am removing Florida from consideration for any new oil and gas platforms.” He added in that tweet, “local voices matter.”

Obviously, those of us in other coastal states that are heavily reliant on tourism and clean beaches for our economies would also say that our coasts are unique, and would like to think that our local voices matter as well. So, I just want to ask a few questions about the situation with Florida.

One, did the governor of the Florida submit official comments to the Bureau of Ocean Energy Management in response to the June 2017 request for information?

Dr. Cruickshank. We received correspondence from the State Governor in Florida. It did not take a position on whether it should be in or out of the DPP, but noted specific issues that should be analyzed as we go forward.

Mr. Lowenthal. Thank you. Are you aware of any conversations or correspondence between anyone in the Florida Governor’s Office and employees of the Department of the Interior regarding the potential inclusion of waters around Florida in the draft proposed plan?

Dr. Cruickshank. I have not been part of any direct conversations, but I know the Secretary has spoken with people in Florida.

Mr. Lowenthal. Would you provide records of those correspondence to the Committee?

Dr. Cruickshank. Yes, any correspondence we have, we will provide the Committee.

Mr. Lowenthal. Thank you. Are you aware of any conversations or correspondence between the Florida Governor’s Office and the Bureau of Ocean Energy Management after the publication of the draft proposed plan and before the Secretary’s meeting with the Governor on January 9?

Dr. Cruickshank. I am not aware of any particular correspondence. But as we look for correspondence in response to your previous request, we will check.

Mr. Lowenthal. Forward those to the Committee. Thank you.
How about between the Governor's Office and the Secretary's Office in the same time frame?

Dr. CRUICKSHANK. I would not necessarily see correspondence that goes directly from the Governor to the Secretary's Office. Again, we will search the records and if we find anything, we will share them with the Committee.

Mr. LOWENTHAL. Are you aware of anyone at BOEM who had a discussion with the Secretary about the possibility of him sending those tweets or making that decision before he met with Governor Scott?

Dr. CRUICKSHANK. No, sir, I am not.

Mr. LOWENTHAL. Have there been discussions between BOEM and the Secretary, the Deputy Secretary, or the Assistant Secretary for Lands and Minerals Management, or any people in their offices, regarding his decision and those tweets since he sent them?

Dr. CRUICKSHANK. Yes, we have had conversations, and we will be proceeding with the process called for under the Outer Continental Shelf Lands Act and the National Environmental Policy Act.

All of the areas that are in the draft proposed program will be subject to the full analyses of both of those statutes. And it will be the first time in over 30 years that the entire OCS has been so analyzed.

Mr. LOWENTHAL. So, that is how you would characterize those discussions, and you will also send us copies of any correspondence?

Dr. CRUICKSHANK. Yes.

Mr. LOWENTHAL. Were any instructions sent to BOEM regarding how to treat the waters around Florida in developing the next step of the program?

Dr. CRUICKSHANK. As I just noted, Mr. Lowenthal, we will be conducting a complete analysis, as we will for all of the areas in the draft proposed program, looking at resource potential with environmental impacts. And all of that analysis and all the public comment will be made available to the Secretary so his decisions can be reflected in the next stage.

Mr. LOWENTHAL. Again, we would like to have that correspondence.

Does BOEM consider Governor Scott's request for a meeting and for all of the waters around Florida to be removed from the plan to be a comment under Section 18(c)(2) of the Outer Continental Shelf Lands Act?

Dr. CRUICKSHANK. To the extent we have any written correspondence in response to the DPP, that will be made part of the record. The Secretary responded to the Governor's request for a meeting. He has done so with other governors as well. He has spoken with eight governors so far, and is willing to meet with others. Those conversations are important to the Secretary and will be useful to him as he makes decisions going forward.

Mr. LOWENTHAL. OK. I yield back. Thank you.

Dr. GOSAR. I thank the gentleman.

The gentleman from Colorado, Mr. Lamborn, is recognized.

Mr. LAMBORN. Thank you, Mr. Chairman, and thank you for having this important hearing.
Mr. Steen, I would like to ask you a few questions. Does acoustic surveying occur all over the world and has this occurred for many years now?

Mr. Steen. Yes, it has.

Mr. Lamborn. And has there ever been any documented case of an injured or killed marine mammal from seismic surveying?

Mr. Steen. I am aware of no documented case.

Mr. Lamborn. And isn’t it also true that BOEM came out on March 9, 2015, in a science note, saying that any potential links between seismic surveying activity and “the sustainability of species or stocks have not been demonstrated”?

Mr. Steen. That is correct.

Mr. Lamborn. How long has it been or have we ever had accurate and comprehensive seismic surveying off the Atlantic Coast?

Mr. Steen. I am not sure precisely how long it has been, but I believe it has been at least a few decades.

Mr. Lamborn. And is the technology much better now than it was a few decades ago?

Mr. Steen. As far as I know, yes, it would be. I am a lawyer, not a technician, but as I understand it from my clients and their experts, it is much better today than it used to be.

Mr. Lamborn. With all this in mind, is it possible that after accurate seismic surveying, we would discover greater amounts of oil and gas reserves than we know about now?

Mr. Steen. That would be possible.

Mr. Lamborn. With all that in mind, is it possible that opponents of oil and gas are exploiting alleged harm to marine mammals simply to prevent scientific survey results from becoming public?

Mr. Steen. I believe that is the case, and I believe that is evidenced by and bears out by what we have seen in the Arctic as well.

Mr. Lamborn. Thank you.

Mr. Chairman, I have no further questions. I yield back.

Dr. Gosar. Would the gentleman yield?

Mr. Lamborn. Yes.

Dr. Gosar. Mr. Steen, can you update us a little bit about how seismic has improved over the last several decades, because I think that is really important to understand?

Mr. Steen. Again, I am speaking from the perspective of a lawyer. Technology is not my expertise, but as I understand it from my clients, it has improved to a degree where the resolution of what can be identified through seismic surveying is greatly improved. And seismic companies are much better able to tell with precision where oil and gas reserves might be, where other types of things under the seafloor would be, where hazards may be and that it has improved significantly over the past several decades. I am sure they would be happy to provide the Committee with more detailed technical information to support that.

Dr. Gosar. We definitely would.

Dr. Cruickshank, there is more to this because we started down this line, and not just for mineral evaluation but also geological stability, so that when we actually have catastrophic events, like tsunamis and stuff like that, the understanding of the tectonic and
geological plates allow us to have better interpretation of how those things can actually affect the mainland continent, do they not?

Dr. CRUICKSHANK. That is correct. And as a matter of fact, the U.S. Geological Survey and the National Science Foundation have used seismic to try to understand historically what has happened to the coast over geologic history to use that to better inform decision making for managing the coast now.

Dr. GOSAR. It will also have a big implication on national security, would it not?

Dr. CRUICKSHANK. Yes. Energy is certainly a vital component of our national security issues.

Dr. GOSAR. I appreciate it.

I now acknowledge the gentleman from Florida, Mr. Soto, for his 5 minutes.

Mr. SOTO. Thank you, Mr. Chairman.

We have seen the rollout of the America First energy policy. And I was thrilled initially to hear that Florida’s offshore drilling plan was off the table. Although, I think I heard you say just now, Director Cruickshank, that it is still under consideration. I have a few questions about how this decision initially went down and also what does it mean.

First, what specifically is still under consideration as far as offshore drilling related to Florida?

Dr. CRUICKSHANK. We are following the process called for in the Outer Continental Shelf Lands Act, the statute that governs the development of the 5-year program. Under that statute, we are conducting the full analyses under Section 18 of that Act and under the National Environmental Policy Act of all areas that were included in the draft proposed program.

Mr. SOTO. So, then is Secretary Zinke’s tweet getting ahead of the game? Is that not an official decision? Is that just him saying it, but the process actually hasn’t happened yet?

Dr. CRUICKSHANK. The Secretary’s statement stands on its own. We are following the process, and the Secretary’s decisions will be reflected in the proposed program decision.

Mr. SOTO. By stand on its own, it just stands on its season, but it is not an official action. Is that what you mean?

Dr. CRUICKSHANK. It is not a formal action, no.

Mr. SOTO. So, there has been no formal action to remove Florida from the offshore drilling plan as of right now?

Dr. CRUICKSHANK. We will be including it in the analysis for the decisions that will come out later this year.

Mr. SOTO. So, that is a yes.

Have we looked at whether the 125-mile buffer zone is going to be one of those areas that will be respected?

Dr. CRUICKSHANK. That is one of the specific options that the Secretary asked us to analyze, so it will be included in that analysis.

Mr. SOTO. And are you all leaning toward taking the Atlantic part of Florida off the table too as far as offshore drilling?

Dr. CRUICKSHANK. It will also be subject to the same analyses.

Mr. SOTO. So, the tweet is not a test. As you know, with rules, there could be arbitrary and capricious decisions. I believe the
tweet was: Florida is unique. Our coasts are heavily reliant on tourism as an economic driver.

I believe both those things are true, so we are not dealing with a two-part test of states being unique and having coasts as an economic driver. Is that the test or is that not the test to determine what—

Dr. CRUICKSHANK. Those are factors that need to be considered. The OCS Lands Act lays out eight categories of information that the Secretary needs to consider in his decision-making process, and that is what the analyses that we are undertaking now will look at. That includes the laws, goals, and policies of the affected states and the OCS Lands Act, those call out specific rolls for the governors in providing information to the Secretary. And the Secretary will carefully consider all of that.

Mr. SOTO. Just so we are clear, Mr. Director, you are going to apply those standards as required under the law, and this was more of an advanced tweet of an opinion and not an official act then?

Dr. CRUICKSHANK. We will do that complete analysis, and any decision the Secretary makes will be reflected in the next proposal.

Mr. SOTO. Has this ever happened before where we have a statement made by Secretary Zinke or anybody else under the umbrella of the Department of the Interior, where they make a statement but they have not undergone the analysis yet?

Dr. CRUICKSHANK. I cannot speak to whether there have been comments from other Secretaries over the history of the program, since this process was established in the 1970s. Certainly, with today's technology, any sorts of statements get a broader audience than they might have 30 or 40 years ago.

Mr. SOTO. As you can appreciate, many Floridians now believe that we are off the table, that there is going to be no offshore drilling because of that statement. And that is not true. We still have to go through an analysis to determine whether that is going to happen or not.

Can you give us any early indication how we are doing, whether under those factors we officially will be removed both under the 125 buffer zone and the Atlantic?

Mr. CRUICKSHANK. The analysis we provide is basically laying out the facts, and that includes an analysis of the comments that we are receiving now through this public comment period, and the Secretary will consider all of that in putting his decision together. Until such time as all of those analyses are complete and we have all of those comments to put in the record to consider, we will not have any indication of where the Secretary wants to go in this process.

Mr. SOTO. So, right now, Florida's shores are still in jeopardy if or until an official decision is made. Is that correct?

Dr. CRUICKSHANK. They are still part of the analysis until the Secretary gives us an official decision otherwise.

Mr. SOTO. Thank you. I yield back.

Dr. GOSAR. I thank the gentleman from Florida. The gentleman from Virginia, Mr. Wittman, is recognized for 5 minutes.

Mr. WITTMAN. Thank you, Mr. Chairman.
I wanted to go to Director Cruickshank first and ask you a little bit about the permitting process, understanding how that process unfolds.

The GAO reported that BOEM made a policy decision to wait for the National Marine and Fisheries Service to issue Incidental Harassment Authorizations before issuing or even considering seismic permitting in the Atlantic. Why did BOEM decide to wait for the National Marine Fisheries Service, that is not directed through the administrative process, before they decided to issue permits or even go through the consideration process for these seismic permits in the Atlantic?

Dr. CRUICKSHANK. We did so in the Atlantic recognizing that the Service could not proceed without both our permit and the Incidental Harassment Authorization. We will be able to complete our work on the permits within a couple of weeks after the IHA process is done. We wanted to make sure that any conditions that came out of that IHA process would be reflected in the final permits that are given to the companies.

Mr. WITTMAN. Is that directed, though, in the statute to say that you will wait for that? Is there any reason why you couldn’t do that concurrently with what the National Marine Fisheries Service may find in their evaluation efforts?

Mr. CRUICKSHANK. Our analyses basically are concurrent. There is nothing that requires that we wait on the IHA. Indeed, in Alaska, we have often issued the permits conditional on them receiving the IHAs.

Mr. WITTMAN. OK. But in this situation, there was not any condition placed on NMFS findings, it was waiting for the NMFS findings. There seems to be inconsistency, at least in how information is coming back from NMFS to BOEM in this permitting process. I am just trying to understand, is there a rhyme or reason to that?

Dr. CRUICKSHANK. Again, the rationale here was, it will not take us more than a couple of weeks after the IHA process is done to complete the permits. So, once we have all of that information and IHA is indeed approved, then we will be able to issue those permits very promptly.

Mr. WITTMAN. OK. I want to go to another part of the GAO report where it speaks about the Marine Mammal Protection Act, and agencies are directed to review the incidental harassment authorization applications within 120 days of receiving the application. Yet, it seems that neither NMFS nor the U.S. Fish and Wildlife Service can determine whether or not they are meeting that requirement that is in the statute. It also seems that both agencies are pretty much unconcerned about that.

Can you give me a perspective about why you think the agencies are unconcerned about whether they are in compliance with this requirement in the statute, and are they going to do anything to correct that situation? They seem to be somewhat ambivalent about that, and that ambivalence ends up creating inconsistencies. And at least looking at how the process is put forward, and that, unfortunately, lends itself to be used as a political tool if there is something that is being pursued with an ideology, particularly
maybe within an agency. I want to get your perspective on the 120-day requirement.

Mr. CRUICKSHANK. I cannot speak for the National Marine Fisheries Service. The Fish and Wildlife Service, I understand, generally concurs with the recommendation made by the GAO and will be taking steps to implement that recommendation.

Mr. WITTMAN. OK. So, do you think that they are going to stand by the 120-day time requirement in the statute as far as providing their comments on the impact of the incidental harassment authorizations?

Mr. CRUICKSHANK. I think that is what the Fish and Wildlife Service is trying to do in implementing the recommendations from GAO.

Mr. WITTMAN. OK. Mr. Steen, I want to go to you to talk about what I see as kind of a dysfunction in this administrative bureaucratic regulatory process and get your thoughts about how you see that affecting the six Atlantic seismic surveying permits. These are not the first Atlantic G&G and IHA permits to be issued, but I want to get your perspective as to why you think the process at least appears based on GAO information and things that we see and somewhat of an ambivalence with agencies about being consistent with this. Give me your perspective on what you think is unique with the six instances of seismic permitting issues in the Atlantic.

Mr. STEEN. Well, I think with the Atlantic, it is the fact that six have been submitted at the same time, which is perfectly allowable under the law, but it is also an area that has not been surveyed for a while and has drawn the criticism and controversy from NGOs that are opposed to drilling there. I think that that type of controversy oftentimes, in my experience with the National Marine Fisheries Service, causes the agency to sort of freeze and not know what they want to do and how they are going to process things.

Mr. WITTMAN. Thank you, Mr. Chairman.

Dr. GOSAR. I thank the gentleman from Virginia.

The gentleman from Virginia, Mr. Beyer, is recognized for 5 minutes. A lot busier today than yesterday afternoon, huh?

Mr. BEYER. Thank you, Mr. Chairman.

I want to begin by quoting my friend, the former Republican Governor of South Carolina, and a distinguished Member of the U.S. House who said, “I mean, you can’t say I don’t want to see an oil rig from Mar-a-Lago as I look out from the waters of Palm Beach, but it is OK to look at an oil rig from Hilton Head or Charleston, South Carolina.”

I would like to introduce for the record a letter to Secretary Zinke from every Democratic member of the U.S. Senate and U.S. House requesting the same consideration for Virginia that Secretary Zinke has done for Florida.

Dr. GOSAR. Without objection, so ordered.

Mr. BEYER. Thank you, Mr. Chairman.

I wonder if you have had a chance to meet with Governor Northam yet, BOEM, on the issue of offshore drilling in Virginia.

Mr. CRUICKSHANK. I don’t know if the Governor has requested a meeting with the Secretary yet or not, but the Secretary is certainly willing to meet with the Governor. We also will be having
a public meeting in Virginia. Unfortunately, it was postponed due to weather the other day, but we will get that rescheduled so we can hear directly from the citizens of Virginia.

Mr. BEYER. Thank you very much. In my 3 years on this Committee, I have heard again and again that there is no instance of seismic testing killing a single marine mammal, and we come back again and again to the thing that the previous BOEM director said about no effect on marine mammal populations. It is cited three times in Mr. Steen's report on page 9. No adverse effects from marine mammal population. No effects on noise on marine mammal populations. No population level effects.

I think Senator Davis pointed out quite accurately that the population level effects are very different from addressing individual animals. For example, Ebola didn't have a population level effect. The human race is going on, but it killed lots and lots of people.

So, let me just for the record—and forgive me for not asking questions, but I think this is important to have in the record. Let me cite nine peer-reviewed published studies that cite the individual level effects of seismic testing on marine animals: First, Acoustic and behavioural changes by fin whales, in Biological Conservation; Second, Seismic Surveys Negatively Affect Humpback Whale Singing Activity off Northern Angola, in PLOS One; Third, Effects of Airgun Sounds on Bowhead Whale Calling Rates: Evidence for Two Behavioral Thresholds, in PLOS One; Fourth, Widely used marine seismic survey air gun operations negatively impact zooplankton, in Nature Ecology and Evolution; Fifth, Exposure to seismic air gun signals causes physiological harm and alters behavior in the scallop, in Proceedings of the National Academy of Sciences; Sixth, The sense of hearing in the Pacific oyster, in PLOS One; Seventh, The impact of seismic air gun exposure on the haemolymph physiology and nutritional condition of spiny lobster, in Marine Pollution Bulletin; Eighth, Effects of seismic shooting on local abundance and catch rates of cod and haddock, in Canadian Journal of Fisheries and Aquatic Sciences; and finally, Ninth, Seismic survey noise disrupted fish use of a temperate reef, in Marine Policy.

There is an abundance of scientific evidence that seismic stuff has a real impact on our mammals. Senator Davis, do you want to expand on this at all?

Mr. DAVIS. Thank you, Congressman. That was included in the written testimony that I have submitted. You have just gone ahead and listed the findings of those studies. There are seven particular scientific studies that do document that there is a significant impact on marine animals as a consequence to that sort of sonic noise being introduced into the ocean. And it makes common sense that when you are shooting those guns into the ocean floor, and with the noise reverberating up to 1,500 miles in radius, common sense dictates that there is going to be an impact on aquatic life and marine animals. And to say that studies don't support any harm whatsoever defies common sense or it also defies the scientific studies that you have listed, sir.

Mr. BEYER. Thank you. And let me also point out just this difference, I think it is the essential thing, because our ongoing debate is, does seismic testing hurt marine mammals or not, and
if it doesn’t, then why not go ahead and use it to discover where oil and gas is, and if it does, there has to be an important consideration for takes.

A recent marine compilation level impact was in the papers this week about how on the Kazakhstan plateau 60 percent of the saiga antelope were decimated in 3 weeks by climate change affecting a specific bacteria. It killed 200,000 of them, which is roughly 60 percent. That is a population level event, and we are not arguing that seismic testing is going to have a population level event, but as those nine studies just suggested, it will affect everything from the zooplankton that everything eats, to the North Atlantic right whale, which is in danger of extinction specifically from seismic testing.

Mr. Chairman, I yield back.

Dr. Gosar. I thank the gentleman from Virginia.

The gentleman from Colorado is recognized for his 5 minutes.

Mr. Tipton. Thank you, Mr. Chairman. I just have a couple of questions.

Mr. Ludwigson, the GAO report indicated that the National Marine Fishery Service was unable to provide accurate data for the dates the agency determines an application is adequate and complete. What reasons did the agency give to the GAO on why they have not consistently defined and tracked adequate and complete dates?

Mr. Ludwigson. Thank you for the question. The officials at both Fish and Wildlife and Marine Fisheries cited slightly different answers, but essentially it fell into the category of they began processing the information when they received it and that they did not feel it was necessary to really record that date in terms of when all the applications were complete. They had a sort of check sheet that allowed them to identify which items were required. They just didn’t fill in their database in terms of when the date was that they received all those items.

Mr. Tipton. Thanks. Based on the GAO’s findings, what can the National Marine Fishery Service and the Fish and Wildlife Service do to be able to improve on the permitting process?

Mr. Ludwigson. As we identify in the report, we think it would be very helpful for them to do two things, for each of the agencies to do two things. The first is begin recording that date accurately, and then second is to examine whether or not they are meeting their statutory time frames. I think it goes a long way to mention that the agencies both agreed with our findings, conclusions, and recommendations, and both agencies have committed to implementing those recommendations. And we do follow up, so we will be looking, checking, seeing how that is going.

Mr. Tipton. Just out of curiosity, did they give a timeline when they would be able to achieve that?

Mr. Ludwigson. I believe that they were in the process of developing the plan for implementing that. In the case of Fish and Wildlife, they were not recording any date. In the case of Marine Fisheries, they were recording a date that was not always accurate. So, I think that in that case, they have to develop guidance in terms of making sure that they consistently record a date. I believe that they were in the process of developing that now.
Mr. Tipton. OK. It is going to be pretty easy to identify, I think.

Mr. Cruickshank, in your written testimony, you indicate that BOEM is leading a streamlining team consisting of Interior solicitors, BOEM, and the Bureau of Safety and Environmental Enforcement staff to put together recommendations that reduce undue burdens and create more predictability in the permitting for oil and gas activities. However, these recommendations could also benefit ocean activities. What procedural or regulatory changes is BOEM considering? Could you enlighten us on that?

Mr. Cruickshank. So, what our internal team was doing is identifying things that we wanted to propose to the National Marine Fishery Service as part of the discussions called for in the Executive Order for our two agencies to get together and try to streamline the permitting process around seismic surveys.

The interagency team, between us and Marine Fisheries, is hard at work and will give us some final recommendations in the not too distant future. But some of the things that we are looking at is, can we identify some best practices that can be identified through conversations with stakeholders and thus be made part of each application that would allow those to be sort of accepted upfront and not subject to a new analysis every time a new application comes in.

We are also looking to see if there are categories of activities that can be identified as being appropriate for informal consultation or for programmatic consultation as opposed to an application-by-application look. So, we are trying to find some ways that would allow the process overall to be more efficient and more effective.

Mr. Tipton. Great. Thank you for that.

I have no further questions. I will yield to the Chairman.

Dr. Gosar. Yes. I want to make a point, so I am going to quote a former Supreme Court Justice: “In a government of laws, the existence of government will be imperiled if it does not observe the law scrupulously. If government becomes the lawbreaker, it breeds contempt for the law and invites every man to become a law unto himself and invites anarchy.”

And the reason I bring that up is, Dr. Cruickshank, it is the law, right, to process this information?

Mr. Cruickshank. Yes, that is correct.

Dr. Gosar. So, when we start doing interpretative aspects on what every individual would like to do, we invite that same type of anarchy. If we don’t like the law, let’s change the law, but what we have to stop is that the unintended consequences of bureaucrats dictating the principles in which Congress finds itself predicking through a statute only breeds the contempt of the law. Would you agree with that?

Mr. Cruickshank. I would agree that it is our responsibility as public servants to carry out the laws that Congress has passed.

Dr. Gosar. Thank you.

I now recognize the gentleman from California, Mr. Huffman.

Mr. Huffman. Well, thank you, Mr. Chairman, and I hope that that same passion for the rule of law carries over to our considerations of obstruction of justice and the tax on the courts and other institutions. That is a very welcome sentiment that I just heard.
Dr. Gosar. I would interject, I don’t think there is any qualm from the gentleman——

Mr. Huffman. On your time?

Dr. Gosar. You will have your full time.

I don’t think there is any qualm to challenge me on my application of the rule of law. I have been there from day one.

Mr. Huffman. I am grateful for that.

Dr. Gosar. I appreciate it.

Mr. Huffman. And thanks to the witnesses.

Dr. Cruickshank, I think to many the decision to roll out this plan to expose the coastlines of 23 states to new offshore drilling, and then the very sudden almost impromptu exemption of Florida from the Secretary after a phone call with Governor Scott, seemed purely political, arbitrary, and capricious. If anybody would know about the rigor of this decision, the rationale of this decision, it would seem to be you, the Secretary’s Acting Director of the Bureau of Offshore Energy Management. So, here’s your chance. Tell us all of the reasons why Florida is so unique that it justifies this exemption and yet California, Virginia, South Carolina, and other coastal states are not.

Mr. Cruickshank. As I noted previously, all of the areas included in the draft proposed program will be subject to the full analysis under the OCS Lands Act and national environmental policy.

Mr. Huffman. No, I don’t want to talk about the process. A decision was made to give an exemption to Florida. I want to know every reason why Florida is so unique that it got that spot exemption from the Secretary. You have all my time, if you want it, but I just want you to fully articulate the difference between Florida and these other coastal states that would justify this carve-out.

Mr. Cruickshank. Again, the Secretary’s statement is what it is. I am in no position to interpret it any further. I will note that——

Mr. Huffman. So, there has been no decision to exempt Florida?

Mr. Cruickshank. The Secretary’s statement stands for itself, and we will continue to analyze those areas according to law.

Mr. Huffman. It doesn’t stand for itself because we have not heard the reasons to justify it. Tell me why Florida and no other coastal states got that exemption, all the reasons. You have all my time, please.

Mr. Cruickshank. Again, the Secretary’s statement is what it is. I am in no position to interpret it any further. I will note that——

Mr. Huffman. So, there are no reasons that you can articulate?

Mr. Cruickshank. I will note that Congress has treated Florida differently than other areas of the OCS, at least with respect to the West Coast of Florida, in establishing a congressional moratorium.

Mr. Huffman. Are you aware of a single reason why Florida would be treated differently than other coastal states for the granting of that exemption?

Mr. Cruickshank. We will be treating all the states the same in terms of the analysis.

Mr. Huffman. That is not my question. I am asking are you aware of a single reason why Florida is more unique than other
coastal states, why it would get this special tweeted out exemption from the Secretary?

Mr. CRUICKSHANK. I believe every state has its unique attributes along its coast and the uses that are made of the resources and we will be analyzing all of those.

Mr. HUFFMAN. Let me be clear, I am giving you all the time you want, and you are not giving me a single reason why Florida is more unique than California, Virginia, South Carolina, or other coastal states.

Mr. CRUICKSHANK. I think all states have their unique attributes, and that is what we are required to look at under the law and what we will be looking at through this decision-making process.

Mr. HUFFMAN. Well, let’s be clear. You had a great chance here to defend this decision and to offer a rationale, and you are not taking it.

What is the process that you are going to use to decide which other states might be able to qualify for a similar exemption?

Mr. CRUICKSHANK. What we are doing under the Outer Continental Shelf Lands Act, the program development process outlined in Section 18 requires us to analyze eight factors that are specified in that Act ranging from resources to potential environmental impacts to other uses of the oceans to the laws, goals, and policies of affected states.

Mr. HUFFMAN. When will the decision be made?

Mr. CRUICKSHANK. What we are doing under the Outer Continental Shelf Lands Act, the program development process outlined in Section 18 requires us to analyze eight factors that are specified in that Act ranging from resources to potential environmental impacts to other uses of the oceans to the laws, goals, and policies of affected states.

Mr. HUFFMAN. When will the decision be made?

Mr. CRUICKSHANK. That is analysis we are working on. We are also doing a programmatic EIS and going through a public comment period right now. All of that information will be put together and provided to the Secretary, and we expect that the second of the three proposals required under the Act will be published later this year.

Mr. HUFFMAN. OK. Thank you. This week, I joined with Ted Lieu and Alan Lowenthal and several of my other colleagues, 36 Members of the California Delegation, in writing a letter to the Secretary urging that California be removed from the Administration’s offshore drilling plan. That is in addition to clear opposition from our governor and from other officials throughout the state.

Can you assure me that we will get a response from this Administration to our letter?

Mr. CRUICKSHANK. You will get a response, and that letter will be part of the record for consideration going forward in our program development process.

Mr. HUFFMAN. Thank you.

Thanks, Mr. Chairman.

Dr. GOSAR. You have a couple more seconds if you have something else.

Mr. HUFFMAN. I will yield.

Dr. GOSAR. OK. The gentleman from Texas is recognized for his 5 minutes.

Mr. GOHMERT. Thank you, Mr. Chairman. And I thank the witnesses for being here today.

Mr. Steen, given your experience with Arctic MMPA authorizations and the related litigation, has there been any indication that
Arctic surveys have been harmful to marine life there? Marine mammals, particularly?

Mr. Steen. Well, the short answer is that, no, there has not. There has been seismic activity and surveys that have occurred in the Arctic, the Beaufort, and the Chukchi Seas for many decades. There have been authorizations that have been issued by the Fish and Wildlife Service for polar bears and walruses and by the National Marine Fisheries Service for a variety of other marine mammals, and they have consistently held, over periods of documented reporting and monitoring from the surveys, a negligible impact in every finding that they have made that has looked at these, and that bears out in the scientific record.

For example, over this period of decades when seismic surveying has been occurring in the Arctic, the bowhead whale has gone from a point, due to past whaling practices, of being almost extinct to now reaching almost its carrying capacity, increasing by huge magnitudes, and that has occurred while seismic surveying is happening. And there have been no indications of any other harm to any other marine mammal populations in the Arctic as a result of exploration activities.

Mr. Gohmert. Your written testimony details the highly litigated Arctic ITR applications, and you state that, “Almost every MMPA ITR issued for Arctic oil and gas activities has been challenged by environmental advocacy organizations,” but that the authorizations were upheld in Alaskan District Court and by the Ninth Circuit, shock. But why do these environmental groups continue to sue given their failure rate?

Mr. Steen. In my opinion, they continue to sue because they are able to raise funds to fund their lawsuits to do that by characterizing it as opening the Arctic to oil and gas development.

Mr. Gohmert. Even though they have not been successful even in front of the Ninth Circuit?

Mr. Steen. That is correct. And the best example is the last lawsuit that challenged the Chukchi Sea incidental take regulation. It was expressly intended by the plaintiffs that filed that suit as an attempt to try to block Shell’s exploration program that was planned that summer. So, it is a matter of rolling the dice. Even though they have been unsuccessful, the Marine Mammal Protection Act contains very vague standards, and there are always areas where some argument by a creative lawyer can be exploited. So, those arguments are attempted and they have been rejected over and over again, but if there is a shot and you have funding to bring the lawsuit, in my view, they keep taking those shots.

Mr. Gohmert. Are you saying that Congress actually passed something that was vague?

Mr. Steen. Incredibly vague.

Mr. Gohmert. What effect do these lawsuits that appear to be frivolous have on the resources there? The court resources?

Mr. Steen. I cannot speak for the Federal Government, but I would imagine they consume the resources of the Department of Justice to defend those lawsuits, of the courts and the judges and their clerks that have to process the lawsuits. But they also cost the applicants for the permits money and time as well because they intervene in the lawsuits rightly to help defend the permits, and
it adds another phase to the permitting process, and it adds a lot of cost because lawyers cost money.

Mr. Gohmert. Do you think there is any chance they are attempting to wear down the efforts to seek the resources, the mineral resources?

Mr. Steen. I think that is unclear from the record, but I think, with Shell’s experience in the Arctic and its decision to pull out, that was due to numerous things. One might argue it was due to the incredible controversy they encounter trying to explore in the Chukchi Sea.

Mr. Gohmert. Yes. Let me ask, Mr. Cruickshank, you had mentioned that with regard to the streamlining team led by BOEM that, if I understood right, I was listening in the next room, that you expected that in—I believe you used a vague term. Do you have anything more specific about when we could expect the streamlining?

Mr. Cruickshank. I don’t have a hard date on when we will get the recommendation.

Mr. Gohmert. How about a soft date?

Mr. Cruickshank. I would expect them sometime this spring.

Mr. Gohmert. All right. Thank you.

Dr. Gosar. I thank the gentleman.

The gentleman from California, Mr. Costa, is recognized for his 5 minutes.

Mr. Costa. Thank you very much, Mr. Chairman, members of the Subcommittee.

The hearing today on permitting process for offshore seismic research, I guess, has merit, although it is not, in my view, any new ground that we are treading. And I must say, Mr. Chairman, in listening to the conversation this morning, I am reminded of one of America’s great philosophers, Yogi Bear, who once said, “It seems like déjà vu all over again.”

I chaired this Committee 10 years ago, this Subcommittee, and I am not going to get into the details of two career Federal employees, Mr. Cruickshank and Mr. Ludwigson, who I think are trying to do their jobs as best as they can and follow the law, but I do want to take a step back as we talk about the point of this hearing as it relates to the larger issue.

The flaws that I have found as a person, a Member of Congress, who in the 14 years that I have been here and when I served in the California State Legislature, has always supported, in terms of an energy policy, the use of all our energy tools and our energy toolbox, which includes the utilization of fossil fuels. And as I pointed out last week in California, half of the energy in California is fossil fuel, and we have been producing it for 100 years. And people ignore the fact that California is the third largest energy producer of fossil fuels and that we have over 20 platforms in the Santa Barbara Channel, and we do slant drilling to a very significant degree along our coast.

Yet, Californians feel just as strongly about their coastline as people in Florida do and anywhere else. You need to understand that 70 percent of California’s population lives within 60 miles of the coastline, and it is one of the most significant drivers of our tourism industry.
I want to get back to where this is all going, because this Administration, and you talked about ideology, and I have heard ideologies until I am sick and tired of hearing ideologies, because what we are talking about, at least from my perspective, is how we come together in a bipartisan fashion with a comprehensive energy policy that uses all the energy tools in our energy toolbox. And I listened to both sides trying to be objective. And "drill baby drill" nor "use it or lose it" constitutes an energy policy. They make nice bumper stickers, but it is not a comprehensive energy policy. It does not take into account how you balance the incredible changes that are occurring in the 21st century with renewable energy and the challenges we have with climate change, or with the impacts we have when we make mistakes and we have to deal with the environmental impacts of those mistakes.

So, I guess I am just trying to figure out, and I will talk to the two individuals who are testifying on behalf of the Natural Resources and Environmental Accountability Office and the Director of Ocean and Energy Management, have there been any conversations as you have been directed to pursue this policy and any coordination that you are aware of between the Energy Department, the Interior Department, or the Department of Defense? Is there any, or is this just kind of a silo approach?

Mr. Cruickshank, could you opine?

Mr. CRUICKSHANK. Yes, I would be happy to, Congressman. We reached out to several of the cabinet agencies as we start development of our planning process and continue to do so.

Mr. COSTA. Are we looking at the totality of all the energy that we are using in this country and are we looking at the amount of new technologies and how they are changing?

Mr. CRUICKSHANK. That is not directly part of what we look at in the program process for offshore oil and gas. We certainly consider those things in how we model what may happen in the future, but the 5-year program for offshore oil and gas is not one that creates a national strategy for energy policy.

Mr. COSTA. That is the problem. And my time has run out, Mr. Chairman, but it has been, I think, a fault in this effort by this Committee and Subcommittee to try to deal with what is one of the real important issues in America, and that is how we pursue a 21st century process of a common-sense energy policy that takes into all of the above, takes into account our environment and the impacts of climate change and the fact that a lot of other countries are doing some things that I think look to be on a much more balanced approach than simply pursuing an ideology.

Dr. GOSAR. I thank the gentleman.

The point I want to make is that before you can actually have a dedicated, predicated, concerted conversation in regards to an all the above, which I believe in as well, you need to know the assets that you actually hold. As Dr. Cruickshank has said and the record supports, when you have 30 years of lack of proper investigative tools to know what is exactly there, not just in oil, gas, and carbon fuels but anything else, you cannot have an organized, predicated, great conversation. So, I think there is a very valuable aspect about knowing what your value and what your assets are.

Mr. COSTA. Would the gentleman yield?
Dr. GOSAR. You betcha.

Mr. COSTA. We can, and maybe we should, have a separate conversation about this, but there has been a lot of research in California. We have significant reserves in California that we know are there, and we have known that for decades that they are there, and if you believe in federalism, and I do, and I like to try to be consistent, I mean, California, Florida, and other coastal states have made determinations on how they want to balance. But we have lots of oil in California, and that is not a secret, and it is to what degree we want to utilize those resources versus other resources.

I guess we could put a fine point on this with new research and new technologies. We could find out how much more we have, but we know it is significant. We also know in California that Californians want to have a more balanced use and not rely on totally one source of energy, and that is a political will of people who live in a particular state.

Dr. GOSAR. I agree and I understand the gentleman has been very consistent with his federalism views, as I am as well. I am a border state with you, so I will tell you, when we start looking at the totality of alternative energy processes, a sizable amount of solar is instituted in our state on your behalf. I do understand that, but I think there is a mutual respect to ascertaining what our assets are all the way across the board.

Mr. COSTA. I don’t mind knowing what our assets are. I think we should all know what——

Dr. GOSAR. I am the son of a geologist, so I understand this very, very well. Thank you for the dialogue and the colloquy.

Mr. COSTA. Thank you.

Dr. GOSAR. The gentleman, the muscle man from Louisiana, is recognized for his 5 minutes.

Mr. GRAVES. Thank you. Gosh, so many thoughts.

First, Mr. Costa, I want to thank you for your very thoughtful comments, and I largely agree with what you had to say with regard to looking at the full spectrum of all the assets in potential energy sources that we have. I think we can do a better job and certainly appreciate, again, your thoughts on that topic. In fact, I just made a down payment on an electric vehicle yesterday that I didn’t tell my wife about yet, so if you all could keep that between us, I would appreciate it. Hi, honey.

Mr. COSTA. She knows now.

Mr. GRAVES. I very much doubt that she is watching C-SPAN. If she is, then——

In any case, a few things here. Mr. Lowenthal, you talked about this letter from California. A few of you discussed the concern that was related to Secretary Zinke’s decision. I actually sent a letter to him as well. I agree with you. I agree with you. But here’s where I struggle, and I think this is where we differ. You all are so sick of me talking about the coast of Louisiana, but I am getting ready to do it again.

We have sat in this Committee and we have argued over offshore energy revenue sharing policy. President Obama and President Trump have issued these budget documents and they said that this
is a Federal resource that belongs to all Americans and they all should benefit from it.

You are arguing that the decision to give Florida special treatment, arguably special treatment, is inappropriate, yet you are saying that the state of California wants the same thing, that the state of California should unilaterally be able to determine what happens with the Federal resources off the coast of their state. You are saying that the state of California alone should be able to dictate to the Federal Government what happens with the billions of dollars in public resources that are there.

Now, if that is what you subscribe to, if that is what you all think, I want the same deal for Louisiana. And the $200 billion that we have given to the United States Treasury from our offshore energy production, we want it back. So, you can’t keep going through and saying, well, I think it should be like this here and this here. No. We have paid for land and water conservation funds. We have bought all these natural resources and protected these grounds all over the United States, which I support, if bought from willing sellers. But you can’t just go through and cherry-pick all this stuff. Our coast is eroding. We have lost almost 2,000 square miles. That is under our Constitution, that is where the money is dedicated to. So, if states get to pick and choose what happens off their coast, we want it too.

So, I want to ask you all for policy consistency, to be with us, to stop picking and choosing, to be with us. We are trying to protect our environment, so I would appreciate all of your consideration as we move forward on that.

Dr. Cruickshank, thank you for being here. I had the opportunity to work with you on various energy issues dating back to the Clinton administration. I know you have incredible expertise. I want to ask you something. You have worked for Democrat administrations and Republican administrations. Have you not issued seismic permits under President Clinton and President Obama?

Mr. Cruickshank. There have been some individual permits that may not have—

Mr. Graves. But have you issued permits?

Mr. Cruickshank. Generally, the permits have been approved.

Mr. Graves. And as I recall, I think there were 400 permits issued under the Obama administration.

Mr. Cruickshank. I think that is about right, yes.

Mr. Graves. Four hundred seismic permits issued, harassment, take, everything under the Obama administration. So, all these people sitting here saying, oh well, this is suddenly an awful situation, where were you when President Obama was there? You had the opportunity to shut these things down. Why didn’t President Obama, perceived as an environmentalist, shut this down? It is because you have to look across the full spectrum of considerations for the American public. The Administration did it, and they issued permits.

Do you mind—OK, throw the slide up. I heard a lot of comments here. This is a great CRS slide that I stole. I just ran next door and made a quick PowerPoint, so it is not very good, but this shows you the total volume of oil spill—that is the blue bars, the vertical bars—the total volume of oil spilled in various years from 1973 to
2003. So, you see a clear trend of it going down, the total volume of oil spilled. The red line shows, or whatever it is, red, orange, whatever it is, shows the number of individual incidences. Look, this is a good document. This is a good trend. We are moving in the right direction of fewer spills and lower volumes of oil, OK, so good news.

Next one. This is a different way of showing it similarly, yet it breaks it down by different types of spills, and once again, you can clearly see that trend. You see the anomaly in 2005. I want to make note that was Hurricanes Katrina and Rita, which caused the majority of that blue bar right there. But also I want to be clear that the majority of this oil was not extraction related. This was largely onshore storage of oil in big tanks that were destroyed. We had extraordinary winds, incredible hurricane, so that is what that was largely attributed to. But once again, clearly you see the trend that is going downward.

Now, here’s the next one that is interesting, and Senator Davis, I want to talk to you about. Can you give me the next slide? All right. I know there are a lot of numbers and everything else, but here is what this is, and I am going to read—the next one kind of distills a bit. This is a National Research Council report that shows the sources of oil in terms of the oil that was spilled.

So, Senator, I have been to South Carolina. You have a fantastic state. I love your coastal area, Charleston in particular. You have a port there that you all are trying to grow. I have heard you express concern that you don’t want to have spills on your beaches, and I don’t either. I spent many years of my life restoring our coast, protecting our environment, but when you actually look at this, you will find that there is a greater chance of oil being spilled by vessels than by production and extraction. So, I am having trouble understanding how South Carolina is putting a lot of eggs in the basket at that port, great port, in trying to expand it, trying to lure more vessels there whenever there is a greater threat—if you go to the next slide—there is a greater threat of oil spilling from discharge of ships and land-based related activities than there is from extraction. And this is a summary of the last number-intense chart that you just saw. So, extraction spills are about 3 percent, whereas the ships 12 percent or some of the land-based associated activities 37 percent. Can you help me understand that?

Mr. Davis. Thank you, Congressman. In terms of looking at whether or not it is a good idea to do seismic testing and then subsequently drilling—looking at a cost-benefit analysis, our domestic petroleum production has increased 64 percent by fracking. And when you weigh that against the relatively small amount of oil, relatively speaking, that you are going to get, if you weigh that against the potential for damage, and I understand that the potential for damage has decreased over time as your charts have shown, but when that damage occurs, and even oil industry advocates admit that there are going to be some spills at some point in time, the unique nature of our coastline, the estuarine system, the nurseries, the things that will be impacted forever, in law, we like to speak in terms of irreparable harm where monetary damages cannot make you whole, and you can see that in the coast as well.
In terms of the BP oil spill where you had damages that were awarded and monetary amounts given, it is never going to make those areas whole. It is not going to restore that ecosystem. Those marshes are going to be destroyed forever.

Mr. Graves. Hang on. Let me reclaim. First of all, I was the lead trustee for the Deepwater Horizon oil spill. Under the law, you are required to demonstrate how your remediation plan is going to fully restore the environment, and if that does not happen, you can get citizen suits challenging you. Largest settlement from a single company in U.S. history. And I will tell you, and BP's CEO will tell you, I was the one that kept rejecting their offers because it was not sufficient to restore our coast. I have spent 20 years of my life busting my butt to restore our coast and protect our coastal environment. I don't agree that people say that we don't care about our environment, we don't care about our coasts.

Can you go two slides down? You walked into the trap I set for you. So, here we go. What this shows right here is the landings, or the fisheries production. You talked about ecological production. The first table, and I understand it is small, what it shows is the state of California, the total fisheries landings. This is an indication of ecological productivity. Fisheries landings in the state of California, and I chose 2011 through 2016 intentionally, the aftermath of the Deepwater Horizon oil spill, it shows that you have 840,000 metric tons of seafood in California totaling about $1.3 billion. In South Carolina, you have about 40,000 metric tons valued at about $136 million. In Louisiana, in the aftermath of the oil spill, we had nearly 3 million tons, dwarfing what California—again 40,000 in California, 3 million in Louisiana, valued not at $136 million in South Carolina, but $2.3 billion. So, you can manage, these things can co-exist. My point is this—I know I am way over, and I am sorry, but——

Dr. Gosar. That is fine. To the gentleman, we are going to offer the same time to the other side.

Mr. Graves. OK. Thank you. That was the Muscle Milk.

You have ecological productivity. You can have energy production. We have produced up to 90 percent of all the offshore energy production in the United States in Federal waters. My point is that, look, I understand the sensitivity. I think that there is some conflict in your statements about the state’s statements about wanting to deport and expanding new vessels whenever you have a higher risk of spilling there than you do from actual extraction activities. I think we have to have better discussion, more discussion about is this a Federal resource or is it not, and an understanding where we exercise discretion and control over that resource on the offshore to either benefit all Americans or let states decide how that should be managed.

But thank you very much. I will shut up.

Dr. Gosar. I thank the gentleman.

The gentleman from California is now awarded 6 minutes.

Mr. Lowenthal. First of all, I thank you for that discussion. I think it is a very important discussion about what is the relationship between what is a Federal resource and how do the states that are the most impacted benefit.
Just as you have raised some of these issues about Louisiana, we have some of the same concepts and same problems. As you know, I recently had a meeting with you about the harbor maintenance fee, another Federal resource, which we are paying for, the primary donor ports, 40 percent of that revenue comes from the ports in my district. We get a tiny percentage of it, so that discussion is a very important discussion.

But let’s remember the reason why we are here today and the reason why California is raising this issue. It is not regarding what is a Federal resource and what is a state. It is the fact that we want the same consideration that Florida has. How come one state—and we know you agree with us on this. I am not pointing this out to you to say that you don’t agree with us. I am saying that is the reason for the discussion today that we have raised, that decisions were made, an analysis will be done, Mr. Cruickshank says, but we all know that after that analysis, the decision will be made by the Secretary, the same Secretary that circumvented the process by already pulling Florida out and then saying later on, I will make that decision based upon the analysis, but Florida is still out. We know what is going on. We just ask for the same consideration, just as you have done on these other same issues. And I think that is a worthy discussion.

But today, we are talking about why are we not receiving, all of us, the same consideration and the same decision making. That is all.

Mr. Graves. Do you mind commenting just on what I said? Do you think it is fair that Florida gets to decide what happens in Federal waters with Federal resources off its coast with multi-billion dollar Federal Treasury implications? You are asking California—

Mr. Lowenthal. Florida did not make that decision. We are not concerned, we are not arguing about Florida. We are saying how did Secretary Zinke make those decisions, that is what we are asking. These are Federal decisions that are made by the Secretary. Under what conditions does he choose one over the other before there is an analysis of it? That is what we are asking.

Mr. Graves. But do you think if they grant it for California, they grant it for Florida, do you see disparity in the case of Louisiana when we are asking for additional revenue sharing for our coast?

Mr. Lowenthal. I think that is a legitimate discussion that we should be having, what is that relationship, as I have also pointed out that we want to do about things such as the harbor maintenance fee. We agree with you those are discussions. All I am saying is that is not—

Mr. Graves. I tell you what, I will give you harbor maintenance if you give us all the offshore revenue. Do we have a deal?

Mr. Lowenthal. Maybe we can do that. All right. Let’s talk about that, because they are the same issues that we are raising.

Dr. Gosar. You still have 3 minutes.

Mr. Lowenthal. Senator Davis, your opposition to offshore—let me just see this.

Dr. Gosar. While you are gathering that together, for the witnesses, I allowed this to go forward because we don’t get the
opportunity for debate, and, Senator, you know that, and so this is exactly why we should be having more of these.

Mr. LOWENTHAL. I just wanted to follow up our discussion in asking Senator Davis about what are your feelings about how this Florida situation has unfolded. That is the issue.

Mr. DAVIS. Thank you, Congressman. I think several things, and I can tell you what South Carolinians are thinking right now. They listened to what Secretary Zinke had to say. They listened to him saying that local voices matter. They listened to what he had to say about Florida having unique coastal environment and tourism. All of those things apply to South Carolina. Our local voices matter. We have had municipalities up and down the coast opposing this. We have had our governor, Governor McMaster, just as Governor Rick Scott in Florida has done, opposing this.

We have unique environmental resources. We are heavily dependent upon tourism. So, as a lawyer, when I hear statements like that being made by Secretary Zinke, I think about due process. I think about arbitrary and capricious. And it may well be that Secretary Zinke spoke, I don’t know, out of turn is the right word to say, and whether or not the bureaucracy is still going to be processing Florida along with the rest of the states, but I can tell you what South Carolinians are thinking. They are thinking, if those criteria are sufficient to exempt Florida, if the governor of Florida is speaking out, if the uniqueness of Florida’s coast and environment are the reasons for exempting Florida, all those apply to South Carolina. And we are not going to understand in South Carolina about how an exemption can be granted to Florida where the various same reasons voiced by Secretary Zinke can apply to South Carolina. And there are going to be challenges based on that.

I mean, you cannot take a law and apply it unequally when you have the applicants or the states citing the same criteria. You have governors up and down the East Coast that have cited the same concerns and the same reasons that Governor Scott cited and that persuaded Secretary Zinke.

So, we want to be fed out of the same spoon. We want to be treated fairly and equally. And like it or not, the rules of the game have been established here that people of South Carolina and the people up and down the East Coast believe that if local voices matter, which is what Secretary Zinke said, and if environmental conditions and tourism are factors, those equally apply to my state. So, that is going to be a concern for us going forward.

Mr. LOWENTHAL. Thank you. I now yield back.

Dr. GOSAR. One comment just to bring this all into the aspect. As a landlocked state that has lots of Federal land, I do hope you understand that that conversation has to go forward, and that is why we have had these conversations at this level and at this Committee, is that the equal application of the law, well, there are vast stretches of public lands in Arizona, Wyoming, and Colorado that were contractually obligated for conversation and compensation to us. And that is why we cannot afford good infrastructure government and our schools in our western states because of this very application.
And this also has an implication on landlocked states and public lands, so there is more to this story. That is why we have to have that conversation.

The gentleman who has been waiting patiently from Louisiana, Mr. Johnson, is recognized for 5 minutes.

Mr. JOHNSON. Thank you, Mr. Chairman, and thank each of our witnesses for being here today.

I want to echo everything that my good colleague from Louisiana said and endorse all that, except for him buying an electric car without telling Carissa. I disagree with him on that.

Gentlemen, as I am sure all of you know, I have an important bill that is headed to the House Floor now. It is called the SEA Act, the Streamlining Environmental Approvals Act of 2017, which will increase regulatory efficiency and decrease all of these permitting delays that we lament and remove unnecessary duplication. However, some opponents of seismic surveying have expressed objections about that. The science is really important as we go forward for a number of measures that we will be considering in this Congress, I think, this year.

Mr. Steen, you hold a degree in fisheries and you have worked for the University of Washington as a fisheries biologist before becoming a lawyer. Is that right?

Mr. STEEN. That is correct.

Mr. JOHNSON. It is impressive background. I want to ask you to clarify a few statements made by Senator Davis in his written testimony. Earlier today, you were asked whether seismic surveying harms or kills marine mammals or other marine life. I think you were specifically asked if you knew of any documented case, and you said no. Is that correct?

Mr. STEEN. That is correct.

Mr. JOHNSON. So, just so I am clear, I consider you, I think, a most qualified expert on this subject, so I want to ask you, is it your belief that the concerns that are being stated are greatly exaggerated? Is that a fair statement?

Mr. STEEN. I do believe the concerns are greatly exaggerated.

Mr. JOHNSON. The Senator states in his written testimony that “over 100 whales beach themselves” due to seismic blast off of Madagascar. We have some of the media reports of that. Can you confirm the source of the Madagascar stranding and the status of the subsequent report?

Mr. STEEN. My understanding of that is that had nothing to do with seismic sound. That was multibeam sonar sound, which is completely different than seismic and it has much different effects on marine mammals. So, that is really not a seismic issue.

Mr. JOHNSON. Just for the layperson, can you elaborate just briefly the differences between the two, sonar and seismic, and what each is used for?

Mr. STEEN. I can elaborate as best I can. When it comes to the technology of sound, I consider myself a layperson, but my understanding is they utilize completely different wavelengths in the water. Sonar is used for things by the Navy. It is used by NOAA ships. It is used by the Army Corps of Engineers. Again, it has much different types of effects on marine mammals than seismic
sound does, which operates at different wavelengths and has different types of effects, if any.

Mr. JOHNSON. Senator Davis' testimony also states that “seismic blasting will affect fish that spawn in rivers and estuaries all along the East Coast.” To your knowledge, Mr. Steen, is it possible for the acoustics generated by seismic surveying to have this effect on fish in rivers and estuaries?

Mr. STEEN. No, I don't think that would be possible.

Mr. JOHNSON. I know we are running short on time, so I will yield back. I appreciate you all being here.

Dr. GOSAR. They are calling votes.

I thank the witnesses for their valuable testimony and the Members for their questions. The members of the Committee may have some additional questions for the witnesses, and we ask you to respond to those in writing. Under Committee Rule 3(o), members of the Committee must submit their witness questions within 3 business days following the hearing by 5:00 p.m., and the hearing record will be held open for 10 business days for their responses.

I want to compliment the panel for the dialogue, the Members sitting on the dais for the dialogue. We need to see more of this. As you know, Senator Davis, we need to see more of this, not less of this, and so I want to compliment everyone for a fabulous hearing.

Without further objection, the Subcommittee stands adjourned.

[Whereupon, at 10:50 a.m., the Subcommittee was adjourned.]

[LIST OF DOCUMENTS SUBMITTED FOR THE RECORD RETAINED IN THE COMMITTEE’S OFFICIAL FILES]

Rep. Beyer Submission

—Letter signed by multiple Representatives addressed to Secretary Zinke regarding the removal of offshore Virginia drilling zones dated January 12, 2018.

Rep. Gosar Submission

—NOAA, Statement for the Record regarding NMFS actions and additional methods to streamline permitting application processes.

Rep. Lowenthal Submissions

—Letter signed by multiple Members of Congress addressed to Secretary Zinke regarding opposition to lease sales in the Atlantic, Arctic, and Pacific Oceans dated January 18, 2018.

—Letter signed by multiple Members of Congress addressed to Secretary Zinke regarding the opposition to the Department of the Interior's National Outer Continental Shelf oil and gas Leasing Draft Program dated January 18, 2018.