OUR NATURAL RESOURCES AT RISK: THE SHORT- AND LONG-TERM IMPACTS OF THE DEEP-WATER HORIZON OIL SPILL (PART 1 OF 3)

OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON INSULAR AFFAIRS, OCEANS AND WILDLIFE

OF THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

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CONTENTS

Page

Hearing held on Thursday, June 10, 2010 1

Statement of Members:
- Bordallo, Hon. Madeleine Z., a Delegate in Congress from Guam 1
  - Prepared statement of 2
- Brown, Hon. Henry E., Jr., a Representative in Congress from the State of South Carolina, Prepared statement of 4
- Cassidy, Hon. Bill, a Representative in Congress from the State of Louisiana 3

Statement of Witnesses:
- Barham, Hon. Robert J., Secretary, Louisiana Department of Wildlife and Fisheries 26
  - Prepared statement of 28
  - Response to questions submitted for the record 31
- Cresson, David, Executive Director and CEO, Coastal Conservation Association Louisiana, Baton Rouge, Louisiana 106
  - Prepared statement of 107
- Fry, Donald Michael, Ph.D., Director for Conservation Advocacy, American Bird Conservancy, Washington, D.C. 85
  - Prepared statement of 87
- Lambert, Captain Ryan, Director, Louisiana Charter Boat Association, Luling, Louisiana 128
  - Prepared statement of 130
  - Response to questions submitted for the record 132
- Lyder, Jane, Deputy Assistant Secretary for Fish and Wildlife and Parks, U.S. Department of the Interior 17
  - Prepared statement of 19
- McDonough, Joanne, Nature Tourism Specialist, Alabama Gulf Coast Convention & Visitors Bureau and the Mississippi-Alabama Sea Grant Consortium, Orange Beach, Alabama 133
  - Prepared statement of 135
- Mitchelmore, Carys L., Ph.D., Associate Professor, University of Maryland Center for Environmental Science, Chesapeake Biological Laboratory, Solomons, Maryland 92
  - Prepared statement of 94
- Ragen, Timothy J., Ph.D., Executive Director, Marine Mammal Commission 33
  - Prepared statement of 35
  - Response to questions submitted for the record 40
- Robichaux, Brenda Dardar, Principal Chief, United Houma Nation, Golden Meadow, Louisiana 75
  - Prepared statement of 76
- Rolfes, Anne, Founding Director, Louisiana Bucket Brigade, New Orleans, Louisiana 139
  - Prepared statement of 141
- Viles, Aaron, Campaign Director, Gulf Restoration Network, New Orleans, Louisiana 79
  - Prepared statement of 81
- Voisin, Mike, CEO, Motivatit Seafoods, Houma, Louisiana 101
  - Prepared statement of 103
- Westerholm, David, Director, Office of Response and Restoration, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce 5
  - Prepared statement of 7
  - Response to questions submitted for the record 14

Page

Statement of Witnesses—Continued
Williams, John, Executive Director, Southern Shrimp Alliance, Tarpon Springs, Florida 115
Prepared statement of 117
Response to questions submitted for the record 123
Letter to the Environmental Protection Agency and National Oceanic and Atmospheric Administration dated May 5, 2010, submitted for the record 121
Letter to the National Oceanic and Atmospheric Administration dated June 22, 2010, submitted for the record 127

Additional materials supplied:
Broussard, Michael, Corsair Charters, Letter submitted for the record 157
Fleming, Capt. Laurel, Daphne, Alabama, Letter submitted for the record 157
Irving, Lynn, Dauphin Island Kayaks, Letter submitted for the record 158
Johnson, Melissa, Paul Nettles, Cynthia Ramseur, and Leah Bray, South Coast Paddling Company, Letter submitted for the record 159
Mitchell, Capt. Bill, Orange Beach, Alabama, Letter submitted for the record 160
Nelson, Capt. J. Christopher, Alabama Kayak Adventures, Inc., Letter submitted for the record 160
Reas, Sherrie, Skipper "J" Dolphin and Nature Cruises, Letter submitted for the record 161
Singleman, Homer, Volunteer Water Quality Testing, Letter submitted for the record 161
Wilkinson, Capt. Kathy, Eco-Tours of South Mississippi, LLC, Letter submitted for the record 162

OVERSIGHT HEARING ON "OUR NATURAL RESOURCES AT RISK: THE SHORT- AND LONG-TERM IMPACTS OF THE DEEPWATER HORIZON OIL SPILL" (PART 1 OF 3)

Thursday, June 10, 2010
U.S. House of Representatives
Subcommittee on Insular Affairs, Oceans and Wildlife
Committee on Natural Resources
Washington, D.C.

The Subcommittee met, pursuant to call, at 10:04 a.m. in Room 1324, Longworth House Office Building, Hon. Madeleine Z. Bordallo [Chairwoman of the Subcommittee] presiding.

Present: Representatives Bordallo, Kildee, Christensen, DeGette, Sablan, Kind, Capps, Shea-Porter, Luján, Pierluisi, Wittman, Fleming, and Cassidy.

Also present: Representatives Boustany, Bilirakis, and Cao.

STATEMENT OF THE HONORABLE MADELEINE Z. BORDALLO, A DELEGATE IN CONGRESS FROM GUAM

Ms. BORDALLO. Good morning, everybody. The Subcommittee on Insular Affairs, Oceans and Wildlife will come to order.

Today is the first of three hearings that the Subcommittee will hold on the *Deepwater Horizon* oil rig explosion. This is in addition to two Full Committee oversight hearings already held by Chairman Rahall and two oversight hearings Subcommittee Chairman Costa will hold later this month.

As the Committee with primary jurisdiction over offshore oil and gas drilling, we will exercise our oversight responsibilities to the fullest extent, and we take these responsibilities very, very seriously.

Before we begin, I would like to express sincere condolences to the families of the 11 individuals who lost their lives the night of this tragic explosion on behalf of myself, Ranking Member Brown and the entire Subcommittee. We know that the healing process will be long and difficult, and our prayers are with them.

Today is Day 52 of the *Deepwater Horizon* oil spill, and I suspect that for many of the people in this room, those 52 days feel more like 52 years. Yet, in many ways, they also must feel like it is a tragedy that has only just begun. Despite the fact that BP collected 15,000 barrels in the 24-hour period ending midnight Tuesday, an unknown amount of oil continues to flow and we have no idea how much oil has actually spilled into the Gulf overall.

Also, while Federal scientists confirmed yesterday that there is oil floating beneath the ocean's surface, they still do not know the full scope of the plumes, or what their existence means for Gulf ecosystems. The only certainty is that with the still spewing well head over 5,000 feet deep, and the release of record amounts of oil and dispersant, the effects of this disaster on the ocean, estuaries,

fisheries, wildlife, beaches and the people of the Gulf Coast are going to be felt long after the well has been completely capped.

At this moment dead birds, turtles, dolphins and fish are washing up on our shore, and brown goo is lapping up on our beaches and wetlands. Below the surface, the release of oil and dispersant at depth is creating the plumes that I mentioned. Previous oil spills have shown that oil stays in these ecosystems for decades, damaging highly productive and sensitive areas that serve as habitats and nurseries for a large variety of species.

Today we will begin to explore some of the short- and long-term impacts of the oil spill on trust resources, including fisheries, birds and other wildlife, marine mammals, tribal resources, protected fish and wildlife habitat, and other natural areas. This morning and this afternoon, we will also focus on the implications for local communities who depend on many of those resources for their livelihoods.

I thank all the witnesses for being here today during what is a very challenging and extremely busy time, and look forward to hearing your testimony.

Before we go into that, I would like to recognize our acting Ranking Member, Mr. Cassidy, for his opening remarks.

[The prepared statement of Ms. Bordallo follows:]

Statement of The Honorable Madeleine Z. Bordallo, Chairwoman, Subcommittee on Insular Affairs, Oceans and Wildlife

Today is the first of three hearings that the Subcommittee will hold on the *Deepwater Horizon* oil rig explosion. This is in addition to two Full Committee oversight hearings already held by Chairman Rahall and two oversight hearings Subcommittee Chairman Costa will hold later this month. As the Committee with primary jurisdiction over offshore oil and gas drilling, we will exercise our oversight responsibilities to the fullest extent, and we take these responsibilities very, very seriously.

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Also, while federal scientists confirmed yesterday that there is oil floating beneath the ocean's surface, they still do not know the full scope of the plumes or what their existence means for Gulf ecosystems. The only certainty is that with the still-spewing well head over 5,000 feet deep, and the release of record amounts of oil and dispersant, the effects of this disaster on the ocean, estuaries, fisheries, wildlife, beaches and the people of the Gulf Coast are going to be felt long after the well has been completely capped.

At this moment, dead birds, turtles, dolphins and fish are washing up on shore and brown goo is lapping up on our beaches and wetlands. Below the surface, the release of oil and dispersant at depth is creating the plumes I mentioned. Previous oil spills have shown that oil stays in these ecosystems for decades, damaging highly productive and sensitive areas that serve as habitats and nurseries for a large variety of species.

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STATEMENT OF THE HONORABLE BILL CASSIDY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF LOUISIANA

Mr. CASSIDY. Madam Chair, thank you for holding this hearing today. I am pleased that my colleagues are committed to pursuing solutions to the ongoing oil spill. The people of the Gulf Coast, including especially the people of my State of Louisiana, have had their lives upended by this disaster, yet the actions of this Committee, the Congress and Administration will also have a significant impact. Our government has the power to mitigate or to terribly worsen the damages caused by the spill.

Madam Chair, this disaster may affect the economy of the Gulf for years to come. Now, while most of the Gulf remains open for fishing and seafood coming from the Gulf is safe, we are already seeing a reduction in demand for Gulf seafood. Now, this loss of market share does not just affect fishermen, but seafood processors, truckers who take the seafood to market and workers from almost every other aspect of the Gulf's commercial fishery. And it is not just commercial fishermen who suffer. Recreational fishermen, charter boat owners and businesses that depend upon recreational fishing also suffer.

Now, the loss of habitat for fish and wildlife could take years to restore. The Gulf is resilient, but if an entire year of spawning potential for fish is lost to the spill, and the marshes are not able to support the juvenile fish and wildlife next year, it may take even our Gulf fisheries longer to recover.

That said, many of the folks who make their living in the fisheries live next door to the folks that make their living in the offshore oil and gas industry, and these two industries have successfully operated side-by-side for years. I met yesterday with an oyster processor, and he said in times that were slow for fisheries, people would work in offshore oil and when times were slow for offshore oil, they would work in the fisheries. He is concerned that this one-two punch will be impossible for our coastal economy to overcome.

Now, we all use products from the offshore oil and gas industry to fuel our cars, airplanes, for plastics and fertilizers, for a wide variety of products that come from petrochemicals, so it is important to remember that the United States relies on all the natural resources of the Gulf, and not just the fish.

Madam Chair, the spill is a disaster and a tragedy. First of all, we must stop the leak of oil. The coastline must be protected, and what has been spilled must be cleaned. But the national economy and the Louisiana coastal economy need to continue to operate. While we can recover from the oil, Gulf Coast communities cannot endure the loss of jobs and its citizens.

The Federal Government must not make knee-jerk decisions that further cripple the Gulf economy. We must find out what went wrong with the *Deepwater Horizon* and ensure that this doesn't happen again, but calls to stop all oil and gas production in the Gulf will only cause us to lose more jobs, more businesses and more of our economy.

The Federal Government should take steps to help the people affected by the spill now, even before the spill is plugged. For example, we need to make sure that Americans know that seafood

from the Gulf is safe. We need to work together to make sure that people affected by this disaster are financially compensated in a timely manner.

Fishermen who have boat and insurance payments and who cannot work must be compensated quickly so they do not lose their boats and their homes, and those businesses that depend upon fishermen must be fairly compensated as well. Otherwise, they won't be there when the fisheries reopen. Whole communities that rely on the fishing industry could disappear if those affected are not compensated fairly and quickly.

Madam Chair, our response to this disaster needs to be guided by facts, not emotion. Not political opportunism, but facts. Let us stay focused on the evidence, figure out what measures will ensure that the people, the economy and the ecosystems of the Gulf will thrive.

Thank you, Madam Chair, for convening this hearing. I look forward to hearing from our witnesses. And I ask one more thing. Could I ask unanimous consent to submit a statement for Mr. Brown for the record?

Ms. BORDALLO. Hearing no objection, so ordered.

[The prepared statement of Mr. Brown follows:]

Statement of The Honorable Henry E. Brown, Jr. Ranking Republican Member, Subcommittee on Insular Affairs, Oceans and Wildlife

Madam Chairwoman, I want to compliment you for scheduling this series of hearings on the short-term and long-term impacts of the *Deepwater Horizon* oil spill.

It has now been 52 days since the *Deepwater Horizon* exploded and sank some 42 miles off the coast of Louisiana. This spill is an ongoing tragedy for the Gulf Coast region, its economy, the Gulf of Mexico environment and the millions of people who live there.

It is heartbreaking to see pictures of Brown pelicans and loggerhead sea turtles covered with oil and the growing number of wildlife that have perished because of this spill. It was also disturbing to learn that two national wildlife refuges, Breton in Louisiana and Bon Secour in Alabama have been directly impacted by oil and that 33 additional refuges along the Gulf Coast are now at risk.

While British Petroleum has appropriately stated that it will not be bound by the liability limits contained in the Oil Pollution Act of 1990, we have sadly watched as a number of BP containment strategies including Top Hat, Top Kill, Junk Shot and Saw and Suck have all failed to stop the spill.

We have all watched in horror as the impacts of this accident grow with each passing day. It is sobering indeed that 78,264 square miles or 32 percent of the Gulf of Mexico is closed to fishing.

We will hear testimony today confirming the fact that commercial fishing produces about 1.27 billion pounds of fish and shellfish worth in excess of $700 million dollars and that the fishing industry generates some 185,000 jobs in the Gulf of Mexico. This oil spill has not only potentially killed their livelihood at least in the short-term but their way of life. Every effort must be made to fully compensate those adversely affected by the oil spill, to expeditiously clean-up the effects of the *Deepwater Horizon* catastrophe and to restore faith in the people of the Gulf Coast. None of this can happen, however, until this well is permanently capped.

As a representative of the 1st Congressional District in South Carolina, which contains some of the finest beaches in the world, I have not been watching this spill as a casual observer. According to the Unified Area Command, it looks increasingly likely that oil from the *Deepwater Horizon* will end up in the Loop Current and may adversely affect beaches in North and South Carolina.

I, therefore, have a vested interest in trying to ensure that the Gulf Coast region has sufficient supplies of boom, dispersants and skimmers and the maximum amount of oil is either burned, contained, or sucked up from the Gulf of Mexico. Sadly, we know that once the oil comes ashore, it becomes more difficult to deal with it.

Finally, despite this tragic spill, I remain a strong supporter of offshore natural gas development. I would also remind my colleagues that the primary reason that

an increasing number of wells have been drilled in ultra deep water is because this Congress has for decades prohibited development in the Arctic National Wildlife Refuge and shallower offshore areas around the nation.

Madam Chairwoman, I look forward to hearing from our distinguished witnesses who I am sure will give us their unique prospective on the impacts of this tragic oil spill.w

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Ms. BORDALLO. I would now like to thank the Acting Ranking Member, Mr. Cassidy from Louisiana, for his opening statement and for joining us today for this hearing.

I would also like to ask unanimous consent that our colleague from Louisiana, Congressman Charles Boustany, be allowed to join us on the dais for this hearing and Congressman Cao. Hearing no objection, so ordered.

At this time I would like to introduce the first panel of witnesses that we have here, and I am going to begin by introducing each of you and then you will be giving your testimony.

Mr. David Westerholm, Director, Office of Response and Restoration, National Oceanic and Atmospheric Administration or, as everyone knows, NOAA; Ms. Jane Lyder, Deputy Assistant Secretary for Fish, Wildlife and Parks, U.S. Department of the Interior; Mr. Robert J. Barham, Secretary, Louisiana Department of Wildlife and Fisheries; and Dr. Timothy J. Ragen, Executive Director of the Marine Mammal Commission.

I welcome you all this morning, and I will begin by announcing that we have a red timing light on the table which will indicate when five minutes have passed and your time has concluded. We would really appreciate your cooperation in complying with these limits. We have three full panels at this hearing, so we probably will be going well into the afternoon. So be assured, though, that your full written statement will be included in the record.

And now I would like to begin by introducing Mr. Westerholm. Thank you for being here today. You may begin your testimony.

STATEMENT OF DAVID WESTERHOLM, DIRECTOR, OFFICE OF RESPONSE AND RESTORATION, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Mr. WESTERHOLM. Thank you, Madam Chairwoman and Members of the Subcommittee, for the opportunity testify on NOAA's role in the response to the *Deepwater Horizon* oil spill. My name again is Dave Westerholm, and I am the Director of NOAA's Office of Response and Restoration.

I appreciate this opportunity to discuss the critical roles that NOAA serves during oil spills and the importance of our contributions to protect and restore the natural resources, communities and economies affected by this tragic event.

Before I discuss NOAA's efforts, however, I would like to express my condolences to the families of the 11 people who lost their lives in the explosion and sinking of the *Deepwater Horizon* mobile offshore drilling unit. NOAA is deeply concerned about the immediate and long-term environmental, economic and social impacts to the Gulf Coast from the *Deepwater Horizon* oil spill. Over the past seven weeks, NOAA has provided sustained scientific support to the unified command. NOAA is fully mobilized and working tirelessly to lessen the impacts on the Gulf Coast and will continue to

do so until the spill is controlled, the oil is cleaned up, the natural resource damages are assessed and the restoration is complete.

My testimony today will discuss NOAA's roles in spill and natural resource damage assessment. I will also highlight a few of the environmental impacts of this oil spill on sensitive resources as we currently understand them. NOAA has three critical roles during spills. Our first role is as scientific advisor to the Coast Guard or the Federal on-scene coordinator, and we provide trajectory projections on the fate and transport of oil, we conduct overflights and mapping, we identify sensitive environmental resources in areas and conduct shoreline surveys and guide cleanups. As part of this process, resources from across our agency have been brought to bear from satellites to weather, from ocean observing to fisheries, from our ships and planes to our incredible scientists.

We also assess and restore natural resources injured by the spill and their loss and human uses through a process called the Natural Resource Damage Assessment, or NRDA. Finally, we represent the Department of Commerce in spill response decision making activities through the national response team.

Stewardship to protect and restore the nation's natural resources is shared among several Federal agencies, states and tribal trustees. NOAA, acting on behalf of the Secretary of Commerce, is the lead Federal trustee for many of the nation's coastal and marine resources. NOAA and other Federal, state and tribal trustees are authorized by the Oil Pollution Act or OPA to recover damages from the responsible party or parties on behalf of the American people and public for injuries to and loss/use of trust resources resulting from an oil spill. OPA encourages compensation in the form of restoration, and appropriate compensation is determined through this NRDA process.

At the outset of the spill, NOAA quickly mobilized staff to begin coordinating with Federal and state co-trustees and responsible parties to collect a variety of data that were critical to help inform the damage assessment. NOAA and co-trustees continue to collect data in the Gulf of Mexico and across five states that will be useful to determine what natural resources have been injured, and what human uses have been lost due to this oil spill.

Several technical working groups composed of state and Federal natural resource trustees and representatives from BP are gathering historical information and developing and implementing baseline pre-spill and post-spill impact field studies for multiple resource categories. Resources being assessed include fish and shellfish, bottom dwelling biota, birds, marine mammals, turtles and sensitive habitat such as wetlands, seagrass, beaches, mud flats, deep and shallow corals and the entire water column, including bottom sediments.

Shoreline surveys and additional baseline and injury assessment plans are now being implemented. Although the concept of assessing injuries may sound relatively straightforward, understanding complex ecosystems, the services these ecosystems provide and injuries caused by oil and hazardous substances takes time, often years.

I would like to talk briefly about the oil spill impacts on sensitive habitats, fisheries, marine mammals and sea turtles, all of which

are of great concern in the Gulf of Mexico. The effects of the *Deepwater Horizon* oil spill on natural resources are dependent on multiple factors, including oil composition, oil quantity, dispersal techniques, what resources are present and exposed and the intensity and duration of contact with organisms.

Ninety-seven percent by weight of the commercial fish and shellfish landings from the Gulf of Mexico are species that depend on estuaries and adjacent wetlands for some point of their life cycle. Landings from the coastal zone in Louisiana alone make up nearly one-third of the fish harvested in the United States. In such an incredibly productive area, important habitat covers nearly every part of the ecosystem.

In closing, I would like to assure you that we will not relent in our efforts to protect, assess and restore the Gulf Coast during and after this horrific spill. Thank you for allowing me to testify on NOAA's response and damage assessment efforts. I am happy to answer any questions you may have.

[The prepared statement of Mr. Westerholm follows:]

Statement of David Westerholm, Director, Office of Response and Restoration, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

Thank you, Chairwoman Bordallo and Members of the Subcommittee, for the opportunity to testify on the Department of Commerce's National Oceanic and Atmospheric Administration's (NOAA) role in the response to the *Deepwater Horizon* oil spill.

My name is David Westerholm and I am the Director of NOAA's Office of Response and Restoration. I appreciate the opportunity to discuss the critical roles NOAA serves during oil spills and the importance of our contributions to protect and restore the natural resources, communities, and economies affected by this tragic event. Before I discuss NOAA's efforts, I would first like to express my condolences to the families of the eleven people who lost their lives in the explosion and sinking of the *Deepwater Horizon* platform.

NOAA's mission is to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. NOAA is also a natural resource trustee and is one of the federal agencies responsible for protecting, assessing, and restoring the public's coastal natural resources when they are impacted by oil spills, hazardous substance releases, and impacts from vessel groundings on corals and seagrass beds. As such, the entire agency is deeply concerned about the immediate and long-term environmental, economic, and social impacts to the Gulf Coast and the Nation as a whole from the *Deepwater Horizon* oil spill. NOAA is fully mobilized and working tirelessly to lessen impacts on the Gulf Coast and will continue to do so until the spill is controlled, the oil is cleaned up, the natural resource damages are assessed, and the restoration is complete.

My testimony today will discuss NOAA's role in the *Deepwater Horizon* response; natural resource damage assessment; short and long-term environmental impacts of this oil spill; and community outreach efforts.

NOAA'S ROLES DURING OIL SPILLS

NOAA has three critical roles mandated by the Oil Pollution Act of 1990 and the National Contingency Plan:

1. During the emergency response, NOAA serves as a conduit for scientific information to the Federal On-Scene Coordinator. NOAA provides trajectory predictions for spilled oil, conducts overflight observations of oil on water, identifies highly valued or sensitive environmental areas, and conducts shoreline surveys to determine clean-up priorities.
2. As a natural resource trustee, NOAA conducts a joint Natural Resource Damage Assessment (NRDA) with co-trustees to assess and restore natural resources injured by the oil spill. NRDA also assesses the lost uses of those resources, such as recreational fishing, canoeing, and swimming, with the goal of implementing restoration projects to address these injuries.

3. Finally, NOAA represents the Department of Commerce in spill response decision-making activities through the National Response Team.

Response

The U.S. Coast Guard (USCG) is the Federal On-Scene Coordinator and has the primary responsibility for managing coastal oil spill response and clean-up activities in the coastal zone. During an oil spill, NOAA's Scientific Support Coordinators deliver technical and scientific support to the USCG. NOAA's Scientific Support Coordinators are located around the country in USCG Districts, ready to respond around the clock to any emergencies involving the release of oil or hazardous substances into the oceans or atmosphere. Currently, NOAA has all of its Scientific Support Coordinators located throughout the country working on the *Deepwater Horizon* oil spill.

With over twenty years of experience and using state-of-the-art technology, NOAA continues to serve the Nation by providing its expertise and a suite of products and services critical for making science-based decisions. Examples include trajectory forecasts on the movement and behavior of spilled oil, overflight observations, spot weather forecasts, emergency coastal survey and charting capabilities, aerial and satellite imagery, and real-time coastal ocean observation data. Federal, state, and local entities look to NOAA for assistance, experience, local perspective, and scientific knowledge. NOAA's Office of Response and Restoration (OR&R) was called upon for scientific support 200 times in 2009 for issues related to oil and hazardous substance spills.

Natural Resource Damage Assessment (NRDA)

Stewardship of the Nation's natural resources is shared among several federal agencies, states, and tribal trustees. NOAA, acting on behalf of the Secretary of Commerce, is the lead federal trustee for many of the Nation's coastal and marine resources, and is authorized by the Oil Pollution Act of 1990 to recover damages on behalf of the public for injuries to trust resources resulting from an oil spill. The Oil Pollution Act encourages compensation in the form of restoration and appropriate compensation is determined through the NRDA process.

NRDA in NOAA is conducted by the Damage Assessment, Remediation and Restoration Program (DARRP). Established in 1990 after the Exxon Valdez oil spill, DARRP is composed of a team of scientists, economists, restoration experts, and attorneys to assess and restore injured resources. Since the enactment of Oil Pollution Act, NOAA, together with other federal, state, and tribal co-trustees have recovered over $500 million for restoration of natural resources injured by oil, hazardous substances and vessel groundings. NOAA works cooperatively with co-trustee agencies and (in the case of a cooperative assessment of injuries) the responsible party (or parties) to share data and information collected during the spill and during the injury assessment. Working cooperatively with the responsible party and co-trustees can save time and money and can result in restoration being implemented faster and more efficiently.

National Response Team

The National Oil and Hazardous Substances Pollution Contingency Plan, more commonly called the National Contingency Plan, is the federal government's blueprint for responding to both oil spills and hazardous substance releases. The purpose of the National Contingency Plan is to develop a national response capability and promote overall coordination among the hierarchy of responders and contingency plans. NOAA represents the Department of Commerce on the National Response Team and works closely with regional response teams and local area committees to develop policies on dispersant use, best clean-up practices, and communications, and to ensure access to science-related resources, data, and expertise.

NOAA'S RESPONSE EFFORTS

NOAA's experts and ship and aircraft assets have been assisting with the response to the *Deepwater Horizon* oil spill from the beginning, providing coordinated scientific services when and where they are needed most.

At 2:24 a.m. (central time) on April 21, 2010, NOAA's OR&R was notified by the USCG of an explosion and fire on the Mobile Offshore Drilling Unit *Deepwater Horizon*, approximately 50 miles southeast of the Mississippi Delta. The explosion occurred at approximately 10:00 p.m. on April 20, 2010. Two hours, seventeen minutes after notification by the USCG, NOAA provided our first spill forecast predictions to the Unified Command in Robert, Louisiana. NOAA's National Weather Service Weather Forecast Office in Slidell, Louisiana, received the first request for weather support information from the USCG at 9:10 a.m. on April 21, 2010, via telephone.

The first graphical weather forecast was sent at 10:59 a.m. to the USCG District Eight Command Center in New Orleans.

Support from NOAA has not stopped since those first requests for information by the USCG. Over the past seven weeks, NOAA has provided scientific support, both on scene and through our headquarters and regional offices. NOAA's support includes daily trajectories of the spilled oil, weather data to support short- and long-range forecasts, and hourly localized 'spot' forecasts to determine the use of weather dependent mitigation techniques such as oil burns and chemical dispersion applications. We develop custom navigation products and updated charts to help keep mariners out of oil areas. NOAA uses satellite imagery and real-time observational data on the tides and currents to predict and verify oil spill location and movement. To ensure the safety of fishermen and consumer seafood safety, NOAA has closed oil-impacted areas to commercial fishing. NOAA scientists are in the spill area taking water and seafood samples to determine which areas are safe for commercial fishing. NOAA will reopen these areas only if it is assured that fish products within the closed area meet the Food and Drug Administration (FDA) standards for public health and wholesomeness. To that end, NOAA, in conjunction with FDA, is continuing to refine a reopening protocol based on both chemical and sensory analysis of seafood within the closed area. NOAA's marine animal health experts are providing expertise and assistance with stranded sea turtles and marine mammals. NOAA is flying multi-spectral scanning missions over the spill to determine oil density and thickness, and has dedicated ship and aircraft assets to determine the influence of the Gulf of Mexico Loop Current on transporting the oil outside of the Gulf of Mexico. The influence of the Loop Current and the presence of submerged oil plumes are areas of ongoing research that NOAA and its federal and academic partners are investigating.

NATURAL RESOURCE IMPACTS FROM THE DEEPWATER HORIZON

The effects of the *Deepwater Horizon* oil spill on natural resources are dependent on multiple factors including oil composition, oil quantity, dispersal techniques, and contact with organisms. Offshore oil can impact the upper meter or so of the water column, mixed layer deep water, and the sea floor. When the oil moves onshore, the shoreline, nearshore waters, and coastal habitats may be impacted.

Shorelines and coastal wetlands in the Gulf of Mexico

Gulf of Mexico coastal areas contain more than half of the coastal wetlands within the contiguous United States (Louisiana alone contains approximately 40 percent of the total). These coastal areas play a vital role in the reproductive cycle of many fish species, serving as important nursery grounds, for example. These coastal areas also serve an important role in the protection of human life and property, by providing a natural buffer to protect coastal communities from coastal storms, for example. The Gulf of Mexico region has been losing coastal land at a very high rate over the last 50 years. The effect of the *Deepwater Horizon* oil spill and the dispersants used, on coastal wetland loss will be determined by how much oil reaches coastal wetlands, and how long the oil persists. Large amounts of oil resting on vegetated coastal shorelines could cause the vegetation to become stressed and die. This could cause the roots to die, which would weaken marsh soils. Weakened marsh soils would then be at risk of accelerated erosion from waves and storms. The long-term effects to these habitats have yet to be determined.

Fisheries and Fisheries Habitat in the Gulf of Mexico

Ninety-seven percent (by weight) of the commercial fish and shellfish landings from the Gulf of Mexico are species that depend on estuaries and the adjacent wetlands at some point in their life cycle. Landings from the coastal zone in Louisiana alone make up nearly one-third (by weight) of the fish harvested in the continental United States. In such an incredibly productive area, important habitat covers nearly every part of the ecosystem. Some examples of important habitat include the open water column, floating sargassum mats, deep-sea soft corals, hard coral reefs, rocky hard-bottom substrates, ledges and caves, limestone outcroppings, artificial reefs, mangroves, sandy bottom, muddy bottom, marshes, submerged aquatic vegetation, bays, lagoons and even the sandy beach, which turtles use for laying eggs. In federal waters, species that use the surface would be most impacted by the early stages of the oil spill. As the crude oil sinks, the bottom-oriented fish community may be impacted. In general, the 42 reef fish species managed by NOAA in the Gulf of Mexico are often found in bottom areas with high relief, such as coral reefs, artificial reefs, and rocky hardbottom surfaces. If the oil slick reaches the bottom or nearshore/inshore areas, a majority of the reef fish species could be affected. Some reef fish spawn in spring, and their eggs and larvae are usually planktonic, carried by currents rather than through their own control. These larvae would not be able to avoid

or escape the oil if currents brought them together. Sargassum mats are nursery habitat for some species, including gray triggerfish and amberjacks. Sargassum mats that intersect the oil could affect these species. In state waters, all coastal species could be affected if the oil spill reaches nearshore waters. In addition, shrimp larvae usually spend the early months of their life in inshore waters before migrating toward the ocean. Brown shrimp postlarvae migrate from February to April, and white shrimp begin their migration from May through November. Additionally, during the spring and summer months, several Gulf shark species use coastal habitats as nursery areas. If oil were to reach any of the coastal areas where these species occur, they could also be affected.

Effects of Oil on Marine Mammals and Sea Turtles

Oil is a mixture of chemicals, each of which may have different effects on marine animals and in combination these chemicals may be even more hazardous. In addition, some of the chemicals and methods used to clean up oil spills may also have effects on marine animals. For example, dispersants are used as a mitigation tool to help prevent greater impacts on the shoreline. Decisions to use dispersants must consider the potential benefits of decreasing the risk of oiling to shoreline habitats that many sensitive species rely upon and the potential increase of the risk of dispersants to organisms in the water column and on the seafloor. The full effects marine species are exposed to depend upon:

- The mixture and types of chemicals that make up the oil or are used to clean up the oil;
- The amount of exposure (dose for internal exposures or time for external exposures);
- The route of exposure (inhaled, ingested, absorbed, or external); and
- The biomedical risk factors of the animal (age, sex, reproductive stage, and health status). For turtles, this will include differing impacts and vulnerabilities at the different life stages such as eggs, post-hatchlings, juveniles, and adults. For cetaceans, this will include neonates, calves, juveniles, and adults.

Cetaceans, manatees, and sea turtles may be exposed to chemicals in oil (or in products used to treat oil spills, such as dispersants) in two ways: internally (by eating or swallowing oil, consuming prey containing oil based chemicals, or inhaling volatile oil-related compounds) and externally (by physically coming into contact with oil or dispersants, when swimming or coming ashore).

Whales, dolphins, manatees, and sea turtles are all air breathers and must come to the surface frequently to take a breath of air. In a large oil spill, these animals may be exposed to volatile chemicals during inhalation. Depending on the size of the spill, marine mammals and sea turtles could be exposed to these chemicals for relatively long periods of time. Research on dolphins in human care has shown that the animals avoid oil on the surface of the water. However, observations of wild dolphins have documented the animals swimming, feeding, and socializing in oiled water. Several characteristics of sea turtle biology and behavior put them at risk, including the lack of avoidance behavior of oiled waters, indiscriminate feeding behavior, and large pre-dive inhalations. Additionally, sea turtles and their eggs may experience oiling impacts on nesting beaches through chemical exposures resulting in decreased survival to hatching and developmental defects in hatchlings.

NOAA'S NATURAL RESOURCE DAMAGE ASSESSMENT EFFORTS

Oil spills affect our natural resources in a variety of ways. They can directly impact our natural resources, by oiling marine mammals, for instance. They can diminish the ecological services an ecosystem can provide, such as the loss of critical nursery habitat for shrimp, fish, and other wildlife or the loss of floodwater protection resulting from an oil spill. Oil spills may also diminish how we use natural resources by affecting fishing, boating, beach going, and wildlife viewing opportunities.

At the outset of the *Deepwater Horizon* oil spill, NOAA quickly mobilized staff from its DARRP to begin coordinating with federal and state co-trustees and the responsible parties to collect a variety of data that are critical to help inform the NRDA. Several technical working groups (composed of NOAA, federal and state co-trustees, and representatives from one responsible party (BP)) are gathering existing scientific information and developing and implementing baseline (pre-spill) and post-impact field studies for multiple resource categories. Resources being assessed include fish and shellfish, bottom-dwelling biota, birds, marine mammals, turtles, and sensitive habitats such as wetlands, submerged aquatic vegetation, beaches, mudflats, deep and shallow corals, and the water column, including bottom sediments. The trustees are also collecting and reviewing relevant water column, shore-

line, wildlife and other data being collected as part of the response and by other entities.

NOAA research ships and contracted ships have been deployed to collect chemical and biological samples pre- and post-oiling. Additional baseline and injury assessment plans are now being implemented. Existing plans will be updated and others developed going forward to determine what resources are, have been, or could be exposed to oil. The information below provides an update on the cruises and data collections efforts for various sensitive resources and habitats. The data and information being collected will be used to determine how best to restore injured resources and develop the most appropriate restoration projects to compensate the public for associated lost services.

While it is still too early in the process to know what the full scope of the damage assessment associated with the *Deepwater Horizon* oil spill will be, NOAA and co-trustees are concerned about potential short and long-term impacts to fish, shellfish, marine mammals, sea turtles, birds, and other sensitive resources, including impacts to their habitats, such as wetlands, beaches, bottom sediments, and the water column. These areas may include National Estuarine Research Reserves and National Marine Sanctuaries that may be impacted by the oil spill. The data collected in the Gulf of Mexico and across the five Gulf states (Texas, Louisiana, Alabama, Mississippi, and Florida) will be used to determine what natural resources have been injured and what human uses have been lost due to the spill. The information provided below outlines NOAA's cruises and data collection efforts for various sensitive resources and habitats.

Water Column

The purpose of the water column assessment is to document the persistence, fate, and transport of the oil in the water column and the resulting exposure to fish, shrimp, and other aquatic resources to this oil over time. Baseline (pre-oiling) water quality data for the coastal areas of the five Gulf states have been, and continue to be, acquired by the trustees. This includes water samples collected in near shore areas and from long-term monitoring sites from NOAA's Mussel Watch program.

Cruises aboard NOAA vessels, NOAA contracted vessels, and partner research vessels began in late April and have continued to gather data specific to the water column inside and outside of the oil slick. For example, scientists on the *M/V Jack Fitz* (a NOAA contracted vessel) are conducting water column profiling by sampling water at depths up to 800 meters to the surface for the presence of dissolved aromatic hydrocarbons and free oil droplets. During these cruises, water samples were collected to analyze for the presence of oil and whether any oil recovered matched the *Deepwater Horizon* oil "fingerprint." These and other data will be used to determine the presence of a submerged plume and to calibrate a 3D model of the entire oiled area.

Fisheries (Nearshore & Offshore) and Plankton

In addition to the historical baseline data on fisheries assemblages in the Gulf of Mexico, cruises are collecting pre- and post-oiling data on fish and plankton resources. An initial cruise on the *R/V Weatherbird II* (a National Science Foundation vessel) in late April collected water and biota data from outside the oiled zone. A second cruise that started on May 4, 2010, collected data on living marine resources at 32 existing Southeast Area Monitoring and Assessment Program (SEAMAP) sites off of the Florida panhandle (as baseline) and 6 stations in the vicinity of the oiled area. In addition to sampling for adult and larval fish and plankton, water samples were collected to characterize oil droplet numbers and size in the vicinity of the plume. Samples were also taken to assess toxicity, stable isotopes, sediments, and bottom-dwelling biota.

The NOAA ship *R/V Gordon Gunter* has conducted a survey of fish larvae in the Gulf, and has also been deployed to use its sonar equipment to map the presence of submerged oil. Water samples will be analyzed to confirm sonar readings. Cutting-edge technology developed by University of South Florida scientists, called the "SIPPER," will be deployed to allow scientists a view of microscopic marine life, such as zooplankton, fish eggs and larvae, as well as miniscule droplets of oil. NOAA has also chartered the *F/V Beau Rivage* to collect samples for seafood safety and analysis.

Oysters and Other Nearshore Benthic Biota and Habitat

NOAA's Mussel Watch Program quickly mobilized to sample shellfish, water, and sediments at 64 sites in the Gulf of Mexico, ranging from the Brazos River in Texas eastward to the Florida Keys, in order to establish baseline data before the oil hit the shoreline. These samples will be analyzed for 60 oil-related compounds known as polycyclic aromatic hydrocarbons (PAH). Oil from the *Deepwater Horizon* oil spill

has a unique chemical "fingerprint" of constituent PAHs and other compounds that will allow Mussel Watch researchers to distinguish contamination from this spill from oil coming from other sources. Once the oil hits the shoreline, new samples will be taken and tested.

Shoreline Habitats

NOAA is currently working with other resource trustees to document what shoreline habitats (e.g., beaches, mudflats, mangroves, wetlands) are, have been, or could be exposed to the oil. Trustees are working to assess pre- and post-oiled shorelines, and will document the spatial extent and degree of oiling on intertidal shoreline habitats. Aerial surveys were conducted, pre-oiling, to provide a base assessment of the shoreline. As the oil contacts the shoreline, aerial imagery will also be used to identify priority response initiatives and vulnerable habitat, to provide up-to-date information on the location of the oil, and to support field work to verify degrees of oiling. This information will be used to produce maps that will detail the extent of shoreline oiling over time. Ground survey teams will build upon these maps to create more detailed shoreline maps that will be used to identify monitoring stations for any subsequent injury-assessment studies.

NOAA has been collecting aerial photographs of our Nation's coast since the early 1900s. Following an incident such as an oil spill or a natural disaster such as a hurricane, these photos provide emergency and coastal managers with information needed to develop recovery strategies, identify hazards, and locate errant vessels.

Other Resource and Habitat Assessment Efforts

In addition to the work described above, additional assessment efforts are being conducted by the co-trustees to determine what resources are, have been, or could be exposed to oil for the following categories:

- **Submerged Aquatic Vegetation:** A work plan to assess potential impacts to this resource and document potential presence of and exposure to petroleum hydrocarbons and dispersants from discharged and dispersed oil is under development.
- **Birds**: Work plans to assess baseline conditions of pelagic, colonial marsh, and other birds are in place. Bird survey teams continue to survey beaches for birds in Florida, Alabama, and Mississippi. Work plans to assess post-oiling impacts to birds are underway.
- **Marine Mammals and Turtles:** The trustees continue to conduct marine mammal and turtle aerial surveys by fixed-wing planes and helicopter to document exposure, acute effects, and potential changes in behavior or distribution.
- **Deep- and shallow-water corals:** Trustees are compiling existing data and information about the deep- and shallow-water coral communities, as well as any information about their sensitivity to dispersed oil. More formal assessment plans to document pre- and post-oiling conditions are being developed, although data collection has already begun. A major ongoing deepwater coral study funded by Minerals Management Service and NOAA's Office of Ocean Exploration and Research is being utilized for an initial Tier 1 NRDA impact assessment of deep coral and chemosynthetic community habitats. This study includes invaluable pre-spill baseline imagery and active *in situ* experiments.
- **Terrestrial Wildlife:** Appropriate information about terrestrial wildlife communities – for example, deer, rabbits, quail, and turkeys – and information about their sensitivity to oil is being collected, and a more formal assessment protocol is under development.
- **Human Use:** NOAA and co-trustees are collecting existing information about human uses, including cultural uses. Field teams are conducting user intercept surveys from Louisiana to Florida. Overflights are being used to gather beach use information along the Gulf Coast.

Sampling and Data Management

For all the efforts listed above, NOAA, the co-trustees, and the responsible party have agreed to a data workflow process so that samples collected for analytical chemistry follow the same means of tracking, chain of custody, quality assurance/quality control, and data delivery into a unified database for analysis. NOAA, in coordination with DOI and other federal agencies, is providing geospatial support through the Environmental Response Management Application (ERMA). ERMA is a web-based Geographic Information System tool designed to assist both emergency responders and environmental resource managers who deal with events that may adversely impact the environment. ERMA is serving as a tool for coordinating information across the response teams and providing a common operational picture. Because of the demand for this capability, NOAA will soon release a public version

of ERMA. The ERMA website (http://www.geoplatform.gov/) allows the public timely access to information cleared by the Unified Command.

NOAA's Commitment to NRDA and Restoration

Although the concept of assessing injuries may sound relatively straightforward, understanding complex ecosystems, the services these ecosystems provide, and the injuries caused by oil and hazardous substances takes time—often years. The time of year the resource was injured, the type of oil or hazardous substance, the amount and duration of the release, and the nature and extent of clean-up are among the factors that affect how quickly resources are assessed and restoration and recovery occurs. The rigorous scientific studies that are necessary to prove injury to resources and services may also take years to implement and complete. The NRDA process ensures an objective and cost-effective assessment of injuries—and that harm to the public's resources is fully addressed.

NOAA'S COMMUNITY OUTREACH EFFORTS

During a NRDA, there are a number of opportunities where input and guidance from citizens and local and regional environmental groups are needed. Perhaps the most substantive way communities and environmental groups have helped during past damage assessments is by informing the trustees about potential restoration projects that address the injured resources and services. For example, an environmental group has been contracted to implement a restoration project addressing injuries from the 2004 Athos I oil spill in the Delaware River. Additionally, for past damage assessments, trustees have surveyed and held workshops with communities and environmental groups to identify potential restoration projects.

NOAA and co-trustees and responders are already informing citizens about the *Deepwater Horizon* response effort and the damage assessment through a variety of mechanisms. Although not an exhaustive list, a few examples are highlighted below:

- Representatives from NOAA have participated in multiple public meetings throughout the Gulf region. Two weeks after the oil spill, NOAA met with representatives from nine national environmental groups to inform them about our response and NRDA efforts. NOAA is participating in weekly conference calls organized by the Council on Environmental Quality with these and other local and regional community and environmental groups.
- To support the local communities as they deal with the economic, social, and environmental impacts of the spill, NOAA is working with Gulf of Mexico Sea Grant Programs to host a series of town hall meetings in Louisiana, Mississippi, and Alabama. The meetings are designed to assemble subject-matter experts on the issues of most concern to the public. Within each town hall meeting there will be a series of "open house," issue-specific workstations (e.g., tax issues for fisherman and others that have lost jobs and income). These town hall meetings will allow the public to receive direct information and ask questions. Similar meetings in Florida and Texas will be conducted in the coming weeks.
- NOAA is assisting with outreach to various academic groups in the Gulf, including the Northern Gulf Institute (a NOAA Cooperative Institute), National Estuarine Research Reserves and Sea Grant to ensure that their capabilities can be effectively used in the oil spill response and recovery effort.
- Gulf State Coastal Management Programs, keystone NOAA partners, are contributing to the response by participating in sampling operations, serving on NRDA assessment working groups, staffing state command posts, and providing assistance to local governments. NOAA is acting as an information clearinghouse on issues such as availability of training, assessment protocols, and general information sharing.
- NOAA is working through its Gulf Coast regional offices, state, local, NGO, and academic partners to provide opportunities to volunteer and participate. For example, NOAA helped organize volunteer beach clean-ups to remove pre-spill debris from state beaches, which eliminates obstacles and improves access, thereby helping to facilitate easier oil shoreline cleanup. In Alabama, ten volunteer beach clean-up events were organized and 125 volunteers picked up 4,000 to 5,000 pounds of debris from Alabama's beaches.
- To facilitate on-the-ground understanding of the spill, NOAA is awarding grants for rapid response projects to monitor the impacts of the oil spill on Louisiana's coastal marshes and fishery species through the Sea Grant Program.
- In addition, NOAA's Gulf Coast Sea Grant Programs are developing a web site to serve as a central database listing ongoing research activities and identify funding opportunities for oil-spill related research, whether conducted

by government, academic, or privately-supported scientists. The intent of this website is to provide a single, comprehensive view of research activities in the Gulf that are being undertaken in connection with the *Deepwater Horizon* oil spill, to foster coordination of these efforts.

CONCLUSION

I would like to assure you that we will not relent in our efforts to protect the livelihoods of Gulf Coast residents and mitigate the environmental impacts of this spill. In the wake of such an event, we are reminded of the fragility of our coastal ecosystems and the dependence of coastal economies on the health and prosperity of our seas. Thank you for allowing me to testify on NOAA's response and damage assessment efforts. I am happy to answer any questions you may have.

Response to questions submitted for the record by David Westerholm

Questions from Congressman Pedro Pierluisi *(D–PR)*

1. **On May 27, NOAA issued a press release in which the agency stated that its Climate Prediction Center expects an "active to extremely active" hurricane season for the Atlantic Basin this year. Specifically, NOAA said there is a 70% probability of 14 to 23 "Named Storms" and 8 to 14 Hurricanes, 3 to 7 of which could be Major Hurricanes. In light of these estimates, I am concerned that the resulting change in currents and wind patterns might move oil toward the Caribbean islands. Does NOAA consider this a possible or likely scenario? If so, what should the two U.S. jurisdictions in the Caribbean—Puerto Rico and the U.S. Virgin Islands—be doing to prepare for such a scenario and to mitigate any potential damage?**

There is a low probability of oil from the *Deepwater Horizon* BP oil spill impacting Puerto Rico or the Virgin Islands.

It is possible that oil from the *Deepwater Horizon* BP oil spill may become entrained in the Loop Current. The Loop Current is an area of warm water that comes up from the Caribbean, flowing past the Yucatan Peninsula and into the Gulf of Mexico. From there, it generally curves east across the Gulf and then flows south parallel to the west Florida Coast. As it flows between Florida and Cuba it becomes the Florida Current and it becomes the Gulf Stream as it travels up the Atlantic Coast. While there is potential that a hurricane could change the current and wind patterns in the Gulf, because the Loop Current stays well north of Puerto Rico and the Virgin Islands, it is unlikely this would cause oil impacts to Puerto Rico or the Virgin Islands.

NOAA is closely monitoring the oil slick and the Loop Current using satellite imagery, ocean observations, and aerial observations. There are regular overflights to observe the movement of oil near the Loop Current. There is a vessel operating continuously off the Dry Tortugas surveying for tarballs, and another vessel regularly going into the eastern edge of the Loop Current conducting oil and tarball surveys. The majority of the oil slick still remains north of the Loop Current. To date, there has not been any confirmed oil from the *Deepwater Horizon* BP oil spill in the Florida Straits. If a significant amount of surface oil enters the Loop Current and begins to move toward the Florida Straits and Eastern Seaboard, NOAA will be able to see it, predict the movement, inform states and communities, and help guide preparedness, response and cleanup efforts.

Questions from the Ranking Republican Member, Congressman Henry Brown, Jr. (R–SC)

1. **According to recently released Coast Guard logs, the Administration was aware of the catastrophic nature of the** *Deepwater Horizon spill in the first days after the explosion. Instead of no oil being spilled or less than 1,000 barrels, the logs indicate that between 64,000 to 110,000 barrels could gush out of the well in the event of a complete blowout. Were you aware of this Coast Guard information? If not, how would this have changed your overall strategy for dealing with this spill?*

The 64,000–110,000 barrel per day flow rate estimate was provided as a potential "worst case" scenario in the case of a total wellhead blowout. In the case of the *Deepwater Horizon* BP oil spill, a full wellhead blowout did not occur. While the flow rate estimates have changed as new information has become available, from day one the federal government has implemented a full-scale response effort assuming a worst case scenario.

2. Concern has been raised by Mr. Williams (from the third panel) about the long-term impact of the dispersants and on the decision to disperse the oil into the water column rather than allow it to rise to the surface. He points out that many fish species are spawning at this time of year and their larvae are also dispersed in the water column potentially causing a long-term crash of some fish species. Has your research shown this to be a valid concern? If so, how many year classes are likely to be affected?

When an oil spill occurs there are no good outcomes. Dispersant use is one of a few tools that may be employed to minimize consequences of an oil spill. The use of dispersants is an environmental tradeoff. Using dispersants decreases the environmental risks to shorelines and organisms at the surface. However, the dispersed oil could increase the risk to organisms in the water column including fish eggs and larvae. Impacts of oil to fish larvae may include death, delayed growth, impaired development, and greater vulnerability to predation.

While it is still too early in the process to know what the full scope of the damage assessment associated with the *Deepwater Horizon* BP oil spill will be, and how many year classes of fish will be impacted, NOAA and co-trustees are committed to evaluating and monitoring the short- and long-term impacts to fish, shellfish, marine mammals, sea turtles, birds, and other sensitive resources, including impacts to their habitats, such as wetlands, beaches, bottom sediments, and the water column. NOAA is examining historical distributions of fish larvae in the Gulf of Mexico and comparing the historical distribution with the current distribution and projected trajectory for the oil, as a tool to assess the possibility for exposure to both oil and dispersants. NOAA is also conducting laboratory studies to determine the possible impact of oil and dispersants on Gulf fish species. In addition, a number of NOAA research vessels are conducting surveys and are collecting pre- and post-oiling data on fish larvae in the Gulf. Cutting-edge technology developed by University of South Florida scientists, called the "SIPPER," will be deployed to allow scientists a view of zooplankton, fish eggs, and larvae, as well as miniscule droplets of oil.

There has been research conducted on the effectiveness and effects of dispersants and dispersed oil for more than three decades; however, important gaps exist. Research is needed to determine the effects of oil and dispersants that are suspended in the water column on mid-water and pelagic species, as well as on deep-water corals, chemosynthetic communities (animal communities living in the deep sea on dissolved gases), and benthic habitats. Such studies can provide valuable information on the sensitivity and/or resilience of these deepwater communities, and can inform future response actions and assessment work.

3. Claims have been made that there are undersea plumes of oil that are moving throughout the Gulf. NOAA has been attempting to use acoustic technology (which are normally used for fish surveys) to determine whether these claims are true. Is this technology working to detect large concentrations of oil and, if so, are these claims accurate?

NOAA is testing the application of its multibeam and fisheries echo sounders for oil detection, tracking, and mapping. Typically used for depth soundings and biomass measurements, respectively, the sonars have (in limited research) demonstrated a capability to record acoustic returns associated with oil in the water column. The NOAA ship *Thomas Jefferson* was detailed to the Gulf of Mexico in early June, and is involved in missions to collect water samples for chemical analysis and to test the feasibility of using acoustic and flourometric scanning to help find potential pockets of subsurface oil clouds. The science team onboard the *Thomas Jefferson* included researchers from NOAA, the Environmental Protection Agency, the University of New Hampshire, and the Woods Hole Oceanographic Institution. Observations from the initial mission include:

1. Scientists observed high fluorescence and reduced dissolved oxygen anomalies at around 1,100 meters depth, 7.5 nautical miles southwest of the wellhead. Laboratory analysis of water samples from this area is underway to help determine if this is an indication of subsurface oil.
2. Scientists also observed a subtle acoustic anomaly in the same vicinity. Additional analysis of the acoustic data from both NOAA ship *Thomas Jefferson* and NOAA ship *Gordon Gunter* will be needed to make further conclusions. Additional field work is also planned to test this method of using acoustic data to locate underwater oil.
3. The Moving Vessel Profiler, which allows data to be collected throughout the water column while the vessel was underway, was equipped with a special fluorometer. The fluorometer was tuned to crude oil and was used to collect fluorometric data from the surface down to about 100 meters deep in

shallower water from Mobile, Alabama, to Port Fourchon, Louisiana. The samples were taken while the boat was underway, with the instrument moving from the surface to the bottom and back to the surface approximately every 1.5 miles. While there are only limited data with which to compare results, the method has been shown to be an effective way to detect water masses with high fluorometry in the coastal zone. Much of *Thomas Jefferson*'s second mission, currently underway, will be focused on gathering more detailed data in the coastal zone, and collecting supporting data with the conductivity (salinity), temperature, and depth (CTD) instrument and water samples to further refine our understanding of possible submerged oil in the coastal zone. Any information on anomalous masses discovered in the coastal zone will be shared with other researchers and emergency responders.

4. Scientists observed several seeps of what appears to be natural gas in an area of known gas seepage, located to the southwest of the spill site.

Once the water samples from this mission are analyzed, scientists will compare those findings with the acoustic and flourometric data to determine if the imaging data are useful in helping to find subsea oil at low concentrations.

The NOAA Ship *Thomas Jefferson* trip report is available at: http://www.noaa.gov/sciencemissions/PDFs/tj__deepwaterhorizon__responsemissionreport__june3__11__2010final.pdf

The NOAA Ship *Gordon Gunter* trip report is available at: http://www.noaa.gov/sciencemissions/PDFs/gunter__may27tojune4__%20mission__summary.pdf

4. The Oil Pollution Act of 1990 has a mechanism for a responsible party to reimburse people for lost income and wages. How will those who rely on natural resources for subsistence purposes be made whole?

The Oil Pollution Act of 1990 (OPA) contains a provision that allows for individuals to submit private claims for cost and damages for the loss of subsistence use of natural resources. NOAA cannot provide specific information on the claims process, as it is outside our purview. The U.S. Coast Guard's National Pollution Fund Center has posted step-by-step guidance on the OPA claims process, claim forms, and information on the types of losses that may become the subject of a claim (http://www.uscg.mil/npfc/claims/). Those interested may also consult the *Deepwater Horizon* Response website, http://www.restorethegulf.gov, for more information on claims for people that rely on natural resources for subsistence.

We understand that BP has also established a claims process, called the Gulf Coast Claims Facility, that will be administered by Ken Feinberg and will operate independently of BP. The GCCF will handle claims for subsistence use losses.

5. Can communities submit claims for increases in social services which are as a result of the spill?

NOAA is not in charge of the Oil Pollution Act claims process. The U.S. Coast Guard's National Pollution Fund Center's website outlines the options available to state and local governments to file a claim for costs involved with providing increased or additional social services (http://www.uscg.mil/npfc/claims/). Communities may also consult the *Deepwater Horizon* Response website, http://www.restorethegulf.gov for more information. This website provides specific information on what types of claims are permissible and whom to contact.

6. Is the Administration taking any action to let people know that they do not need a lawyer to file claims and that government centers are being set up to help people with claims? Would the Administration support legislation that would cap the amount or percentage of money a lawyer can receive from oil spill claims?

This question is outside NOAA's area of expertise. NOAA's role in the *Deepwater Horizon* spill is to provide technical and scientific support to the National Incident Commander, to conduct a joint natural resource damage assessment pursuant to the Oil Pollution Act (OPA) with co-trustees to assess and restore natural resources injured by the oil spill, and to close oil-impacted areas to fishing in order to protect the safety of the food supply. The U.S. Coast Guard's National Pollution Fund Center's website provides information on the OPA claims process (http://www.uscg.mil/npfc/claims/).

7. Mr. Cresson has two suggestions for mitigation projects (an artificial reef and a hatchery). Would these projects be considered as "restoration" and therefore possibly funded by BP or the Oil Spill Trust Fund?

NOAA and state and federal co-trustees are conducting a joint natural resource damage assessment, as mandated by the Oil Pollution Act (OPA) to determine injury to and lost use of public natural resources. NOAA and the co-trustees are in

the initial phase of this process and are currently gathering data on impacts to resources such as fish, shellfish, birds, and sea turtles, their associated supporting habitats (wetlands, beaches, corals, etc.), and recreational uses across the Gulf of Mexico. The trustees will then quantify the total losses and develop restoration projects that compensate the public for their losses (pursuant to OPA). Looking forward, during the restoration planning process, the trustees will consider a variety of restoration project alternatives and, guided by the project selection criteria in the OPA regulations, will choose those projects that will most feasibly compensate the public's losses. The trustees will issue a draft restoration plan for public comment that details the projects that were selected and those that were not (based on the project selection criteria). A final plan will be issued by the trustees detailing the selected projects which will then be used to guide restoration. The projects suggested by Mr. Cresson, if selected during that process, would be submitted as claims for payment by the responsible parties or by the Oil Spill Liability Trust Fund.

Ms. BORDALLO. Thank you very much, Mr. Westerholm, for your detailed explanation of NOAA's role to date in the *Deepwater Horizon* spill response.

Before we continue with the next witness, I would like to ask for unanimous consent that the gentleman from Florida, Congressman Gus Bilirakis, be allowed to join us on the dais for this hearing. Hearing no objection, so ordered.

Ms. Lyder, please proceed with your testimony.

STATEMENT OF JANE LYDER, DEPUTY ASSISTANT SECRETARY FOR FISH AND WILDLIFE AND PARKS, U.S. DEPARTMENT OF THE INTERIOR

Ms. LYDER. Thank you, Madam Chairwoman. Madam Chairwoman and Members of the Subcommittee, I appreciate the opportunity to be here today to discuss the impacts of the *Deepwater Horizon* oil spill on fish and wildlife and their habitat in the Gulf of Mexico and to talk about the Administration's ongoing response.

We at the Interior Department also extend our condolences to the families of those who lost their lives, to those who were injured in the explosion and the sinking of the *Deepwater Horizon*, and to those people whose livelihoods are being devastated by this oil spill.

I have some photographs that I would like to use to illustrate my short statement here. I spent about a month in Houma, Louisiana, and I came to really love the area. I wanted you to see some of what I saw.

What you see here is I want to give you an idea of what Fish and Wildlife Service, Park Service and USGS employees are doing in the Gulf. First, they are helping deploy and maintain almost two million feet of containment boom with the goal of protecting the most sensitive areas of marsh and other vital habitat along the Gulf Coast.

The next picture is three levels of boom. You have heard a lot about boom. In the foreground you see the heavy duty Navy boom, then you see the orange beach boom behind that, and then the absorbent boom closest to shore to try and catch the oil that gets through the other barriers.

With our state fish and wildlife partners, we are surveying for sea turtles, birds, manatees and other wildlife along the coasts of Louisiana, Mississippi, Alabama and western Florida, and we are conducting natural resource damage assessments that will help us

hold BP and other parties responsible for damage and help fund restoration of the vital ecosystems of the Gulf, once the spill has been contained.

The Gulf of Mexico is one of the world's most ecologically rich areas and provides habitat for a great diversity of fish, birds, mammals, reptiles and other wildlife. Many species of wildlife live along the Gulf Coast and are affected by the oil spill.

We believe 35 national wildlife refugees are potentially at risk from this spill. So far, two have been directly impacted—Breton in Louisiana and Bon Secour in Alabama. Only Breton has been closed to the public. These islands are part of Breton, and they have booms surrounding them.

There are 10 National Park System units that are potentially at risk from the oil spill. This is Gulf Island's National Seashore. Several hundred thousands of acres of habitat associated with projects funded through the North American Wetlands Conservation Act are being threatened by the oil spill.

Millions of NAWCA grant and partner matching dollars have been or are being invested in coastal areas of Texas, Louisiana, Mississippi, Alabama and Florida to protect, restore and enhance wetlands and wetland associated uplands for migratory birds and other wildlife.

Hundreds of species are currently in their breeding or spawning periods, including sea turtles, many local bird species such as brown pelicans and least terns, as well as various fish and invertebrates that are critical species at the base of the ecosystem.

Oil spills affect wildlife and their habitats in many ways. Oil causes harm to wildlife through physical contact, ingestion, inhalation and absorption. Floating oil can contaminate plankton, algae, fish eggs and larvae. Fish and some seabirds can become contaminated by feeding on these organisms or by direct contact with the oil.

Larger animals in the food chain can consume contaminated organisms as they feed on these fish and other prey, and this can impact an entire ecosystem. We expect wildlife impacts will be subtle and chronic and persist for years and could possibly have population level impacts.

We don't know yet what the long-term impact from this oil spill will be. We have millions of migratory birds that range across the Western Hemisphere that winter in or migrate through the area. Many of these birds are currently farther north on their breeding grounds in Canada and the northern prairies of the United States. However, we expect the oil will persist long-term in the food chain, and they will see impacts when they return in the fall.

The Gulf is also a stopover for hundreds of millions of neotropical songbirds that rest there and feed during their spring and fall migrations. These birds, too, could potentially be affected by the spill.

Assuming substantial quantities of oil enters the coastal marshes of Louisiana, Mississippi, Alabama and Florida, we can expect very significant impact to the whole coastal ecosystem. In addition to severe and long-term impact to marsh vegetation, various invertebrates such as crabs and shrimp and many vertebrates, including fish, birds, turtles and mammals, will be affected.

The injury suffered by water and wading birds such as the brown pelican is potentially the most dramatic. Health effects to birds of exposure to oil include death, poisoning, skin irritation, matting of feathers and poor temperature regulation.

Longer term effects are less understood, but oil ingestion can cause organ damage and damage to an embryo. Damage to the immune system can lead to secondary infections that cause death. Behavioral changes may affect an animal's ability to feed. Long-term consequences can include impaired fitness.

Oil has the potential to endure in the environment long after a spill and has been detected in sediment 30 years after a spill. We don't know yet what impact it will have on the marsh plants. Impacts associated with the conversion of wetlands to open waters, subsidence and sea level rise will serve only to weaken what are already fragile coastal wetlands.

As my friend from NOAA mentioned, efforts are already underway to determine the magnitude of the injuries to natural resources so that BP and other responsible parties can be held accountable. Fish and Wildlife Service and the Park Service are working with NOAA as trustees of these resources to understand these injuries. A restoration plan will be developed with public input that specifies the actions necessary to restore the resources and their habitat.

For the past 18 months, Interior has focused most of our new capacities in landscape planning and science, to build what we call landscape conservation cooperatives, and we are doing this with our partners, our state partners. In this picture we have a state employee, we have a Fish and Wildlife Service vet and we have the Acting Director of the Fish and Wildlife Service, Rowan Gould, all taking part in the response on the Gulf.

The *Deepwater Horizon* spill is the latest in a series of events graphically illustrating our nation's need to understand, value and nurture the Gulf of Mexico ecosystem. The spill has illuminated the need for additional information and has made us all aware that the impacts of this spill are graphic, obvious and tragic to our natural resources.

This Administration is committed to helping the people in the communities of the Gulf Coast persevere through this disaster, to protect our important places and to learn valuable lessons that will help prevent similar spills in the future.

I would be happy to answer any questions the Subcommittee might have.

[The prepared statement of Ms. Lyder follows:]

Statement of Jane Lyder, Deputy Assistant Secretary for Fish and Wildlife and Parks, U.S. Department of the Interior

Chairwoman Bordallo and Members of the Subcommittee, thank you for the opportunity to be here today to discuss the impacts of the *Deepwater Horizon* Oil Spill on fish and wildlife and their habitat in the Gulf of Mexico, and the Administration's ongoing response. Before I begin, I would like to take a moment to express my condolences to the families of those who lost their lives, to those who were injured in the explosion and sinking of the *Deepwater Horizon*, and to those whose livelihoods are being devastated by this oil spill.

It has been more than 50 days since BP's *Deepwater Horizon* offshore oil drilling platform exploded and sank 40 miles southeast of the Louisiana coast, releasing millions of gallons of crude oil into the Gulf of Mexico. The volume of escaped oil con-

tinues to grow, expanding the area of impact and increasing the impacts to precious natural resources throughout the Gulf region.

Federal authorities have been on scene from the very beginning—since the first hours of this disaster when it began as a search and rescue mission. Our highest priority is stopping the ongoing leak and preventing more oil from being released.

An equally important priority is protecting the resources that are or may be affected by this spill. To that end, the U.S. Fish and Wildlife Service (FWS), the National Park Service (NPS), and other federal agencies are working tirelessly to protect fish and wildlife, safeguard vital habitat, and public lands and resources that belong to the American people. These professionals are also documenting impacts and working to understand the long-term effects of the spill, so that we can hold the responsible parties accountable.

The scope and impacts of this spill are extraordinary. We do not know at this time the extent of the impacts, but we believe that in all likelihood, they will affect fish and wildlife and plant resources in the Gulf – and across the country – for years, if not more likely decades, to come.

The Administration's Response

The *Deepwater Horizon* incident is being managed under a Unified Command System, located in Houma, LA. Operational activities are being directed from Incident Commands in Houma, LA, Mobile, AL, St. Petersburg, FL, and Houston/Galveston, TX. An additional Command Center is being established in Miami, FL. The U.S. Fish and Wildlife Service is the lead federal agency for Wildlife Operations, under the command of the Incident Commander. A Joint Information Center (JIC) has been established in Robert, LA to provide informational support and serve as a conduit for ensuring that information is forwarded to the public.

In addition, Secretary Salazar dispatched me and others from the Department's natural resources and science team to Incident Command centers, including the Assistant Secretary for Fish and Wildlife and Parks, Tom Strickland; the Director of the National Park Service, Jon Jarvis; the Acting Director of the U.S. Fish and Wildlife Service, Rowan Gould; and the Director of the Bureau of Land Management, Bob Abbey and Dr. Marcia McNutt, Director of the U.S. Geological Survey and Science Advisor to the Secretary. In total, more than 24,000 federal and private personnel are responding to the incident.

The National Incident Commander and the Federal On Scene Coordinator are directing efforts and are accountable for the Administration's response. They will ensure that BP, one of the responsible parties, is meeting its obligations and pursuing all possible contingencies and bringing the right resources to respond to this spill. The Administration is working to ensure that all necessary and available federal resources are being directed to this crisis.

All of these leaders, along with personnel from bureaus and offices within the Department, work with other federal, state, and local officials to monitor and respond to immediate threats to fragile habitat; assess and address long-term damage to impacted resources; and develop and provide data and information for use by the Unified Command in responding to the incident.

This is the most complex and challenging oil spill our country has ever encountered. The source of the spill is 5,000 feet beneath the ocean surface where there is no human access and almost all the work is being done with remotely operated vehicles. The damaged well is continuously discharging large volumes of hydrocarbons into the water column. Access to the discharge site is controlled by the technology that was used for the drilling, which is owned by the private sector. Due to its technical expertise, specialized equipment, and on-site presence, BP's involvement in the efforts to stop the leak is vital to reaching a solution. The responsible parties are also responsible for the cleanup and environmental damage, and BP, one of the responsible parties, has assured the Administration that it will pay for the response and subsequent restoration efforts.

As of June 8, 377 FWS personnel, 97 NPS personnel, 45 U.S. Geological Survey personnel and the following DOI personnel are stationed on the frontlines at National Wildlife Refuges and National Park units, involved in key decisions at command centers, and participating in air, sea and beach operations to respond to reports of injured wildlife and impacted coastal habitat:❨02

Department of the Interior Deployed Resources – *Deepwater Horizon*

Source: Department of the Interior Bureau and Office Reports—June 8, 2010

Bureau/Office	Personnel	Locations
DOI Office of the Secretary	38	Washington and Gulf Area
Fish and Wildlife Service	377	Refuges and Incident Command Posts
Minerals Management Service	170	Response Centers. Others at District, Regional, and Headquarters. Oversight Support Teams.
National Park Service	97	Parks and Incident Command Posts
USGS	45	Regional Offices and Incident Command Posts
TOTALS	**727**	

In addition, there is a FWS All Hazard Team located at the Regional Spill Response Center, in the FWS Southeast Regional Office in Atlanta, GA, providing support. Finally, many more Department of the Interior employees are working on the spill from their home duty stations.

Examples of field operations directly involving FWS, NPS, and USGS staff include:

- Helping deploy and maintain almost 2 million feet of containment boom, with the goal of protecting the most sensitive areas of marsh and other vital habitats along the Gulf coast.
- Conducting beach surveys to monitor sea turtle nests and developing protocols for cleanup crews should we discover oiled nests.
- Engaging in multiple over flights to survey for birds, manatees and other wildlife along the coasts of Louisiana, Mississippi, Alabama, and western Florida. These over flights aid in establishing a baseline that will help us document and quantify impacts as they occur and quantify impacts and predict effects into the future.
- Conducting Natural Resource Damage pre-assessments that will help us hold BP and other parties responsible for natural resource damage, and help fund restoration of the vital ecosystems of the Gulf once this spill has been contained.

Impacts to Wildlife and Habitat

The Gulf of Mexico is one of the world's most ecologically rich areas and provides habitat for a great diversity of fish, birds, mammals, reptiles and other wildlife. Many species of wildlife, including some that are threatened or endangered, live along the Gulf Coast and are being affected by the oil spill. The Department of the Interior and its bureaus have responsibility for a spectrum of natural resources in the Gulf that will be impacted by the oil spill, including National Wildlife Refuges, National Park units, migratory birds, and threatened and endangered species, such as manatees, and sea turtles.

Short-Term Impacts

Oil spills affect wildlife and their habitats in many ways. The severity of the damage depends on the:

- Type and quantity of oil spilled;
- Condition of the oil on and below the surface, including the length of time it is in the water before it hits land or wildlife encounters it;
- Season and prevailing weather;
- Type of shoreline; and
- Type of waves and tidal energy in the area of the spill.
- Presence of dispersants

Hundreds of miles of Louisiana shoreline have been directly impacted by oil, and last week oil came ashore in neighboring states. Many acres of marsh have been impacted by the spill, while additional acres have been impacted by sheening, a process whereby oil spreads out on the surface of the water. Over 300,000 acres of Louisiana marshland are currently being monitored.

We believe 35 National Wildlife Refuges located in the Gulf are potentially at risk from the oil spill. So far, two have been directly impacted by oil – Breton (LA) and Bon Secour (AL). Only Breton NWR has been closed to the public. Low-level over flights are prohibited there to protect nesting brown pelicans and terns. Last week,

we also saw impacts to the Gulf Shore National Seashore. There are ten National Park System units that are potentially at risk from the oil spill. Petit Bois Island and Horn Island at Gulf Islands National Seashore were the first National Park units to be impacted, with tar balls and oil sheen washing up along a two-mile stretch of beach, but the island remains open to the public. Teams have been evaluating and responding to the situation, but cleanup efforts have been hampered by inclement weather. A light scattering of oil appeared this past Monday at Peridio Key that clean-up crews addressed and the Fort Pickens and Santa Rosa areas continue to receive light oiling, which are being cleaned-up. Tar balls have also been observed in Dry Tortugas National Park, but these were determined to not be affiliated with the *Deepwater Horizon* oil spill. The affected areas were cleaned over Memorial Day weekend. There has been no oil from the *Deepwater Horizon* incident at other national parks in the Gulf, and monitoring continues at all park coastal areas.

Additionally, coastal habitat associated with projects funded by millions of dollars of the North American Wetlands Conservation Act (NAWCA) grants are potentially threatened by the oil spill. Significant NAWCA grant and partner match dollars have been or are being invested in coastal areas of Texas, Louisiana, Mississippi, Alabama and Florida Gulf to protect, restore, and enhance wetlands and wetland-associated uplands for migratory birds and other wildlife. We are also concerned about Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) projects. CWPPRA provides for targeted funds to be used for planning and implementing projects that create, protect, restore and enhance wetlands in coastal Louisiana and other Gulf states. The CWPPRA program receives millions of dollars in federal funding each year to fund projects.

This spill occurred at the peak of the breeding or spawning periods of a large number of species in the Gulf, including sea turtles, many local bird species such as brown pelicans and least terns, as well as various fish and invertebrates that are critical species at the base of the ecosystem. As these birds and other wildlife ingest oil, inhale fumes, become covered with oil, and consume marine resources that are affected by oil, the entire Gulf ecosystem will be impacted throughout the food chain, from marine plankton, fish, and shellfish, to birds, mammals and other wildlife. Direct mortality will occur. We also expect wildlife impacts to be subtle and chronic and persist for years and could possibly have population-level impacts.

Oil causes harm to wildlife through physical contact, ingestion, inhalation and absorption. Floating oil can contaminate plankton, which includes algae, fish eggs and the larvae of various invertebrates. Fish and some seabirds can become contaminated by feeding on these organisms as prey, or by direct toxic effects of oil. Larger animals in the food chain can consume contaminated organisms as they feed on these fish and other prey and die, thus impacting entire ecosystems through a cascading effect.

We share the public's frustrations that BP has been unable to protect the Gulf coastline from oil coming ashore. For this reason, we are redoubling our efforts to pressure BP to deploy more resources where they are needed most.

Long-Term Impacts

The long-term impacts from the *Deepwater Horizon* release cannot be determined at this point. There are still unanswered questions about the amount of oil released and remaining in the Gulf, the effects of dispersants used at the surface and at depth, and how this particular oil will degrade in the environment. An Environmental Incident Science Team, led by the USGS and with personnel from FWS, NPS, and MMS representing their bureaus' science and resource-management needs, is developing a long-term science plan designed to address these needs as we move from the immediate response phase into the longer-term response and recovery phase. Even before completion of this plan, we can make reasonable inferences based on scientific literature, prior experience, and expert judgment.

We expect to see a high degree of mortality in microscopic and macroscopic life (e.g. zooplankton, larval fish and crustaceans) that encounter oil and other toxins in the water. We also fully expect secondary, tertiary, and top consumers/predators in the food web, such as invertebrates, fish, birds, turtles, and mammals, to be negatively impacted directly or through cascading effects in the ecosystem.

We are particularly concerned about the health of birds in the Gulf of Mexico, including the millions of migratory birds that range across the Western Hemisphere but ultimately winter in or migrate through the estuaries, marshes and other coastal areas of the Gulf as they move through the central flyway. Birds are a key indicator species of the health of the Gulf environment and we have begun the numerous investigations necessary to understand the extent and magnitude of the impact to bird species in the region.

Many of the migratory birds that winter along the Gulf Coast are currently farther north on their breeding grounds in Canada and the northern prairies of the United States. However, we expect the oil to persist long-term in the food chain. When these migratory birds return to the Gulf Coast in the fall, they will likely be exposed to oil as they forage, or possibly face starvation as a result of depleted insect, marine and plant life due to oil incursion. These coastal areas are also the key stopover sites for hundreds of millions of neotropical migratory songbirds that rest and feed in these habitats during both their spring and fall migrations. With the likely persistence of this oil and its impacts for years to come, myriad bird species will potentially be affected.

Assuming substantial quantities of oil enter the coastal marshes of Louisiana, Mississippi, Alabama and Florida, we can expect very significant impact to the entire coastal ecosystem of these areas. In addition to the severe, and likely long-term, impact to marsh vegetation, various invertebrates such as crabs and shrimp and many vertebrates including fish, birds, turtles, and some mammals could be significantly affected. The injury suffered by water and wading birds such as the brown pelican, mottled duck, egrets, ibises, and herons will be potentially dramatic. We have all already seen the terrible photographs of fully oiled pelicans either dead or struggling to survive.

Health effects to birds of exposure to oil include death, poisoning, skin irritation, matting of feathers leading to loss of flight and poor temperature regulation. Longer-term effects of oil on birds and marine mammals are less understood than are short-term impacts, but oil ingestion has been shown to cause suppression of the immune system, organ damage, as well as reproductive changes such as embryo death in eggs and behavioral changes leading to reproductive impairment. Damage to the immune system can lead to secondary infections that cause death and behavioral changes may affect an animal's ability to find food or avoid predators. Long-term consequences can include impaired fitness and reproduction, potentially impacting population levels.

Oil has the potential to endure in the environment long after a spill event and has been detected in sediment 30 years after a spill. In tidal flats and salt marshes, oil may seep into muddy bottoms and persist for an extended period of time, remaining toxic and preventing the germination and growth of coastal and marine plants. The effects of oil on the vegetation and invertebrates in these systems will undoubtedly have long-term impacts on fish and wildlife populations. These plants are important to the buffering capacity of marshes and wetlands from storm events and provide habitat for birds and other animals. Impacts associated with the conversion of wetlands to open water, subsidence, and sea level rise will serve to only weaken the ability of the coastal wetlands to withstand and recovery from the impacts of future storm or spill events.

Furthermore, any projection of damages may be impacted by the use of dispersants in response to this spill. This spill has resulted in the use of dispersants in quantities unprecedented in the United States (over 1,100,000 gallons), and the first use of dispersants at significant depth (over 300,000 gallons). EPA Administrator Lisa Jackson has pointed out the following:

- We know that dispersants are less toxic than oil.
- We know that surface use of dispersants decreases the risks to shorelines and organisms at the surface. And we know that dispersants breakdown over weeks rather than remaining for several years as untreated oil might.
- After testing and authorizing dispersant use underwater, we also remain optimistic that we are achieving similar results with the use of less chemicals.

The dispersants are meant to help breakdown the oil and decrease the resulting damage. As the dispersant is used underwater, EPA is requiring BP to do constant, scientifically rigorous monitoring so that EPA scientists can determine the dispersants' effectiveness and impact on the environment, water and air quality, and human health. The Administration will continue to closely scrutinize the monitoring results and reserve the right to stop the use of subsea dispersants if the science indicates that this method has negative impacts on the environment that outweighs its benefits.

The preliminary assessment of wildlife and habitat impacts to date from the *Deepwater Horizon* Oil Spill is only a precursor of major and long-lasting ecological impacts to the Gulf of Mexico, and beyond, should the Loop Current carry the oil toward the Florida Straits.

Engaging the Public

The Administration is undertaking a variety of activities to engage the general public and local communities and to disseminate and receive information about the environmental impacts of the *Deepwater Horizon* oil spill.

Secretary of the Interior Salazar, as well as other Administration leaders, is meeting regularly with national, state and locally elected officials to share information and receive input. In addition, Administration representatives are meeting with communities at town hall meetings and in other forums. For example, this week, representatives from the U.S. Coast Guard, U.S. Fish & Wildlife Service, the Environmental Protection Agency and other state and partner agencies responding to the *Deepwater Horizon* incident, will host two Open House Expos in Plaquemines Parish, Louisiana. The Open House Expos will offer Plaquemines residents the opportunity to engage one-on-one with experts about the techniques, strategies and materials being used in the spill response. Officials have also participated in teleconference briefings for congressional staff, frequently held press announcements and briefings for the media, and provided other periodic briefings for nongovernmental organizations and other partners.

The Administration is utilizing new media to reach interested members of the public. As of June 9, there were: 32,148 Facebook followers, 7,218 Twitter followers, 2.3 million views on YouTube of more than 55 posted videos, 136,682 views of the photographs posted on Flickr, and over 78 million hits on the primary website set-up for the incident, www.deepwaterhorizonresponse.com/. All information is being coordinated through the JIC, which is staffed with representatives from federal agencies and others.

A number of incident "hotlines" were established early in the Administration's response to the oil spill to encourage information sharing directly with the public. For example, there is an environmental hotline with community information (866–448–5816), an assistance hotline to make requests for booms and offering vessels of opportunity (281–366–5511), a wildlife distress hotline (866–557–1401), a claims hotline (800–440–0858) and a volunteering hotline (866–647–2338). Contacts have also been set-up to receive technical response suggestions and forward them to the Unified Command if they are useful.

Looking forward, the Department of the Interior, in conjunction with the Department of Homeland Security, has launched an investigation into the causes of the *Deepwater Horizon* offshore oil drilling platform explosion, and is holding public hearings, calling witnesses, and taking any other steps needed to determine the cause of the spill. In addition, the 30-day safety review that President Obama ordered the Department of the Interior to undertake has been presented to the President and has helped us understand what safety measures should be immediately implemented.

In mid-May, the National Academy of Engineering agreed to the Secretary of the Interior's request to review the *Deepwater Horizon* spill. This highly respected organization is a part of the National Academy of Sciences (NAS), and will bring a fresh set of eyes to this tragedy. The National Academy of Engineering will conduct a rigorous, independent, science-based analysis of the causes of this oil spill. The NAS has carried out similar independent investigations into events like the space shuttle Challenger accident.

Restoring Natural Resources

In order to restore natural resources in the Gulf of Mexico injured by the *Deepwater Horizon* oil spill, the Administration's efforts must initially focus on stopping the release of oil from the well and containing the oil to mitigate impacts to trust resources along our fragile coastline. We must also direct our efforts towards determining the magnitude of the injuries to natural resources so that BP and other responsible parties can be held accountable for restoring them.

Preparation for determining the extent of the injuries to natural and cultural resources is already underway, as natural and cultural resource experts in the FWS, NPS and other federal agencies are actively collecting baseline sediment, water and photographic data, conducting beach surveys on public lands, surveying the coasts for injured birds, manatees and other wildlife, and conducting Natural Resource Damage pre-assessments. FWS and NPS, along with other Interior, state, tribal and federal partners, will act as "trustees" for natural resources injured by the oil spill. FWS has responsibility for National Wildlife Refuges, threatened and endangered species, migratory birds, anadromous fish, and other natural resources that fall under the jurisdiction of FWS. NPS has responsibility for National Park units and the natural and cultural resources and habitats protected within their boundaries including wildlife, seagrass beds, coral reefs, mangroves, salt marshes and shipwrecks and other historic features. As trustees, we will identify the natural and cultural resources injured, determine the extent of the injuries, recover damages from the responsible parties, and plan and carry out natural resource restoration activities. Even though some assessment work has begun, natural resource trustee agen-

cies will not be able to determine the magnitude of the resource injuries until the oil spill is stopped and the effects are understood.

Once the magnitude of the resource damage is determined, the trustees will pursue a claim against BP and other responsible parties of the Government's conclusions as to the full costs of the restoration, for the loss of natural resources and natural resource services to the general public, and for the cost of the response and assessment activities. In testimony before the House Energy and Commerce Committee on May 25, the Department of Justice reiterated the Administration's commitment to explore all legal avenues to ensure that those responsible for this disaster pay for *all* of the devastation that they have caused.

The Oil Pollution Act of 1990 (OPA) was passed in the wake of the Exxon Valdez disaster to provide specific legal authority for dealing with the consequences of oil spills. OPA assigns responsibility for cleaning up such spills. It also provides a liability scheme for payment of damages, ranging from the immediate and ongoing economic harm that individuals and communities suffer to the potentially devastating and long-term harm done to precious natural resources.

Although OPA is the primary federal vehicle for addressing liability for response costs and damages resulting from oil spills, it is not the only legal vehicle for seeking compensation for incidents such as those now unfolding in the Gulf. OPA expressly preserves state and other federal mechanisms for pursuing damages for injuries caused by such incidents and for assessing penalties for the underlying conduct that may cause such disasters. For example, the National Park System Resource Protection Act (16 U.S.C.19jj) establishes additional authority for addressing natural and cultural resources for which the National Park Service is trustee.

After the claim is resolved, whether by settlement or litigation, the trustees will develop a final restoration plan with public input that specifies the actions necessary to restore the injured resources. The trustees will then monitor the restoration projects to gauge progress, performance and success of the restoration actions as well as the need for any interim corrective action.

The Secretary of the Interior has made absolutely clear in meetings with BP executives that BP, as a responsible party, will be held fully accountable for paying costs associated with this spill. In a letter to Secretary Salazar and Homeland Security Secretary Janet Napolitano, BP has confirmed that it will pay all damages regardless of whether the statutory liability cap contained in the OPA applies. While the investigations into the cause of this disaster are still underway, the Administration will ensure that those found responsible will be held accountable for their actions.

Looking Forward

The Administration believes the visible natural resource impacts to date, particularly to fisheries and wildlife, are only the start of what will be a major and long-lasting ecological disaster. Science underpins everything we do in conserving fish and wildlife and other natural resources. It broadens and deepens our understanding of natural processes and ecosystems, and in so doing it enables us to be more effective, judiciously allocate our budget and assets, make sound decisions, and better meet our stewardship responsibilities in serving the American people.

For the past 18 months, the Department of the Interior has focused most of our new capacities in landscape planning and science to build what we call Landscape Conservation Cooperatives, or LCCs. These LCCs are designed to help us and our conservation partners develop and apply up-to-date scientific theory and practical approaches to helping fish and wildlife adapt to the adverse effects of large-scale ecological disruptions, such as climate change and now the *Deepwater Horizon* oil spill.

In addition, other areas within FWS such as the migratory bird and habitat conservation programs have a significant role in assessing the oil spill's impacts and developing monitoring programs and protocols. Our National Wildlife Refuge System has moved forward to develop unified, integrated systems to monitor resources on refuges, inventory those resources, and make that information available for analysis by our own scientists and their counterparts in other agencies, nongovernmental organizations, universities, and the public. Inventory and vital signs monitoring programs currently in place in National Park units will contribute to analyses and assessment of impacts as well. Additional efforts by the Department are currently underway to develop long-term integrated science plans for the marine and coastal ecosystems of the Gulf of Mexico.

Addressing the environmental impacts of this oil spill is going to be very challenging. Fortunately, we are in a better position now that we have begun to bring partners together to develop science capacity through the LCCs surrounding the Gulf Coast. As with our work on climate change, the BP *Deepwater Horizon* oil spill

disaster will require the cooperation and shared resources of many partners to come together, bring ideas, and analyze, address, and mitigate impacts to fish and wildlife and other natural resources using science. When it comes to the long-term restoration efforts, the LCCs now being established will play a key role in helping us determine when and how that restoration will occur along the Gulf Coast.

Through these conservation partnerships we plan to bring together the scientific capabilities, ideas, resources, and the ability to leverage resources to address challenges posed by the oil spill and reduce its effects on fish and wildlife, National Wildlife Refuges, National Park units, commercial fishing, ecosystem functions, and other important resources in the Gulf.

Dealing with the more immediate challenges presented by BP's offshore platform disaster will require better coordination of science, planning, and operations to address the ongoing impacts to the Gulf of Mexico and the likely broader effects that may occur outside this area.

Conclusion

The *Deepwater Horizon* Oil Spill is the latest in the series of events graphically illustrating our Nation's need to understand, value, and nurture the Gulf of Mexico ecosystem. The spill has illuminated the need for additional information about wildlife, fisheries, and habitats as we try to quantify the damage, and understand the cumulative effects of the catastrophic stressors acting on the Gulf Coast system. The immediate impacts of the spill are graphic, obvious, and tragic to our natural resources and the people who cherish and make their livelihood from the Gulf. The deepwater location of this spill, in combination with the volume of oil discharged and oceanographic and weather influences introduce major uncertainty into defining the full range of foreseeable impacts.

We must bring to bear our best scientists and our best science, to understand the Gulf's resources at risk, the impact of oil on the health of those resources, and the future trajectories of critically important resources to Gulf Coast communities and our nation as a whole. We must better understand, and predict the future paths of the fisheries, the migratory birds, the endangered species, and the local and national economies associated with these resources.

This Administration is committed to helping the people and communities of the Gulf Coast region persevere through this disaster, to protecting our important places, and to learning valuable lessons that will help prevent similar spills in the future.

[NOTE: Ms. Lyder's responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. Thank you very much, Ms. Lyder, for describing the efforts of the U.S. Fish and Wildlife Service and the National Park Service to respond to the impacts of the oil spill on protected wildlife and their habitats.

I know you have spent many weeks, as you said, in the Gulf already and appreciate the time that you took to be here today.

Mr. Barham, thank you for being here today despite the demands on your time and attention in Louisiana. Please begin your testimony.

STATEMENT OF ROBERT J. BARHAM, SECRETARY, LOUISIANA DEPARTMENT OF FISHERIES AND WILDLIFE

Mr. BARHAM. Madam Chairman, Members and distinguished guests, along with Assistant Secretary Randy Pausina of Wildlife and Fisheries it is an honor to represent the Department here before you today. Under the leadership of Governor Bobby Jindal and our team, we have lived the *Deepwater* event literally 24 hours a day, seven days a week, since April 20.

Our first thoughts were with and will remain with the families who tragically lost their loved ones in this event. From an environmental standpoint, this could not have occurred at a worse place. Louisiana's estuarine environment, its marshes and its sea coast is America's wetlands.

Alaska and Louisiana produce more than half of the seafood consumed in the United State, Louisiana producing over 25 percent of the seafood daily consumed from the tables of America. We lead America in the production of oysters, shrimp and blue crabs, so it is a wonderfully rich environment that is imperiled by this event.

Unfortunately, associated with this uncontrolled oil spill, BP conducted an experiment that had never been done before. They decided to use subsea dispersants. Subsea dispersants have no scientific background where you can assess the impact of the use of those dispersants. At pressures up to 16 atmospheres and very cold temperatures, we just don't know what will occur with the injection of those dispersants.

It is not like oil that comes to the surface. As bad as it is, we have a whole lot more experience dealing with oil on the surface than we do in the subsea, where we have literally no experience. One has to suspect their position was that out of sight/out of mind would be their best course of action. If it didn't appear on a satellite photograph, a lot of folks would say well, it doesn't look like it was that bad to me.

But we all know now that there is a cloud of dispersant and oil spread across the coast. Surface dispersants travel primarily by the wind. Subsea dispersants don't move that way. They move through unpredictable and varying currents that move across the Gulf, so what we are facing is we have an unknown quantity in the water column and we will not know for years what the impact will be on the food chain that affects the entire ecosystem and the productive capability of Louisiana's marshes.

This event will not end the day that the oil stops flowing. It will not end literally, as the Chairman pointed out, perhaps for years or decades, and we pray not for centuries, that we will be looking at this. LSU tells us that the transfer rate for neutrally buoyant particles at 5,000 feet to the surface is potentially up to 300 years. That is a frightening scenario. It will be long after all of us are gone that people will be studying this event.

One of the great challenges we have is Louisiana seafood is considered to be the finest in the country. It is safe, secure and of high quality. We have to maintain that. We are doing closures and openings every day, but it is a challenge. One of the real challenges is we can't develop a chemical profile to test for Corexit associated with the oil.

Madam Chair, we have asked the EPA. We have asked BP. We have asked NALCO that produces Corexit to give us the components and the percentages of those components so that we can develop a test, a chemical profile, so we can test for that material in the tissue that we are collecting. As I speak to you today, we have not received that information yet, 50 some days into this event. If the government has its boot on the neck of BP, it is time to exert some additional pressure.

We have all seen the horrific photographs of our birds that are on the coast, the sea turtles that are washing ashore and the dolphins. It is literally heart wrenching to watch what is going on on the coast.

There is a bitter irony because, in the last year, the brown pelican was just delisted as an endangered species. It was a won-

derful testimony to conservation efforts that brought this majestic bird back from the brink of extinction. The pelican is our state bird. It is very special to all of us, and our biologists are working tirelessly to preserve this creature, along with the others.

What I can promise you, Members and Madam Chair, is that the Department of Wildlife and Fisheries in Louisiana will work tirelessly to ensure that this American treasure, the wetlands of America, are preserved and that all of us will continue to be able to refer to Louisiana as the sportsmen's paradise.

We will work as long and as hard as it takes to win this fight, one we cannot lose. Thank you.

[The prepared statement of Mr. Barham follows:]

Statement of The Honorable Robert Barham, Secretary, Louisiana Department of Wildlife and Fisheries

Mr. Chairman and distinguished committee members, thank you for the invitation to appear today to discuss an issue important to my state, but equally important to the Gulf Coast region and the nation. I am Robert Barham, Secretary for the Louisiana Department of Wildlife and Fisheries.

My state is blessed with abundant and diverse natural resources. Louisianans cherish these resources but we have never been an "either/or" state. We have long been a major fisheries producer as well as major energy producer. Louisiana accounts for one quarter of the commercial fisheries production of the lower 48 and at the same time a third of the nation's natural gas and oil supply is either produced in Louisiana, produced off our coast, or moves through our state. Louisiana is also known worldwide as the Sportsman's Paradise. Our coastal marshes and wetlands are the most important waterfowl wintering area in North America providing habitat for about 2 million migratory waterfowl. They are also home to some of the largest alligator, river otter, and water bird populations in the country.

The fishing industry and oil and gas industry have had a mutually beneficial coexistence in my state for many decades and we recognize that Louisiana's role as a major energy producer is vital to our national security but the recent *Deepwater Horizon* incident brings home the unfortunate ecological consequences which can result from energy production.

What's at Risk

Commercial and recreational fishing is a way of life in coastal Louisiana. All of our coastal communities had their beginnings as fishing villages and fishing is still a major economic engine in those communities. The cultural identity of these communities is also largely defined by fishing.

Commercial Fisheries

Louisiana is second only to Alaska in terms of commercial fisheries production and home to 3 of the top 7 commercial fishing ports in the country. About 1 billion pounds of fisheries products worth over $272 million are produced annually. In recent years Louisiana landed significant portions of the total U.S. commercial harvest of many species, including, 35% of the shrimp, 36% of the oysters, 56% of the Gulf menhaden and 27% of the blue crab, 55% of the black drum, 23% of all snapper species, and 20% of the yellowfin tuna. Nearly 13 thousand commercial fishermen and over 1,500 seafood dealers/processors and brokers register each year to provide this nation with fresh seafood.

Recreational Fisheries

Louisiana's recreational harvest is second only to Florida among the states surveyed by the NOAA Fisheries recreational survey. Louisiana-based recreational anglers caught high proportions of the total U.S. recreational harvest of many species, including, 57% of the black drum, 56% of the red drum, 28% of the sheepshead, 29% of the southern flounder, and 51% of the spotted seatrout from the states surveyed by the Marine Recreational Fishery Statistical Survey. Over 13% of the total marine recreational harvest in the nation is landed in Louisiana. We have a large Charter Fishing industry and tourist make up a large portion of their clientele. Annually 660 charter fishing guides provide their services to recreational fishermen. On average 4.5 million saltwater recreational fishing trips start and end out of Louisiana fishing sights.

Species of Special Interest

There are 21 species of marine mammals and 5 species of sea turtles that occur in the area of the spill.

Jobs, Income and Tax Revenues

Louisiana's commercial and recreational fisheries resources provide the state and national economy with an important source of jobs, income, and tax revenues. A recent study of the economic benefits of fisheries, wildlife and boating in Louisiana prepared by Southwick Associates indicates that marine commercial and recreational fishing supported $2.2 billion in retail sales, 34,078 jobs, $588 million in salaries and wages, generated $198 million in federal income tax revenue and had a total economic impact $3.1 billion. Louisiana's commercial fishery is a major driver of the restaurant industry and the recreational fishery is a major driver of the tourism industry in the entire Gulf region.

Economic Benefits of Marine Fisheries in Louisiana [1]

	Retail Sales	Total Economic Effect	Earnings	Jobs Supported	State and Local Tax Revenues	Federal Tax Revenues
Saltwater Recreational Fishing	$472,092,061	$757,091,876	$210,847,634	7,733	$49,976,489	$45,605,182
Shrimp	$961,973,147	$1,282,630,863	$206,228,716	14,384	91,138,912	$83,444,200
Oysters	$238,407,501	$317,876,668	$51,110,027	3,565	22,587,117	$20,680,123
Blue Crab	$219,973,963	$293,298,617	$47,158,228	3,289	20,840,694	$19,081,147
Menhaden	$223,080,959	$297,441,278	$47,824,308	3,336	21,135,055	$19,350,657
Other Marine Finfish	$118,449,901	$157,933,202	$25,393,403	1,771	11,222,138	$10,274,670
Total	$2,233,977,532	$3,106,272,504	$588,562,316	34,078	$216,900,405	$198,435,979

[1] Southwick Associates. (2008). The Economic Benefits of fisheries, Wildlife, and boating Resources in the State of Louisiana - 2006. Prepared for the Louisiana Department of Wildlife and Fisheries. Baton Rouge, LA. pp 14-15. Website: http://www.wlf.louisiana.gov/pdfs/education/Southwick_2006_final_final_report_5-27-08.pdf.

Coastal Habitat

Forty percent of the coastal wetlands within the lower 48 states are in Louisiana. Louisiana is also home to the delta of the largest river on the continent and unlike the coastal habitat of much of the country Louisiana's coast is composed of thousands of miles of shoreline dominated by highly fragmented vegetated wetlands. These coastal wetlands are laced with large and small bays, lakes, bayous, canals, shallow ponds and remnant barrier islands. These wetlands support our highly productive fisheries but also perform an important function in protecting our coastal communities and oil and gas infrastructure from storm surge.

State Response

The immediate reaction to the *Deepwater Horizon* explosion was concern for the loss of life and the recovery and safety of the survivors. Initially there was no confirmed oil leakage but once the rig sank, oil leakage was confirmed and became an issue of concern.

It became apparent early on that dealing with the consequences of this incident would not be a sprint but rather a marathon the length of which is yet to be determined.

I, along with Governor Jindal and other state officials met with the Coast Guard and BP officials early on to get an understanding of their response capabilities and response plans and we immediately began preparations for the potential damage resulting from movement of leaked oil to our coast. Department field staff began daily reconnaissance of our entire coast looking for presence of oil or oiled wildlife and that effort continues indefinitely. Key state officials, parish presidents, emergency operations professionals, levee district officials and others continuously met to discuss strategies to fill the voids we identified in the response efforts by BP and the Coast Guard.

Using all information available regarding the location and trajectory of the surface oil, the Department worked with both federal and state partners to identify the most highly sensitive shoreline areas that would most likely be impacted and developed boom deployment plans to protect these areas. The initial boom deployments

to protect highly sensitive areas took place well before any oil made landfall but these deployments proved to be very unstable due to wave, wind and current action.

Using information on the likely movement of oil into an area I along with the Secretary of our State Department of Health and Hospitals coordinated the implementation of precautionary closures to fishing in designated areas and initiated sampling and testing of fish to modify and adjust area openings and closures.

Simultaneous with the implementation of the initial boom deployments and when it became apparent that neither BP nor the Coast Guard had a detailed "boom plan" we worked with our state partners and local government officials to develop a boom plan for the entire coast, identifying primary closure points focused on attempting to keep oil from the most interior reaches of our wetlands.

The state also fully utilized all available freshwater diversions to flow freshwater into our coastal areas in an attempt to minimize intrusion of oil into our wetlands.

As a result of the limited effectiveness of the initial boom deployments the state, again working with local government officials, the state developed a dredging plan to build "sand booms" along the alignment of the historic barrier islands and filed for an emergency permit from the Army Corps of Engineers.

Louisiana has from the start "leaned forward" with actions, proposed response plans and advice to both BP and the Coast Guard.

What We Know

The characteristics which make Louisiana's coast highly productive from a fisheries standpoint also make them exceptionally vulnerable to oil impacts. The topography of coastal Louisiana presents unique challenges with respect to oil movement and infiltration into these areas as well as unique clean-up challenges. Simply put, our coast is not composed of beaches which can be reasonably cleaned.

In the short term we know that there has been and continues to be a tremendous loss of earnings for a large and diverse group of people dependent on our coast. Payrolls have already been cut. Commercial fishermen have been deprived of the opportunity to fish. The availability of seafood products to seafood docks and processors has been severely limited if not eliminated. Restaurants and seafood consumers in the region and throughout the nation have been deprived of highly prized food products. Charter Captains have been deprived of the opportunity to take clients on fishing trips and have had many future booked trips cancelled. Sports fishermen have not been able to fish. All of the industries and businesses that rely on commercial and recreational fishing have been negatively impacted by the lack of expenditures by fishermen, dealers and processors.

Most of our large commercial fisheries are based on estuarine dependent species many of which spawn offshore in the Gulf, the eggs and larvae are carried inshore on currents where they grow into juveniles and sub-adults and then move back to the Gulf as adults. Other species primarily occupy near shore and inshore areas throughout their life cycle while some spend their entire life out in the open Gulf.

A tremendous volume of oil has spread throughout a large area of the Gulf. Oil has also reached Louisiana's shores in many areas and has infiltrated into some of our interior coastal waters. It is likely that virtually all species of aquatic life at some stage of their life cycle have been or will be exposed to some form or concentration of oil leaked from the *Deepwater Horizon*.

Coastal shorelines, sea turtles, marine mammals and numerous wildlife species have already been oiled.

In addition to the massive amount of oil, there is also a large volume of oil dispersants that have been applied to our coastal waters, and it is likely that virtually all species of aquatic life at some stage of their life cycle have been or will be exposed to some concentration of dispersants.

We know that the oil leaked has "weathered' into various water/oil emulsions and other forms, and in general that the more "weathered" forms of oil are more stable and persistent in the environment.

Unfortunately, national media reports have led to negative consumer ideas about the quality and safety of harvested seafood products despite the fact that we have implemented a continuing testing program and have issued precautionary fishing closures so that those Louisiana seafood products that are making it to the wholesale and retail market remain safe and wholesome.

Consumer confidence questions combined with reductions in product availabilities have influenced the market share of our seafood products and recent experiences with disruption of our seafood supply by Hurricanes Katrina, Rita, Ike and Gustav have demonstrated the extreme difficulty recapturing that market share. Negative consumer confidence also threatens our Charter, restaurant and tourism industries.

In addition to the economic impacts, fishing is a way of life and an integral part of the culture of coastal Louisiana. Many of the fishing businesses that are threat-

ened have been in families for generations. Coastal residents are experiencing extreme anxiety because of the "unknowns" both of their short term future and long term future. In a nutshell, coastal Louisiana has been turned on it head.

What we don't know

Unfortunately there are many things we don't know.

At this point we do not know the total volume of oil which has leaked from the *Deepwater Horizon* into the Gulf nor do we have consensus as to what volume continues to leak daily.

We have some knowledge of the extent and distribution of oil at the surface but the distribution changes with time as the volume grows and natural forces relocate and spread oil from the source site. The movement of oil is not in a straight line but rather omnidirectional.

Large volumes of dispersants have been and are continuing to be used both on the surface and injected into the plume below surface. This has been a serious concern of mine and on May 18th I wrote to BP officials expressing my concern and requesting additional data and information on the dispersants being used. In addition to concerns regarding the direct effects of dispersants on aquatic life it has become increasingly evident that there is a significant volume of oil below the surface of the water and it is difficult if not impossible to track movement of oil into new areas.

As the oil "weathers" it is transformed into various types of water/oil emulsions or other forms, is "scattered" in response to dispersants, and the movement dynamics of each of these react uniquely to the naturally occurring transport mechanisms in the Gulf and inshore waters. We do not have a complete understanding of the transport mechanisms but these same transport mechanisms transport fish eggs and larvae to areas critical to their survival into juveniles and adults.

The marine/estuarine ecosystem is highly complex and natural fluctuations in species composition, abundance and distribution are a basic feature of its normal function. We have limited understanding of these natural fluctuations.

Impacts from large volume surface spills have been documented (i.e. Exxon Valdez) however there is little documented information on large volume deepwater leaks. Surface spills likely have differing impacts than deepwater leaks.

We have limited knowledge of the concentrations of oil and dispersants at various levels of the water column. Eggs and larvae of various species are transported at the surface or at various levels of the water column.

We do not have a complete understanding of the toxicity of various concentrations of oil and dispersants to all of the life stages of all species of aquatic life.

Eggs and larvae are passively transported by currents and would not be expected to exhibit any oil avoidance behavior however we have limited if any knowledge of avoidance behavior by those life stages in which they are active swimmers.

We have little knowledge of deepwater transport mechanisms.

We have little knowledge of deepwater ecology.

Although we have some experience with relatively small scale releases of oil in our inshore areas, the immediate and residual effects of large quantities of oil over large shallow areas or large areas of vegetative wetlands are largely unknown.

The list can go on. There are many questions which will require answers if we are to truly understand the ecological impacts.

Closing

As I mentioned earlier this is not a sprint and it is difficult to envision where we will be when and if this marathon comes to an end.

The economy and culture of coastal Louisiana is a unique blend of many things similar to the unique blends prepared by our great chef's in New Orleans when they prepare that succulent dish of gumbo. In the case of coastal Louisiana our coastal ecology and fishing is and always has been the main ingredient. At this point the main ingredient is threatened and the future is anything but certain.

Response to questions submitted for the record by Robert J. Barham, Secretary, Louisiana Department of Wildlife & Fisheries

July 6, 2010

Madeline Z. Bordallo, Chairwoman
Subcommittee on Insular Affairs, Oceans and Wildlife
U.S. House of Representatives
Washington, DC 20515

Dear Congresswoman Bordallo:

This is in response to your request for additional information relating to my testimony on June 10, 2010 before your committee concerning "*Our Natural Resources at Risk: The Short and Long Term Impacts of the Deepwater Horizon* Oil Spill."

"As you stated in your testimony, there are many things we do not know about the potential ecological impacts of this oil spill. Given this uncertainty, what is your confidence level that seafood products are safe? Would Louisiana certify its seafood as such and assume liability?"

Ensuring seafood safety has been and continues to be one of Louisiana's main goals and responsibilities. Soon after the event Louisiana's trustee agencies responsible for the safety of seafood, the Departments of Wildlife & Fisheries, Health & Hospitals, Agriculture & Forestry and Environmental Quality, convened to develop an action plan to ensure seafood safety. The plan was presented to BP for funding and to date has not been approved. However, we aren't waiting for BP to fulfill our mission. The Departments of Wildlife & Fisheries and Health & Hospitals has been collecting tissue samples weekly from shrimp, fish, crabs and oysters throughout coastal Louisiana since the spill to test for contamination from oil. To date all seafood sampled has been found to be within normal levels. Besides seafood testing, we conduct daily oil spill reconnaissance missions throughout coastal Louisiana. When oil is found and projected to impact coastal areas, I immediately issue a precautionary closure of the potentially impacted area. It's not until the oil is no longer present in an area and laboratory test indicate that tissue samples are within normal limits that I will consider reopening an area to fishing. Enforcement of fishing closures plays a major role in ensuring seafood safety and our enforcement agents take that responsibility very seriously. They are on the water at all times verifying that fishing is not taking place in closed areas. If a fisherman is found fishing in a closed area, they are made to discard their entire catch on the spot. These are some of the immediate actions we are taking to ensure seafood safety. Further actions currently in development include a Louisiana Quality Control and Assurance Program that provides traceability of seafood from the water to the plate, seafood testing and a professionalism program designed to instruct fishermen and seafood processors seafood safety practices. Be assured that we are committed to providing safe seafood to consumers and certify as much as any state fishery management agency can that the seafood coming out of Louisiana waters is as safe to eat no as it was prior to the oil spill. As to the question of liability, until BP fully provides the resources needed by the state to insure seafood safety, the issue of liability is on their heads.

"In your testimony, you stated that Louisiana has fully utilized all available freshwater diversions to minimize intrusion of oil into coastal areas. Has Louisiana implemented a monitoring program to observe the changes in salinity which could produce lethal and sub-lethal effects on wildlife, and in particular oysters?"

Absolutely! It's important to recognize that oysters are unable to move and always susceptible to environmental conditions. However, being an estuarine species requires they have a tolerance for fluctuations in their habitat such as salinity. In fact, freshwater is essential to oyster survival by reducing predation and providing needed nutrients. Louisiana has and continues to maintain an extensive estuarine resource monitoring program. I have submitted a proposal to BP to intensify resource monitoring efforts throughout Louisiana's valuable estuaries. Approval to proceed is hopefully forthcoming. Again, we are not waiting for BP to act. We've begun intensive sampling of Louisiana's oyster resource on our state seed grounds and have developed a plan to monitor oyster mortality. The decision to maintain maximum freshwater diversion flow was not taken lightly or without much scientific debate. I felt it more important to keep oil from inundating estuarine areas and protect our oyster growing area from possibly decades of oil related impacts and accept short term possible loss of oyster resource from freshwater.

"It is my understanding that States participate in the development of and sign-off on all Area Contingency Plans, which identify sensitive areas where boom is deployed in the event of an oil spill. Was this the case for Louisiana?"

We believe this question would be best answered by the Louisiana Office of Coastal Affairs.

Sincerely,

Robert J. Barham, Secretary

Ms. BORDALLO. Thank you very much, Mr. Barham, for helping us better understand the implications of the *Deepwater Horizon* oil spill on Louisiana's coastal and marine ecosystems.

And next, our final witness on this first panel will be Dr. Ragen. You may begin.

STATEMENT OF TIMOTHY J. RAGEN, Ph.D., EXECUTIVE DIRECTOR, MARINE MAMMAL COMMISSION

Dr. RAGEN. Thank you, Madam Chair and Members of the Committee, for inviting the Marine Mammal Commission to testify on this event. The Commission also wishes to express its condolences to the families of those who lost their lives and all those whose lives and livelihoods have been so disrupted.

Our current understanding of the effects of oil on marine mammals is rudimentary, based largely on anecdotal information, and the information we have often pertains to seals and sea otters, which are not marine mammals that occur in the Gulf of Mexico. The marine mammals in the Gulf are whales, dolphins and porpoises with one exception, the Florida manatee.

The first contact between oil and marine mammals will involve contact with the skin, the eyes, respiratory tissues and so on. Contact with the skin may lead to anything from irritation to necrosis of the skin, but there is some evidence that at least on a short-term basis cetaceans can tolerate that kind of contact. We don't know about the effects on a long-term basis.

Inhalation may cause a problem inasmuch as we have seen pulmonary emphysema in sea otters that have been breathing fumes from oil. Contact with eyes may cause ailments such as conjunctivitis. Ingestion may be the more significant consequence or factor. Animals may be able to tolerate a small amount of oil, but in larger amounts or over prolonged periods ingestion may lead to impairment of kidneys, liver and the brain. It may also impair the digestive, immune and reproductive systems, leading to general illness or death.

The actual response in all of these cases depends very much on the nature of the oil that is involved, i.e. its composition and its toxicity, and it depends on the animals that are also involved, what species they are, whether or not they are in good health or poor condition, et cetera.

Response activities also may have effects. We don't know much about the effects of these dispersants on marine mammals, but that is an area where we have similar kinds of concerns. In addition, all the activity in the Gulf with vessels and aircraft may lead to disturbance of marine mammals, introduce noise into the environment, and those effects may cause animals to abandon prime habitat or perhaps disrupt social structures, such as pods or mother/calf pairs.

The long-term effects are primarily ecological, and those remain to be seen. We could see declines in abundance of populations due to increased mortality or decreased reproduction. Prey availability may decline, which will also affect the marine mammal popu-

lations. Animals that are particularly sensitive to the stress of the spill may be more subject to the effects of disease or parasites.

We should expect to see some surprises in this instance. We know that the Gulf has hypoxic zones and harmful algal blooms. We do not know how the oil will interact with the factors that create those conditions. We also should be aware that highly perturbed marine ecosystems my take decades or more to recover, and they may not recover to the same state that they were in before the spill.

You asked about our ability to assess the effects on marine mammals. As we speak, NOAA, Fish and Wildlife Service, the Department of the Interior, the Gulf States and a number of other cooperating agencies are flying surveys. They are sampling animals. They are coordinating stranding efforts and trying to make the best out of examinations of dead animals to see what killed them.

All that being said, we will have a very difficult time determining what the effects are on marine mammals. Our primary difficulties are that it is tough to study marine mammals in the wild generally. It is much tougher under circumstances like these.

In addition, we do not have adequate baseline information for most of the marine mammals in the Gulf. NOAA's stock assessment reports include 21 species and 58 stocks of marine mammals in the Gulf. Of those, we have adequate baseline information on abundance for six stocks.

With regard to the likely impacts of oil and gas activities in the Gulf and elsewhere, i.e. generally, I tend to produce or to break down oil and gas activities into different categories. Construction and decommissioning, general operations and support activities are all activities that can be managed with appropriate mitigation measures.

The Commission has more concern about the effects of seismic studies because they introduce a large amount of sound into the marine environment, which may cause behavioral changes in the marine mammals or affect them physiologically; for example, lessening their ability to hear.

We are also concerned about oil and gas transportation. Tankers have long been known to be a source of oil spills. In the Gulf, oil is generally transported by pipelines, which are safe; but we also know that pipelines are subject to problems as well—as we saw in 2005 with Katrina and Rita.

Our scientists are not necessarily able to evaluate all of these potential problems as well as we would like them to be able to do it. The Marine Mammal Commission has a concern that very often we initiate some of these activities without collecting adequate baseline information so that we can conduct before and after statements or evaluations of the effects.

We also are concerned that monitoring and mitigation measures may be used for certain aspects of oil and gas activities like seismic studies, but that those monitoring and mitigation measures aren't always effective. They need to be evaluated more closely. We need more research in order to understand how well those measures actually work. As a consequence of the uncertainty in these, sometimes regulators are faced to make choices based on insufficient information.

Last, I will say that you asked me to talk about minimizing the effects or the impacts of oil and gas operations, and I will give you just three brief suggestions.

One is that we need to consider where we get resources and who should take the burden of proof for doing the kinds of research we need to understand these. I would recommend that the government consider leveraging resources from the industry in order to understand the resources that they put at risk with their activities.

Second, I would recommend that we need a much more systematic approach to how we manage oil and gas management. Many of the problems that we are talking about here I think could be detected and dealt with if we were more rigorous and systematic in our approach.

And, finally, I would say that I believe we need to consider a change in culture. We all want to know what went wrong and how to fix it, but we also should be asking what conditions led to things going so horribly wrong. Multiple agencies are involved, and all of us agencies should be asking is there something we could do better.

And last, society I think also must take a hard look. We need to examine the roots of the problem that caused us to make risky decisions related to industries like this. Doing so is essential to achieve a sustainable future with acceptable environmental risk for marine mammals and for a marine ecosystem.

Thank you again, Madam Chair, for inviting me to testify, and I will be glad to answer any questions that I can.

[The prepared statement of Dr. Ragen follows:]

Statement of Timothy J. Ragen, Executive Director, U.S. Marine Mammal Commission

Madam Chairwoman and members of the Subcommittee, thank you for inviting the Marine Mammal Commission to testify on the effects of the *Deepwater Horizon* oil spill on marine mammals. I am Tim Ragen, Executive Director of the Commission. Your questions to the Commission pertain to the effects of this spill and how to prevent such effects in the future.

I begin my testimony by noting that our current understanding of the effects of oil on marine mammals is in many respects rudimentary because of the difficulty and costs of studying the health of marine mammals at sea, particularly during an oil spill. Our understanding is based primarily on anecdotal information from other spills such as the Santa Barbara spill in 1969 and the Exxon Valdez spill in 1989, as well as a small number of focused studies involving captive animals. In addition, much of the existing information pertains to pinnipeds (i.e., seals, sea lions) and sea otters, which do not occur in the Gulf of Mexico. Unfortunately, the scientific foundation for evaluating the potential effects of the *Deepwater Horizon* spill on many marine mammals inhabiting the Gulf is weak. Almost all of those are cetaceans (whales, dolphins and porpoises), the exception being the manatee. However, there is considerable information on the effects of oil on other mammals, such as laboratory rodents and humans, so that information can be used to help anticipate how oil might affect the Gulf's marine mammals.

Short and Long-Term Effects

Your first question to the Commission asked about the short- and long-term effects of the *Deepwater Horizon* spill on marine mammals. The potential short-term effects include those that result from direct contact with or ingestion of oil or inhalation of oil fumes. Direct contact of a marine mammal with oil may cause skin irritation, inflammation, and eventually necrosis. However, the limited information available from field observations and studies with captive dolphins suggests that the epidermis of at least some cetaceans may be highly resistant to such effects. The Commission knows of no studies of cetaceans exposed to oil for extended periods (i.e., days or weeks), so the long-term consequences of skin contact with oil are not clear at this point. Oil contact with eyes, mucous membranes, and respiratory tissues may cause more important effects. For example, harbor seals oiled by the Exxon Valdez

spill developed conjunctivitis, and similar responses can reasonably be expected in cetaceans. Contact with respiratory tissues coupled with inhalation of fumes appears to have caused airway inflammation and pulmonary emphysema in sea otters, and, here too, a similar response can reasonably be expected in cetaceans. Cetaceans also may ingest oil either indirectly as they consume prey or the prey itself may be contaminated. Manatees may ingest oil if it reaches the shallow waters of their range and coats the vegetation that they depend on for food. And if Bryde's whales or other baleen whales (although uncommon in the Gulf of Mexico) encounter oil, their feeding may be affected by fouling of their baleen (the comb-like array of keratinous plates they use to filter food from sea water). Some amount of ingestion may be tolerable but, depending on the amount and nature of the oil ingested (e.g., its composition, toxicity) and the animal involved (e.g., species, animal health and condition), ingestion may cause significant effects on vital systems (e.g., immune, reproduction, digestive) and organs (e.g., liver, kidneys, brain) ranging from generalized illness to death. Studies using captive polar bears showed that ingestion of even relatively small amounts led to kidney failure and death. Even when the immediate effects appear to be or are sublethal, they may affect the health and condition of animals and their ability to reproduce, with consequences for population status. Similarly, apparently sublethal effects may lead to long-term problems if, for example, the contaminants from the oil or dispersant are carcinogenic.

To date, the existing evidence suggests that at least some cetaceans are able to detect the oil, but they do not necessarily move away from it to avoid contact, inhalation, or ingestion. In previous small spills in the Gulf of Mexico, bottlenose dolphins have been observed moving under booms and surfacing and feeding in the oil. In fact, given the vast area affected by the spill, marine mammals that typically inhabit the central and eastern portions of the northern Gulf may not be able to avoid contact at the surface or in the water column. Their tolerance to oil, weathered oil, or dispersed oil likely depends on numerous factors such as its composition and toxicity, amount encountered, duration of contact, foraging patterns and physiology of the species involved, and health and condition of the affected individuals. In general, the more toxic components of spilled oil also are the more volatile and they tend to evaporate more quickly. After a short-lived spill, the period of exposure to those volatile components may be relatively brief. However, in a prolonged, continuous spill like the *Deepwater Horizon*, marine life in the spill area, including marine mammals and their prey, may be exposed to the more volatile components of the oil for days, weeks, or longer. Individuals in poor health or condition, or that are otherwise stressed may be more vulnerable to such effects (e.g., pregnant females that already are taxed physiologically may be less able to complete a pregnancy successfully). At this time of year, bottlenose dolphins are calving in coastal areas, which may add to their risk.

Cetaceans in the Gulf also may be affected by response activities. Large amounts of dispersants have been used, some of which have been applied in relatively new ways (i.e., at the ruptured wellhead), and EPA and the Coast Guard have directed British Petroleum (BP) to reduce the volume of dispersants used due to toxicity concerns. Scientists will gather evidence where they can, but may never be able to describe just how these dispersants affected the regional marine ecosystem, including marine mammals.

Response activities also have included and likely will continue to include a large number of vessels and aircraft in addition to the relatively high levels of activity characteristic of this region for decades. All of these vessels and aircraft may disturb animals by their presence and noise. Here, the primary concern involves behavioral effects, although ship strikes (i.e., collisions of ships and whales) also are possible when vessels are moving at relatively high speeds, and animals may be entangled in response-related debris left in the water. Behavioral effects may include abandonment of important habitat, changes in foraging distribution or patterns, changes in movement patterns or migration, and disruption of social structures (e.g., pods, mother-calf pairs).

Short-term ecological effects may occur if the spill reduces the availability of prey species (e.g., fishes, various invertebrates) either by killing them or altering their productivity or distribution. In addition, cetaceans whose health or condition is compromised by the spill may be more susceptible to disease or parasites.

Long-term effects may include lower abundance of animals in any given population due to increased mortality or failure of reproduction (including congenital defects in the next generation that were exposed *in utero*), shifts or constriction in distribution, and negative impacts to the health and condition of individual animals and populations. Such changes will reflect the sum total of the immediate impacts of the spill and spill response, and the impacts that persist because the ecosystem has been altered through long-term contamination by oil and dispersants, loss of

prey, and physical alteration of inshore ecosystems during response efforts (e.g., building of sand berms to keep oil out of wetlands). The persistence of such effects will depend on (1) the extent to which the oil released to the environment can be removed or is weathered and degraded to non-toxic forms, (2) the toxicity, persistence, and ecological effects of the dispersants, and (3) the nature and rate of recovery of other components of the Gulf ecosystems (e.g., prey populations). The complexity of the Gulf ecosystem and the large amount of oil spilled over a prolonged period may lead to an unprecedented variety, severity, and longevity of effects in the Gulf. For example, it remains to be seen how the oil, dispersants, and the products of their degradation interact with the factors that create hypoxic zones and harmful algal blooms, which have become important features of the northern Gulf ecosystem. At least harmful algal blooms are known to have potentially severe effects on marine mammals and other marine life. And, as marine scientists are learning from long-term monitoring elsewhere, in at least some cases highly perturbed marine ecosystems may take decades to fully recover, or may recover to alternative states (e.g., Prince William Sound).

Finally, all the above short- and long-term changes may be particularly significant for species or stocks listed as endangered or threatened (e.g., Florida manatee, sperm whale) or stocks with low abundance (e.g., inshore coastal bottlenose dolphins, Bryde's whales).

Assessment of Effects

The second question you asked the Commission to address is whether the effects of the spill and response activities can be fully assessed. The Commission begins its response by noting that the National Oceanic and Atmospheric Administration (NOAA), the Fish and Wildlife Service, the Gulf states, and a range of cooperating agencies are working diligently to assess effects to the extent possible. They are coordinating stranding teams to search for and respond to stranded marine mammals. They also are flying surveys to document the observed number of animals by species, their distribution, and their interactions with oil. They are attempting to biopsy animals in the field to assess important biological information (e.g., contaminant levels). In addition, they have prepared to receive marine mammals in need of rehabilitation and to conduct necropsies and other analyses of animals found dead to determine cause of death. Thirty-three marine mammal carcasses had been found at the time this testimony was prepared.

All that being said, it will still be extremely difficult to assess the full effects of this spill because the needed information is difficult to collect on marine mammals in the wild, and because sufficient baseline information is lacking for most stocks. According to stock assessment reports prepared by NOAA (and described in the Marine Mammal Commission's 2008 annual report), the Gulf of Mexico is habitat for 21 marine mammal species comprising 58 stocks. NOAA has "adequate" abundance estimates, that is, abundance estimates that meet the agency's own standards, for only 6 of those stocks, largely because the resources needed to conduct such assessments have been directed toward other priorities. Simply put, in all but a few cases, the lack of adequate pre-spill information will hamper a detailed assessment of changes in stock status, including the most basic information on changes in abundance. The agencies will need to find alternative means for assessing the effects, but the utility of those alternative measures remains to be seen. This is particularly unfortunate because the changes that occur in marine mammal populations might otherwise have served as useful indicators of the health and recovery of the northern Gulf ecosystem over time. There are exceptions to this rule because the Minerals Management Service and NOAA have conducted extensive studies on one species (e.g., the sperm whale; see Jochens et al. 2008[1]) and also have supported some surveys for the cetaceans in the region. Similarly, the Fish and Wildlife Service and the state of Florida have conducted extensive studies on the Florida manatee. However, on balance, the information needed to characterize baseline conditions for the remaining stocks is limited. For that reason, it may be the most informative to focus comparisons on those few stocks for which scientists have the best information (e.g., sperm whale, manatee, several bottlenose dolphin stocks). However, there is no basis for assuming that those few well-studied stocks are representative of the others, as Gulf marine mammals exhibit a variety of life history and natural history traits (e.g., preferred prey, foraging depths), occupy different ranges and ecological

[1] Jochens, A., D. Biggs, K. Benoit-Bird, D. Engelhaupt, J. Gordon, C. Hu, N. Jaquet, M. Johnson, R. Leben, B. Mate, P. Miller, J. Ortega-Ortiz, A. Thode, P. Tyack, and B. Würsig. 2008. Sperm Whale Seismic Study in the Gulf of Mexico: Synthesis Report. U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2008–006. 348 pp.

niches, and will have been affected in varying ways and to varying degrees by the spill.

In the absence of better information, those responsible for assessment of effects may err in at least two basic ways. First, they may find dead animals and mistakenly attribute their deaths to the spill when, in fact, that is not the case. Scientists were on the verge of making this mistake with gray whales after the Santa Barbara spill in 1969 and the Exxon Valdez spill in 1989, when they initially assumed all stranded whales had stranded as a result of contact with oil. Second, observers will undoubtedly fail to encounter all of the affected marine mammals, as some are likely to die and sink—their loss being neither detected nor documented. This second type of error may well explain the loss of killer whales in the Prince William Sound area after the Exxon Valdez spill. Thus, any counts of dead animals may well underestimate the total number lost. The counts may be adjusted by applying a correction factor, but the basis for choosing such a factor is not clear. Here, again, it is worth noting that scientists were able to detect the loss of killer whales after the Exxon Valdez spill because they had gathered sufficient baseline information prior to the spill; in that case, the photo-documentation of individual whales. It is also worth noting that after virtually all such events, scientists have decried the general lack of baseline information but much of that information has not been collected before another event is upon us.

Likely Impacts of Oil and Gas Activities in the Gulf and Elsewhere

Your third question pertained to the likely impacts of oil and gas activities on marine mammals in the Gulf and elsewhere. The impacts of oil and gas activities can be considered in six main categories, as follows.

- Construction and decommissioning of infrastructure (e.g., platforms, pipelines) may disturb marine mammals by the presence, activities, and noise of multiple vessels and aircraft, and by the removal of some structures using explosives. These activities are relatively short-lived and the effects of their disturbance reasonably can be considered transient and can be held to insignificant levels if appropriate mitigation measures are taken to avoid adverse effects on marine mammals and other marine life.
- Seismic studies are vital to oil and gas operations in the marine environment and pose a number of potentially significant risks to marine mammals. They are required to locate and evaluate oil and gas reservoirs, study the surrounding seafloor, site offshore infrastructure (e.g., production platforms, wind turbines), guide drilling operations, and assess changes in reservoirs over time as production proceeds. The primary risk they pose to marine mammals is from the introduction of high intensity, pulsed noise (airguns) into the marine environment. The noise from seismic survey sound sources has been shown in some circumstances to cause significant behavioral effects (e.g., changes in bowhead migratory paths) and has the potential to cause physiological effects (e.g., hearing impairment and, at least hypothetically, development of gas emboli due to changes in dive behavior). On average, a dozen or more seismic surveys are conducted in the Gulf each month. The above-cited study by Jochens et al. (2008) suggests seismic studies have only limited effects on sperm whales (i.e., what appear to be relatively minor changes in foraging behavior). However, the existing evidence is not sufficient to conclude that seismic studies have no significant effects on other species. This topic is a matter of considerable scientific discussion at present.
- General operations (drilling and oil/gas extraction) are usually less disruptive once they have begun if they are carried out without major incidents. Sightings of marine mammals near production platforms suggest that at least some marine mammal species tolerate or habituate to the presence of oil and gas infrastructure and activities and, in fact, may be attracted to them because they often provide habitat for other marine life.
- Support activities involve vessel trips or helicopter flights to and from platforms to change crews, provide supplies, and remove wastes. These activities also pose risks of disturbance because of the amount of activity involved and the noise created. Vessel traffic also poses a risk of vessel strikes that may injure or kill marine mammals. Here, too, the existing scientific information is not sufficient to characterize the effects of support activities on marine mammal stocks with confidence.
- Oil and gas transportation requires the use of vessels and/or pipelines to move crude oil and gas from the drill site to refineries. Tanker accidents have been a leading cause of oil spills in the marine environment. Pipelines appear to be considerably safer, but are not without risks themselves, as observed

in 2005 when hurricanes Katrina and Rita destroyed a large number of pipeline segments in the Gulf.

- Habitat degradation and contamination may occur as a result of multiple activities or events. Drilling generates muds and cuttings that often, but not always, are injected back into the ground. These muds may introduce heavy metals and other toxic materials into the marine ecosystem. Vessels that visit or are stationed at platforms may cause spillage of fuels or other petroleum-based products that, unless completely recovered, may add to nearby contamination. As all of us have just been soundly reminded, drilling operations do fail on occasion, leading to severe consequences. As described earlier in my testimony, the release of large amounts of oil in the marine environment poses a number of risks to marine mammals.

At present, scientists are not fully capable of measuring all of the above effects. In many instances, the Commission believes that oil and gas operations are initiated before adequate study to characterize the potentially affected environment, its biological community, and its natural variation over time and space. Monitoring and mitigation measures may be employed, but almost always those measures are of limited utility and their shortcomings are not adequately described. Developing better measures is technically challenging, and progress has been slowed by lack of resources. The result is that regulators often are faced with uncertainty and must make assumptions and judgments that should be better informed.

Minimizing the Impacts of Oil and Gas Operations

Your final question sought advice on how the impacts of oil and gas operations on marine mammals and marine ecosystems might be minimized. I consider this question to be the most important. I will focus on three considerations: resources and the burden of proof; a more systematic approach to oil and gas management; and the need for a change in culture.

Resources and the Burden of Proof—The lack of information on marine mammals in the Gulf of Mexico is an impediment to management and, in this case, assessment of the effects of the spill. Even basic abundance estimates for most marine mammal stocks in the Gulf are out of date, unacceptably imprecise, or simply don't exist. The federal government should explore opportunities to leverage resources of the private sector for the purpose of assessing the elements of those ecosystems that they are placing at risk. That exploration should include a hard look at the fundamental question of what responsibility those exploiting marine energy resources have to support studies of the ecosystems that they are placing at risk rather than waiting until an accident occurs to then attempt such analyses retrospectively. In the Commission's view, these companies not only bear the fiscal burden of demonstrating that their technologies are safe for use in the marine environment, but should support environmental research.

A More Systematic Approach to Oil and Gas Management—It appears that some of the lessons from previous spills have not been heeded and that a more systematic and rigorous evaluation of such projects is needed. The following problems exemplify the lack of rigor in our management process.

- *Baseline information:* As noted earlier, agencies have not collected the baseline information needed to (1) evaluate the resources at risk from oil and gas development and (2) assess the effects of a significant problem such as this spill. This was one of the major lessons derived from the Exxon Valdez spill in 1989.
- *Monitoring and mitigation:* Monitoring and mitigation measures are inadequate for many aspects of oil and gas production related to marine mammal protection. Federal agencies need to implement a systematic, well-considered strategy for evaluating and improving such measures over time.
- *Response measures:* The nature of response efforts to stop the *Deepwater Horizon* spill suggests the need for improved preparation for a serious accident at depth. Agencies must improve planning and capability for responding swiftly and effectively to a failure at such depth.
- *Worst-case scenarios:* Risk management requires accounting not only for the probability of a major spill, but also for the consequences if one occurs. Potentially catastrophic consequences must be considered even if the probability that they will occur is low. Proper assessment of risks requires recognition that they are a function both of probability and consequences.

These are just a few of the key areas for improvement related to oil and gas operations revealed by this tragic event. Clearly, a much more systematic and rigorous review is needed to improve oversight of the activities of the oil and gas industry in the marine environment and to minimize the probability and effects of such events in the future.

A Change in Culture—Finally, the Commission believes that all involved agencies and parties need to ask what went wrong in this particular case. Clearly, everyone is awaiting more specific information so that the immediate problems can be corrected. But responsible parties also must ask what conditions allowed things to go awry in so many ways. For example, multiple agencies are involved in reviewing matters related to offshore oil and gas exploration, development, and production, including the Marine Mammal Commission. The Commission believes that all agencies need to take a hard look to determine if and where our efforts might have fallen short.

Furthermore, society needs to consider how to respond to this tragedy. Our society has known for decades that fossil fuels are a diminishing resource, and our current dependence on them is not sustainable. But because of our dependence on fossil fuels, society, or its agencies, may be driven to take risks that otherwise would not be acceptable. To create management systems that truly minimize the risks of events like this oil spill, society also needs to examine and address the roots of the problem—that is, the underlying factors that drive us to make risky decisions. Doing so is essential to achieve a sustainable future with acceptable environmental risks and a correspondingly secure future for marine mammals and marine ecosystems.

Thank you again for the opportunity to testify, and I will do my best to answer any questions you may have.

Response to questions submitted for the record by Timothy J. Ragen, Executive Director, Marine Mammal Commission

Questions from Chairwoman Madeleine Z. Bordallo (D–GU)

1. Do NOAA and the Fish and Wildlife Service have access to data on marine mammal incidental take during oil and gas activities or is it solely managed by MMS? When will it be published or publicly available?

The answer to this question varies by geographic region. With one exception, oil and gas operators in the Gulf of Mexico generally opt not to apply for or obtain incidental take authorizations under the Marine Mammal Protection Act. In the Gulf, oil and gas operations may result in the taking of cetaceans from 21 species (i.e., sperm whale, dwarf sperm whale, pygmy sperm whale, Bryde's whale, killer whale, false killer whale, pygmy killer whale, Cuvier's beaked whale, Blainville's beaked whale, Gervais' beaked whale, Atlantic spotted dolphin, pantropical spotted dolphin, striped dolphin, spinner dolphin, rough-toothed dolphin, bottlenose dolphin, Clymene dolphin, Frasier's dolphin, Risso's dolphin, melon-headed whale, short-finned pilot whale) comprising 58 stocks. They may also take the single sirenian species in the Gulf, the Florida manatee. The reasons that operators do not routinely apply for and obtain incidental taking authorizations to include at least the species most likely to be encountered are unclear to the Commission. The exception to this pattern is that oil and gas operators have obtained authorizations to take marine mammals incidental to explosive removal of platforms and related structures. The applicable regulations are codified at 50 C.F.R. § 216.221 et seq. Section 216.217 sets forth several monitoring and reporting requirements that provide NOAA with data on the taking of marine mammals incidental to removal activities. In 2009 a total of 120 reports were submitted to the Galveston Laboratory (National Marine Fisheries Service) for removal activities. These reports are not published but are available to the public.

NOAA and the Bureau of Ocean Energy Management, Regulation, and Enforcement (formerly Minerals Management Service) are working toward implementing the incidental take provisions of the Marine Mammal Protection Act (section 101(a)(5)) for other oil and gas operations in the Gulf of Mexico[1]. It is not yet clear when authorizations will be sought or issued, but it is expected such authorizations will include monitoring and reporting requirements sufficient to provide useful data on the types and levels of incidental taking that occur. Once authorizations are issued and reports submitted, that information would be available for public review.

Although oil and gas operators in the Gulf of Mexico do not generally obtain authorizations under the Marine Mammal Protection Act, the Bureau of Ocean Energy Management, Regulation, and Enforcement consults with the NOAA and the Fish

[1] The Bureau also may initiate section 7 consultation under the Endangered Species Act for listed species (e.g., sperm whale), which might result in the issuance of an incidental take authorization under that Act and the establishment of other reporting requirements.

and Wildlife Service[2] to develop "Notices to Lessees." Those notices establish the requirements for various aspects of oil and gas operations designed to protect marine resources, including marine mammals. The four notices most pertinent to protecting marine mammals establish requirements for oil and gas spill response plans, management and disposal of debris, mitigation measures and observer programs applicable to seismic studies, and avoidance of vessel strikes. The latter two require operators to report marine mammal sightings and observed behavior to the Bureau, which enters them into a database and sends the information to NOAA's National Marine Fisheries Service. However, the information sent to NOAA is in summary form and applies only to species listed under the Endangered Species Act (i.e., the sperm whale). Therefore, it does not provide a sufficient basis for determining the number of takes for most marine mammal species. That information is not published but is available to the public.

In Alaskan waters, the Bureau also uses Notices to Lessees to establish requirements for oil and gas operations. However, oil and gas operators conducting activities offshore of Alaska generally apply to NOAA and/or the Fish and Wildlife Service for incidental take authorizations associated with various operations (e.g., seismic surveys, exploratory drilling). In Alaskan waters, oil and gas operations may result in the taking of several marine mammal species, including bowhead whales, beluga whales, narwhals, polar bears, walruses, ringed seals, bearded seals, spotted seals, ribbon seals, harbor seals, sea otters, killer whales, harbor porpoises, gray whales, humpback whales, fin whales, and minke whales. As part of the authorization process, operators are required first to estimate in advance the anticipated take levels and then to assess the impact of such taking on the affected species and stocks (i.e., as part of their application) by monitoring their activities and reporting the actual takes that occur. These reports are provided to NOAA and the Fish and Wildlife Service and are available to the public upon request.

2. How has this data informed the Marine Mammal Protection Act incidental take rulemaking process?

United States citizens (i.e., individuals, organizations, corporations, or agencies) whose actions may take marine mammals incidentally may apply for an authorization for such taking under section 101(a)(5)(A) of the Marine Mammal Protection Act. That provision requires rulemaking for each category of authorization,[3] under which letters of authorization are issued to individual operators. The intent of this provision is to ensure that the human activities (e.g., oil and gas operations) do not (1) affect more than small numbers of any marine mammal species or stock, (2) have more than a negligible impact on that species or stock, and (3) have an unmitigable adverse impact on the availability of those species or stocks that are taken for subsistence uses in Alaska. In addition, the process requires that NOAA or the Fish and Wildlife Service set forth permissible methods of taking and other means of achieving the least practicable adverse impact on the marine mammal species or stocks and their habitat.

The ability of managers and scientists to make the above determinations may be confounded by uncertainty in the data collected to estimate and characterize the level and significance of takes. That is, the two key questions are how many marine mammals are taken in the course of an activity and what is the biological significance of those takes. The same two questions can confound management of other human activities in the marine environment (e.g., use of Navy sonar, commercial shipping, seismic surveys for geophysical study).

To address those questions, NOAA and the Fish and Wildlife Service, working with other interested agencies, including agencies whose actions may take or authorize others to engage in activities that take marine mammals, are seeking means to reduce or avoid effects on marine mammals and to better estimate their significance, a process essential to informed management. Although this is an ongoing process, the information currently being collected from oil and gas activities in the Gulf of Mexico is not adequate for that purpose. First, although the reports required under the Notices to Lessees secure information for all marine mammals sighted, the information transmitted to NOAA is only for listed species (i.e., the sperm whale). Second, lessees only report what they observe. There is no attempt to account for animals that may have been in the area or may have been taken but were not observed. Third, the reports do not discuss the potential significance of observed

[2] In the Gulf of Mexico, the Fish and Wildlife Service has authority only for manatees and, for most operations, the likelihood of taking a manatee is exceedingly small.

[3] A streamlined, notice and comment process is available under section 101(a)(5)(D) for issuing incidental harassment authorizations for activities that will take marine mammals by harassment only.

interactions on the species or their habitat (i.e., they do not necessarily meet the Marine Mammal Protection Act standard that takes have no more than a negligible impact and be mitigated so that they have the least practicable impact). In view of these shortcomings, the Commission does not believe that the data currently being collected from oil and gas activities in the Gulf of Mexico are sufficient for informing and improving the incidental take authorization process. Given the large number of operations in the Gulf, the most effective means for addressing these shortcomings and for assessing the cumulative impacts of these multiple activities may be through a coordinated mitigation, monitoring, and reporting program established under a programmatic authorization process. In contrast, the data collected in the course of oil and gas activities in Alaskan waters are more comprehensive and are analyzed more fully. Those data provide some basis for informing and improving the incidental take authorization process, which is currently lacking in the Gulf of Mexico.

To provide similar improvements for activities in the Gulf of Mexico, the joint efforts by NOAA and the Bureau to implement the incidental take provisions of the Marine Mammal Protection Act should be expedited to the extent possible. That process should provide substantially better information on the marine mammal species taken, the approximate number of takes, and the biological significance of those takes.

Ms. BORDALLO. Thank you very much, Dr. Ragen, for all of your recommendations and to all of the witnesses this morning. You have given us a better insight in this catastrophe, and the Members here of the Committee will be asking questions.

I will begin with myself. I have a few questions. There is a time limit again for all of us, so we are going to have to get through this. But my first is for Mr. Westerholm.

It is my understanding that some autonomous underwater vehicles are being used currently to collect data on oxygen levels, salinity changes and oil presence in the Gulf. Have you found this data helpful, and do you have a long-term plan to continue to use these gliders to monitor the impacts of the spill?

Mr. WESTERHOLM. Yes. We will be using a number of tools, and gliders are one of those tools. Some of them have the capability to actually collect samples and bring those samples up.

Those gliders will help us determine a number of things. We are able to look at many of the subsurface elements that you spoke of, and we will continue to do those, but also continue to use other measurement techniques to get as much information as we can.

Ms. BORDALLO. I have a few more questions, and in the interest of time if you could just give me a yes or a no?

Mr. WESTERHOLM. Absolutely.

Ms. BORDALLO. All right. As you know, NOAA's Office of Response and Restoration has been severely underfunded for the past several years and, as a result, had to initiate a stringent workforce structuring plan to downsize your operations. Did this downsizing impair NOAA's ability to respond to the *Deepwater Horizon* spill?

Mr. WESTERHOLM. Yes.

Ms. BORDALLO. Have you had to hire an additional technical staff to restore its capabilities?

Mr. WESTERHOLM. We have. We have actually brought some people back from retirement and gone to other areas the best we could for the spill.

Ms. BORDALLO. All right. Considering the fact that NOAA responds to roughly 200 spill events a year, does NOAA presently have the capability to respond to another spill if it happened say tomorrow?

Mr. WESTERHOLM. We would do the best we can, but all of my resources are down at the spill right now.

Ms. BORDALLO. All right. In order to be better prepared and prepositioned to respond, should NOAA also receive an annual appropriation from the Oil Spill Liability Trust Fund just like other Federal agencies, including the Coast Guard and the EPA? And I am sure you will say yes to that.

Mr. WESTERHOLM. I would certainly say that that would be a consideration of the Administration, but obviously if we did we would use that money to enhance the staff.

Ms. BORDALLO. Very good. All right. And I have one for Ms. Lyder. BP was granted a categorical exclusion last year, allowing the rig to be approved without environmental analysis that would usually be required under the National Environmental Policy Act.

What is the status of the review by CEQ and the Department of the Interior to strengthen the guidance given to agencies about when or when they should not use exclusions?

Ms. LYDER. That review is very much ongoing now. It is not complete yet. They are looking at that particular categorical exclusion. They are also looking at it in the context of the overall investigation that they are doing in Louisiana on the spill.

Ms. BORDALLO. All right.

Ms. LYDER. So all I can tell you is it is ongoing.

Ms. BORDALLO. All right. And MMS issued hundreds of drilling permits for projects in the Gulf of Mexico, without obtaining Federal permits detailing how energy exploration could affect endangered species or marine mammals.

How can we ensure that the scientific advice of other Federal agencies is given appropriate consideration before the Interior Department approves permits? For example, should we require formal consultation? Should other Federal agencies be required to certify a permit?

Ms. LYDER. I can assure you that that process is being reviewed and possibly changed right now.

Part of what happened was that because a catastrophic oil spill was viewed as very unlikely because we hadn't seen a catastrophic oil spill from a rig since the late 1960s, that was part of the analysis, but now we have seen a catastrophic oil spill and so the consultation process will change.

Ms. BORDALLO. All right. Also, Ms. Lyder, should the Environmental Contaminants Program in the Fish and Wildlife Service also receive an annual appropriation from the Oil Spill Liability Trust Fund to be better prepared to respond to spills?

Ms. LYDER. Well, I will ditto the answer of my friend from NOAA. It is certainly something that should be considered and, if it was, we would use it much the way NOAA would use theirs; but that is a decision for the Administration.

Ms. BORDALLO. Ms. Westerholm, I have one more question before my time is running here. Baseline information for whales and dolphins in the Gulf of Mexico are sorely limited.

According to the Marine Mammal Commission, abundance estimates for only three of the 24 stocks listed in the National Marine Fisheries Services stock assessment reports meet the Service's own standards for acceptable precision. How then will NMFS determine

what changes occur as a result of the oil spill in population, size, distribution and habitat use?

Mr. WESTERHOLM. Obviously, based on just your explanation, it is going to be very challenging and difficult to do that. I am not sure we will be able to get an exact answer to that. We will obviously do the best we can.

Ms. BORDALLO. If you could get back if you have an answer?

Mr. WESTERHOLM. I will.

Ms. BORDALLO. All right. Thank you very much. I will now defer to the Ranking Member, Mr. Cassidy, for any questions he may have.

Mr. CASSIDY. Thank you, Madam Chair. Mr. Westerholm, was any work done, to your knowledge, prior to this incident, looking at the effect of dispersants when used in ultra-deep or deep drilling?

Mr. WESTERHOLM. To my knowledge, that has not been done. This was a technique that had been spoken about, but had not been done in the United States.

Mr. CASSIDY. Now, has anybody done, to your knowledge or anyone else's knowledge, any study of the effects of the ecosystem of the deepwater? For example, we have oil coming out 5,000 feet below sea level. Has anybody done any work on that effect prior to this incident?

Mr. WESTERHOLM. Again, I would say that you would break that into two categories. One, how to respond to deep well release. Certainly some of that was speculative. We don't have a lot of experience in this country, but other parts of the world that has happened.

The second is what impact that might have on the biological and ecosystem and, again, that research has been very limited because of the limited number of spills that have happened.

Mr. CASSIDY. Now, I guess one of my concerns is as I prepared for this or as I have kind of worked this, this is something from the National Research Council of the National Academies Oil in the Sea III, and in 2003 they published this calling upon NOAA, MMS and Coast Guard to study these issues.

I guess I am wondering now, in 2010, why in the heck did those agencies, and obviously you can't answer. You are not the head of the show, but can you postulate why recommendations were made and totally apparently ignored, which would have been tremendous to have now?

Mr. WESTERHOLM. You know, I can say that there are several recommendations, having some familiarity with that book and some past experience in the Coast Guard, that some actually were not ignored and obviously some action was taken, but again limited research funding, as well as the ability to run specific tests on dispersants and other activities was challenging.

Mr. CASSIDY. Now, don't I know that in Norway they have actually done deepwater releases of oil and they have looked at the effects of that oil in the water column and presumably how to deal with that? Why can the Norwegians do it and we cannot?

Mr. WESTERHOLM. Well, I would defer to my colleagues at EPA and others, and a lot of that goes back to the regulations in place to allow us to actually release oil and do studies on release.

We can do it in certain test tanks. There is one in New Jersey. But I will say that we have sent people over to Norway to observe their test and work with them over the years.

Mr. CASSIDY. OK. I will just tell you as a person from Louisiana who is terribly upset over this, I am also terribly upset that recommendations made in 2003 in advance of deepwater drilling have been totally ignored. Not totally, but apparently substantially ignored because we are trying to figure out now what dispersants do with the deepwater.

Dr. Ragen, you mentioned the effects of oil upon marine mammals, but you are speaking specifically of oil I gather, and that is really not the issue here. What we are speaking of is highly dispersed hydrocarbons, which in the so-called plume are still measured in parts per million is my understanding, but it otherwise looks like oil.

Any thoughts about that? How would you apply your testimony, if you will, to this very dispersed hydrocarbon and, by the way, also low sulphur, relatively light crude, relative to, I gather, what was spilled in Alaska, which was heavy crude?

Dr. RAGEN. I would say that we have virtually no information on how these plumes and oil in the midwater column affect marine mammals. It remains to be seen what the actual composition of that is, and how long it persists, and how long it would affect the marine mammals that are there.

Probably our main concern would be its effect on the ecosystem, which may change the availability of prey for marine mammals, et cetera. If these kinds of plumes have significant effects on production in the ecosystem or the transfer of energy through the trophic food web then I would expect that the marine mammals would suffer the consequences of that, but I am speculating right now because we just don't have that kind of information.

Mr. CASSIDY. So your testimony was more on the direct effects of oil, as opposed to highly dispersed hydrocarbons?

Dr. RAGEN. Correct. We don't know how——

Mr. CASSIDY. I am almost out of time. Let me grab the Secretary for just a second. Secretary Barham, man. If there is anybody who has been an effective point person in protecting the fish and wildlife of Louisiana, it has been you. You and the Governor and Billy Nungesser have done a standout job.

Now, clearly you are heart and soul. You can introduce yourself to each other. You grew up in Houma, despite that north Louisiana accent so he says. I don't know if it is true. What would be your opinion about the six-month moratorium that is being suggested by the Administration?

What would be the impact of that? Knowing that you represent the fisheries, what is your opinion on that and its potential impact upon coastal Louisiana?

Mr. BARHAM. Well, the entire culture of south Louisiana is dependent on both oil and fisheries. We have worked hand in hand for generations, and it is part of the complex that make up our culture along the coast.

We want to provide the energy that America desperately needs, well managed. It is a part of a good system in Louisiana. But we

also have to do the things it takes to be sure that we never have an occurrence like this again.

Mr. CASSIDY. OK. I yield back.

Ms. BORDALLO. I thank the gentleman from Louisiana, the Ranking Member, and will now go to Members for questions. I would ask the witnesses if they could make their answers as concise as possible, since we do have two more panels to hear.

Next I would like to recognize the gentleman from New Mexico, Mr. Luján, for any questions.

Mr. LUJÁN. Thank you very much, Madam Chair. And again as we begin, our prayers are with the families that have been impacted and those that had their lives tragically taken as well.

My first question is for Ms. Lyder. It is my understanding that MMS has categorically excluded exploration and drilling plans from environmental review. Picking up with some of the questions asked by our Ranking Member about the impact of oil on ecosystems, does MMS still consult with other Federal agencies on these drilling plans such as the one BP was operating under when the spill happened? If not, how do the drilling plan evade such consultation?

Ms. LYDER. Well, first, I want to point out that I am not in the part of the Department that manages MMS so I don't know that I can give you a direct answer on those, but I do know that that process is being reviewed.

I do know that when a company presents an exploration plan, there is a process of review that involves other agencies. I don't know about the specific actions under that exploration plan.

Mr. LUJÁN. Is Fish and Wildlife consulted in these areas?

Ms. LYDER. Yes, Fish and Wildlife Service is consulted.

Mr. LUJÁN. So in that area has there been activity through Fish and Wildlife to understand the impacts?

Ms. LYDER. Well, as I said earlier, the plan that was presented to the Fish and Wildlife Service presented a catastrophic oil spill as a very, very unlikely scenario and so it was evaluated in that capacity, and we now know that that isn't true and that is part of the problem.

Mr. LUJÁN. Mr. Westerholm, a 2003 report by the National Research Council predicted that the oil in a deepwater blowout could break into fine droplets, forming plumes of oil mixed with water, that would not quickly rise to the surface.

Why, then, are we apparently unprepared to manage the current situation, and why did NOAA's Office of Response and Restoration appear to be unprepared for this type of spill event?

Mr. WESTERHOLM. I will break that answer into two parts. One would be what we would expect, and I think you are absolutely right. Some of the oil will strip off as it comes up from the bottom, in this case over a mile. Some of the smaller particles will stay in residence in that water column for some period of time.

Our initial evaluation of that, we have sent out a number of ships and we are looking for more information, but our initial evaluation obviously is showing it in the parts per million and parts per trillion in a couple samples. We will certainly have more. That is not to say that even at that level there isn't a concern, but there is no ability to pick it up at that level. It is not like the oil you can pick up off the surface.

The second would be the ability to be prepared for that. Part of the answer I spoke of earlier is some of the things that we obviously would be doing if we were funded at a different level, and that would be three-dimensional modeling and the ability to do some of this.

Mr. LUJÁN. Is NOAA in a position today to release their validated results of the damage assessment data to the public?

Mr. WESTERHOLM. I may not have explained it very well, but the damage assessment is a public process; and there will be a time when, after the data is collected and quality control and assured, that it will be released in a public forum. The public is actually part of that restoration process.

Mr. LUJÁN. Are there any other trustees that are reluctant to release this data, or is it NOAA's position that, once it goes through this process that you describe, it will be released?

Mr. WESTERHOLM. It actually is a trustee council that makes that decision of all the state and Federal trustees, as well as any tribal representation, and they will make that decision.

Mr. LUJÁN. There was a comment by Sharon Gibson, who is a Commerce Department spokeswoman, on an article on June 8 that said that this information would be made available to the public as soon as possible. However, we can't make the decision unilaterally since the states are co-trustees of the Natural Resource Damage Assessment process, and we are currently working with the state partners.

So has there been any reluctance by states at this time that you are aware of to furnish that information?

Mr. WESTERHOLM. You know, not that I know of sitting here, but certainly I can check on that.

Mr. LUJÁN. Mr. Secretary, is this the some information that you stated you want to get out to the public as soon as possible?

Mr. BARHAM. Obviously we would like to have information of that type as rapidly as we could get it.

Mr. LUJÁN. Very good. I certainly hope that as soon as possible and as early as possible, Mr. Westerholm, that we can get this information.

It seems that as we are trying to assess what has happened out there and to get an accurate account of the oil spill, and especially with the plumes, that we need to get this damage assessment—not only for underwater, but also with the impact to our fisheries—with the people that have been displaced.

And with that, one of the responsibilities outlined and mandated to NOAA is to make sure that they are getting a true account of the impact of the recreation with fishing, with what has happened to the economy, as well as the impacted people. Is NOAA in any way working with the locally impacted people to make sure that they are getting treated fairly by BP with response to getting the money coming to them?

Mr. WESTERHOLM. As far as the individuals, and let me break that down real quickly. We are working. We are working with the states. We are working with local citizens to get out information certainly on the commercial fishing side and the fisheries closures. Absolutely. We are working with those communities.

There are people who have been injured—private citizens—by BP, and their compensation would be going directly through BP in the existing process.

We are also working with the fisheries councils and fisheries management of all the states and the border where we share our Federal waters with their state waters to make sure that there is some consistency in determining fisheries closures and reopenings and impacts.

In addition, the Department of Commerce is looking at small business and the economic impact of the spill.

Mr. LUJÁN. The reason that I ask the question about the damage assessment data, Madam Chair, is I seem to believe that getting an accurate account of this information will help the locally impacted people be able to make a stronger case for reimbursement from BP, and that is why this information is so critical.

Ms. BORDALLO. Absolutely.

Mr. LUJÁN. Thank you very much, Madam Chair.

Ms. BORDALLO. I agree. If the Members so desire, we can have a second round of questions if you request it.

And now I would like to recognize the gentleman from Virginia, Mr. Wittman.

Mr. WITTMAN. Thank you, Madam Chairwoman. Thank you, members of the panel, for joining us. I want to expand on some of the questions.

I am really concerned about the impact of this spill on individuals. I spent 18 years in the area of seafood safety, marine resource and water quality. I have lived it. I know many folks in the Gulf that deal with seafood. I know the effect on people's lives down there. I represent an area in the Chesapeake Bay who is intimately tied to the water, to the seafood resources there and to water quality, so I have a deep affinity to what the folks in the Gulf are going through.

And I want to begin by this, asking Secretary Barham. I know that Secretary Locke has declared a fishery disaster for the region. Can you tell me your experience with fishery disaster designations? How are they implemented? How effective are they in getting dollars directly to fishermen, communities, processors that are affected by this spill in the Gulf?

Mr. BARHAM. Congressman, our experience is that it is a very slow process. It is not a response that adequately addresses the need, the immediate need that is in the industry.

And it is not just you tend to think of just the fishermen that are on the water, but, as you know, it is a whole ripple effect up and down a chain from the processors to the ice houses to the bait dealers, even to the restaurants that cater to the recreational or commercial fishermen, even up to the high end restaurants that serve the seafood.

So there will be a tremendous ripple effect through the entire economy along the coastal areas of Louisiana, and it is hard to find businesses that don't have some direct connection to this industry. So it is such a long, slow, and laborious process that oftentimes these people go broke before they get relief.

Mr. WITTMAN. Mr. Secretary, I would agree with you. In fact, I would say this; that there are a lot of relationships between the

Louisiana seafood industry and the seafood industry up and down the East Coast. I can tell you Virginia seafood dealers rely on Louisiana seafood dealers, so there will be a ripple effect even outside the Gulf area.

Mr. BARHAM. I completely agree. Very similar to the Chesapeake area and other areas up and down the eastern seacoast.

Mr. WITTMAN. Absolutely. Mr. Westerholm, the Oil Pollution Act of 1990 does have a mechanism there to hold the responsible parties in line, to make sure that they get resources to help those folks out that have been affected by these oil spills. I am going to go back right to those coastal communities that are going to be affected by this on a day-in and day-out basis and, again, I have a deep affinity to coastal communities, representing one.

Can you tell me where things are currently with that, what the efforts are to get resources in a timely manner? These people are not fishing right now, which means every day they are not is a day of lost resources. And it is not as though they can make that up in the future because fishing happens in seasons, so this is lost income that they never get back.

Can you tell me where the process is to make sure that those folks are being supported and being made whole through this process?

Mr. WESTERHOLM. I can certainly try to give you a quick answer, but really that information lies with BP as the responsible party and the National Incident Command and Admiral Allen, who is monitoring the claims process.

But the claims that have been made, BP is providing all that information to the Incident Command and the Coast Guard for determining what claims have been requested, what claims are processed, who has been injured. If indeed a claim has been denied, that individual has the right to claim directly against the fund, and the National Pollution Fund Center and the Coast Guard would take care of that claim.

In addition, one of the things that you just spoke of, the disaster declaration. In the event that it wasn't a claim that was paid under the Fund, a supplemental request from the Administration to that disaster declaration would assist those fishermen and those communities.

Mr. WITTMAN. All right. Secretary Barham made a comment earlier I want to expand upon. He was talking about how the publicity from the spill is affecting the seafood market in Louisiana that is not affected by the spill. I know exactly how that works. If you hear something about the Gulf, even the seafood that is coming out of there, sales go down because of that.

Can you tell me what NOAA is doing through the National Marine Fisheries Service to help with that, to get information out about the seafood resource, to talk about the safety of the seafood resource so that the commerce that is going on there can continue? Because we know the potential for this whole thing to shut down even those elements of the seafood industry that are able to process seafood, that can do it safely and provide a safe product.

Mr. WESTERHOLM. Absolutely. That is a great question, and the answer is twofold. One, we have closed those areas that have been impacted by oil so that the areas that are considered open, where

fishing and seafood harvesting is still done, are safe. Seafood coming from there would be safe, so someone would be in violation of, obviously, going into a closed area.

The second is our seafood safety testing program, which is designed to enhance the ability not only to reopen fisheries but, during this time, to test fisheries to ensure the safety of the seafood products going to market.

Mr. WITTMAN. Are you finding good coordination with the Food and Drug Administration that also oversees seafood safety and their ability to get the word out and to make sure that people are aware of seafood safety there?

Mr. WESTERHOLM. I know we are working closely with them and the same entities within each of the various states in terms of closing their fisheries and working with their health officials. Beyond that, I can't speak to how that relationship is working, but I know we are working on those issues.

Mr. WITTMAN. OK. Well, I would just urge you to make sure that there is a coordinated effort between states and all the Federal agencies that coordinate the issues with seafood safety.

Madam Chairman, thank you so much. I yield back.

Ms. BORDALLO. I thank the gentleman. And now I would like to recognize the gentlelady from California, Ms. Capps.

Mrs. CAPPS. Thank you, Madam Chair. This topic today is very critical, as you know.

As many of my colleagues know, I lived through the 1969 oil spill in Santa Barbara, which is in the heart of my congressional district. This was a major spill in terms of ecological damage. The direct costs of that spill were enormous and lasted a very long time, but it pales in comparison to what we are seeing now in the waters and the wetlands in the Gulf.

I want to move quickly through a series of questions, if I could, starting with you, Mr. Westerholm. Scientists are scrambling to study the BP oil spill now, knowing that it is in many ways a unique event. Never before has a leak from such depths vented so much oil for so long. Scientists have many questions.

Mr. Westerholm, in your testimony you say that one purpose of the national contingency plan is to ensure access to science related resources data and expertise to the NOAA response teams. Some scientists that have received National Science Foundation Quick Response grants to gauge the spill's ecological effects say they are not getting full access to this data.

My question is, how is NOAA ensuring that these response teams, including scientists collecting data now in the Gulf, have full access to all available NOAA data?

Mr. WESTERHOLM. Well, certainly I would be very interested in hearing from those scientists because we are committed to getting them and the public the information as soon as possible.

Mrs. CAPPS. So you are committed to getting that data out to them as soon as possible?

Mr. WESTERHOLM. Yes.

Mrs. CAPPS. That is good because scientists have been on the front line of this disaster, and we all need their help, their research in terms of how to move forward.

Now a question for both you and Ms. Lyder from the Interior Department. Do NOAA and the Interior Department have the current biological capacity and the biological manpower in the Gulf to meet this escalating need?

Mr. WESTERHOLM. I will speak first, and obviously this is a continuing spill——

Mrs. CAPPS. Yes.

Mr. WESTERHOLM [continuing]. And we have not stopped the leak and it is ongoing.

Mrs. CAPPS. Yes.

Mr. WESTERHOLM. So, as we stand right now, we have enough labs and we are collecting enough specimens to begin to do that, but obviously the system could be taxed if things continue the way they are.

Ms. LYDER. My answer would be yes. The full Fish and Wildlife Service is involved in this. We have scientists in the Park Service. We have scientists at the U.S. Geological Survey. We are using every bit of that resource, so yes.

Mrs. CAPPS. OK. Could you give the Subcommittee some early thoughts on the kinds of future efforts that will be needed to mitigate for the loss of wildlife and habitat, and what kind of measures will be needed—this is a projection, but I think it is important for us to hear from you—to build resiliency and redundancy back into the ecosystems to compensate for all of this damage?

Ms. LYDER. Well, I think one thing we all know is that this was already an ecosystem that was in trouble. We have talked about Gulf Coast restoration for a long time, and I think we need to look at ways to strengthen the ecosystem to get it beyond where it was before the spill and to use this money, use this opportunity, to be part of a long-term restoration plan.

In the immediacy we are looking at habitat that could replace oil, habitat for the fall migration, ways to attract migratory birds to areas that are oil free. We are looking at a lot of immediate responses, but we are also looking at ways, as we go through the NRDA process, to use this process for replacement of oil habitat for restoration of——

Mrs. CAPPS. Do you have anything to add, Mr. Westerholm?

Mr. WESTERHOLM. And I would just echo that and say a key part of that is to develop a system that is resilient in the future to be able to survive——

Mrs. CAPPS. All right.

Mr. WESTERHOLM [continuing]. Through these types of conditions.

Mrs. CAPPS. Back to you, Ms. Lyder. Can you describe for the Subcommittee the importance of the Fish and Wildlife Service Environmental Contaminants Program, and what its function is in response to this spill?

Ms. LYDER. The Environment Contaminants Program is the program that responds to oil spills and to other degradation in habitat. What is of most concern to the Fish and Wildlife Service when there is a spill or a catastrophe is, first of all, destruction of habitat. We care about species populations, we care about individual animals, but destruction of habitat is what we are most concerned about.

Our Environmental Contaminants Office is the office that looks at the impact of chemicals, oil and whatever in the environment and how best to clean it up, so——

Mrs. CAPPS. Just a real quick followup. Is this contaminants program able to meet its obligation then, since it has such a critical role, to respond to the catastrophe, as well as all of the existing programs and needs around the country?

Ms. LYDER. Right now we are using much of that capacity in the Gulf, and we will have to assess after this spill whether we need to increase that capacity.

Mrs. CAPPS. And that leads to what about the future? Any thoughts?

Ms. LYDER. Right. We are looking at possibilities of putting together response teams by state so that when there is an emergency like this, we have a lot of backup.

We have the luxury of bringing backup in to Houma and in to the incident commands from all our regions around the country, and we are doing that. We are rotating people in and out and in and out in the Gulf.

Mrs. CAPPS. Thank you. Thank you. Thank you, Madam Chair.

Ms. BORDALLO. I thank the gentlelady from California. And now I would like to recognize the gentleman from Louisiana, Mr. Fleming.

Mr. FLEMING. Thank you, Madam Chairman. Let me address Mr. Barham first of all.

I am the Congressman from the 4th District of Louisiana, among several Congressmen from Louisiana here this morning, and first of all I want to say thank you and I want to commend you and our Governor, Billy Nungesser, and many others who are doing an outstanding job very vigorously standing point trying to protect our state, its marshes, its wildlife. Certainly call upon us if there is anything we can do to help you beyond what we are trying to attempt to do now.

I am disappointed that we are almost two months and you haven't gotten answers yet about the dispersants. I am advised that the EPA has the information and hopefully will turn it over soon, but I think that is a slowness of response.

I am also very disappointed that despite the tough rhetoric, our Administration, it took almost two months to get approval for the berm creation to create a barrier for the oil spill coming up on our shores. There are other issues too, and I am just going to clip them off real quick and get a response from you on those.

I understand you have made several requests on May 24 to Secretary Salazar that the Louisiana annual apportionment for the Sport Fish Restoration Program used to manage our coastal fisheries be apportioned at an annual rate equal to an average of the last three years of funding. Have you received a response to that, sir?

Mr. BARHAM. No, sir, I have not.

Mr. FLEMING. OK. There was a request to BP on May 24 for about $30 million in funds to implement a multi-year fishery resource monitoring program that you indicated was designed to provide the information needed to manage the fishery resources of

Louisiana as a result of the spill. Have you received a response on that, sir?

Mr. BARHAM. No, sir, I have not.

Mr. FLEMING. On May 28, together with the Louisiana Workforce Commission, Louisiana Recovery Authority Office of Community Development, Louisiana Economic Development, Louisiana Department of Social Services and Louisiana Department of Health and Hospitals, to BP for an initial $300 million in funding to provide swift and ameliorative response for the individuals and businesses greatly impacted by this disaster, as well as to address the long-term impacts. Have you receive a response yet, sir?

Mr. BARHAM. No, sir, I have not.

Mr. FLEMING. Now, I understand that there are a lot of boats being docked, a lot of workers in the fisheries industry who are being impacted and can no longer go out and fish and to make a living.

Can you give me an idea or give us an idea here today how quickly BP is responding to their claims for reimbursement for money and time lost?

Mr. BARHAM. Congressman, I would be less than honest if I didn't tell you that it has been frustratingly slow in response. These people, as you say, are ready to work and do what is needed to provide for their families and to pay the bills that are needed, and they are caught in a terrible situation. It has been slow.

Mr. FLEMING. OK, sir. So what you are saying is that the Administration, with its very tough rhetoric about boots on the neck and kicking body parts, and the fact that our President has never spoken to the CEO of BP, despite all of these things, we are yet getting too much down the road, and we are getting essentially no response to these many important elements?

Mr. BARHAM. Well, I think the Administration has shown that they clearly care about what is going on in Louisiana. The President has been down several times, and I sense a frustration on lots of fronts about the response by BP primarily.

They have said lots of things, and either did not follow through or evaded giving responses at all. It has been disappointing in that sense. It is easier to make a flashy ad on television than it is to actually respond to needs.

Mr. FLEMING. Yes, sir. One final thing as my time runs out. It is my understanding that numbers of lawyers are descending on Louisiana, making the claim that in order to make a claim to BP you must have a lawyer. Is that true?

Mr. BARHAM. Well, I can't answer for the individual. We have made some claims on BP and we have some pretty good lawyers in Louisiana, but I haven't gotten responses even with them.

Mr. FLEMING. OK. So you are saying even with lawyers we are not getting responses?

Mr. BARHAM. We haven't yet.

Mr. FLEMING. OK. All right. Thank you, Madam Chair.

Ms. BORDALLO. I thank the gentleman. And I would like now to recognize the gentleman from Wisconsin, Mr. Kind.

Mr. KIND. Thank you, Madam Chair. Thank you so much for holding this very important hearing, and I want to thank the witnesses for your testimony today and everything that you are doing

to try to mitigate and limit the damage of this obvious ecological and wildlife disaster. It is a national nightmare that is slowly unfolding before our very eyes. Our concern and sympathy are obviously with the families that lost loved ones, but also with the entire region.

I represent a district in western Wisconsin. My backyard is North America's largest waterfowl migratory route, and the spread of this wildlife and ecological damage is immeasurable at this point. Obviously it is going to affect each and every one of us in the Norther Hemisphere at least.

It just seems to me like it is all hands on deck right now. Put politics aside. We have to work together and figure out the best solution to cap this thing, and then limit the damage that is being done, and learn the lessons so that they are never repeated again in the future.

I understand the State of Louisiana made the decision to open up the Mississippi River flowage into the delta area. I don't know if anyone has been monitoring that to see, or could testify as far as the effectiveness of that and how helpful that might be, but that might be a good place to start. I would be curious to hear from anyone who might.

Mr. Westerholm or Secretary Lyder, do you have any opinion in regard to the effectiveness of opening up the river down there?

Ms. LYDER. I can tell you that it has been very effective in protecting the Delta National Wildlife Refuge. The flows are high. The current is pushing the oil away from that eastern side of the river, and we just hope that the flows can remain high.

Mr. KIND. Are there any potential negative consequences to doing that as far as the toxicity level and the impact that might have on wildlife?

Mr. BARHAM. I will respond to that. Yes, there are negatives. When you flush freshwater over the richly productive oyster seed grounds—you have Mr. Voisin coming up on a later panel today that will explain that, but you are going to kill those oysters if they are inundated with freshwater over an extended period of time.

So it is a tradeoff. You are keeping that oil out for some of the marine creatures, but you are also potentially killing off very productive oyster seed grounds underneath those diversions.

Mr. KIND. Let me ask you. Mr. Westerholm, Secretary Lyder, are you or is USGS doing any computer modeling in regard to the spread of this damage, and what we might ultimately be facing here?

Mr. WESTERHOLM. I can take that one. Every day we do trajectory analysis of where the oil is going and where it is spreading to, including a loop current analysis to see if it would be going south and through the Florida Straits and out that way.

So the short answer to your question is yes, we are doing the trajectory analysis on it. There are some hydrant dynamics and other things that we don't have all the answers to. This freshwater push is one.

Mr. KIND. Right.

Mr. WESTERHOLM. We know physically what will happen, but being able to measure it and put it in there. We marry up. Every day we marry up what is predicted by the models with what actual

observation is to improve it, so on a daily basis it is a continually improving process.

Mr. KIND. Well, I guess how confident are you in the accuracy of that analysis that is being done, or is it new terrain that we are just hoping——

Mr. WESTERHOLM. Well, I would not say it is new terrain. I think many of the trajectory models that we have have accurately predicted the shoreline impacts and where the oil is migrating.

You know, it is a large Gulf out there, but we seem to have a pretty good handle on where the oil is from our satellite imagery, visual imagery and putting that into our models.

Mr. KIND. Assistant Secretary Lyder, as an active member of the Congressional Sportsmen's Caucus I know there is a tremendous outdoor sporting alliance out there with a tremendous amount of technical expertise that might be helpful.

Has there been any outreach with that coalition at all as far as things that they might be able to assist with technical assistance in the field or any resources they might be able to bring?

Ms. LYDER. I don't know about the coalition in particular. I know there has been outreach with the sport fishing community on the delta, and I know they have been involved certainly in taking experts out, taking scientists out.

The marinas are unfortunately instead of taking recreational fishermen out, they are now taking people out looking for oil, looking for birds, and they have a wealth of information. They know that area better than anybody else. It is their zone, and we are——

Mr. KIND. What about organizations like DU or Pheasants Forever? Has there been any——

Ms. LYDER. We have been in contact with those organizations, and certainly their local branches have been involved in the response.

Mr. KIND. Because there is a huge migratory bird community out there as well.

Ms. LYDER. Yes, there is.

Mr. KIND. They have been actively involved?

Ms. LYDER. Yes.

Mr. KIND. OK. Well, thank you again for your testimony and all the work that you are doing. Madam Chair, that is all I have. I yield back.

Ms. BORDALLO. I thank the gentleman. And now I would like to recognize the gentlelady from the Virgin Islands, Ms. Christensen.

Mrs. CHRISTENSEN. Thank you, Madam Chair. Thank you for having this hearing. I had the opportunity to travel with another subcommittee earlier this week to Louisiana and to participate in a hearing there that included two young women who had lost their husbands, and one of the shrimpers was there to testify as well. We did a fly over of the spill area.

The hearing and the time we spent there really highlighted many of the concerns, like the lack of attention to problems that existed on *Deepwater Horizon* before the explosion. The inadequate response from BP was very strongly documented in that hearing, the impact on the health of people working on the cleanup, as well as the marine life there.

It was very disheartening to me that with what I understand are over 3,000 oil and gas platforms in such a sensitive and important area that our Federal agencies were so lax in their permitting, and also it seems that we were unprepared for this worst case scenario. As disheartening as it is for me, it is devastating to the people who live there, as we are hearing today.

So let me get to my questions. Some of them have been asked already. Director Westerholm, this is a devastating spill at any time, but it comes at the beginning of hurricane season. So what plans does NOAA have in place to address this spill, should we have a hurricane in the Gulf?

Mr. WESTERHOLM. Yes, ma'am. Let me take that three ways. One, as you know, the predictions for hurricane season just came out, and we expect it to be an extremely active season this year——

Mrs. CHRISTENSEN. Yes.

Mr. WESTERHOLM [continuing]. So that is very concerning. Second, we looked at what might the impact of oil be on the hurricane? What might the impact of the hurricane be on the oil?

And then, last, we looked at the logistics capability of saying, with all this activity going on in the Gulf and we have to have an evacuation, how long and how much forecast can we give so we can adequately evacuate the area during the time when a lot of response operations are going on?

But let me take that second piece of that question because I think that is the one you are driving at. A hurricane, depending on where it goes and how it goes—obviously we can envision a lot of different scenarios, but it does have the capability of taking at least some of that surface oil and pushing it up into areas that wouldn't otherwise be oiled by normal activity.

Mrs. CHRISTENSEN. OK. Well, I guess we have an idea of where it is going, but there is nothing that we are going to be able to do about it except respond.

Mr. WESTERHOLM. Well, do you mean after the fact?

Mrs. CHRISTENSEN. Yes.

Mr. WESTERHOLM. Certainly during the hurricane, if of any intensity, you would not be able to conduct operations during that period of time, and we would have to react in the aftermath of the storm.

Mrs. CHRISTENSEN. As of today, what percentage of the Gulf fisheries closed, and what do we anticipate——

Mr. WESTERHOLM. It is approximately a third. I don't think there was a closure today, so it just around 32 percent. That is of course the Federal waters. Each of the states have their fisheries closures also.

Mrs. CHRISTENSEN. Yes. Deputy Assistant Secretary Lyder, under the Park System Resources Protection Act of 1990, responsible parties who damage national park resources, living or nonliving, are fully liable for the cost of the damages, as well as for response cost.

When you add up the damages prefatory to billing BP and its subcontractors, will your damages include the expenses that you have incurred in sending extra staff to the Gulf region and for conducting baseline studies and otherwise preparing for damage to park resources?

Ms. LYDER. Yes.

Mrs. CHRISTENSEN. And do you have good baseline data on the fish and wildlife in the Gulf, or are you collecting them as we speak? I ask that because my fishermen and many who have testified here have talked about the lack of good data.

Ms. LYDER. We have collected baseline data for our refuges and for our parks. Our park baseline data was collected and completed before any oil touched any park resources.

Fish and Wildlife Service, we have 35 refuges we think may be affected. We have not completed all the surveying, but we are pretty far along. One thing about this oil spill, it did give us some lead time before it started hitting land, and so we are pretty far along on our baseline assessments for the refuge system.

Mrs. CHRISTENSEN. Thank you. Mr. Barham, in your testimony you talked about the voids in the response efforts by BP and the Coast Guard. You probably have shared some of those maybe and I missed them, but could you just go over for me what some of those voids were and if they existed earlier? Have some of them been addressed?

Mr. BARHAM. Well, one of the glaring ones is that we could not get the information on Corexit as far as the components and the percentages of those components so we could develop a profile, a chemical profile to run testing on tissue samples.

Mrs. CHRISTENSEN. And we heard that on Monday in Louisiana as well.

Mr. BARHAM. Yes. And we still don't have that information.

Mrs. CHRISTENSEN. Do you have the two compounds?

Mr. BARHAM. We know the compounds that are used in Corexit. We just don't have the percentages and, without the percentages of the composition, you can't develop the chemical profiles to do the testing in the tissue.

It makes a whole lot of difference how much of what is used, not just that you know what is in the compounds.

Mrs. CHRISTENSEN. Right.

Mr. BARHAM. And the other thing is we did have delays in regard to our proposal for berms. We did not have alternatives, and we clearly understood that if you can catch oil on a hard surface, it is much easier to clean.

You essentially can't clean the marsh. When it intrudes into the cane and the marshes, you are going to lose that marsh. That is what holds our coast together. That is the long-term challenge, as the Assistant Secretary has been talking about.

And we were very slow on that. Now, we have had approval of six of the berms, but those berms are not only valuable in the continuing intrusion of the oil that we expect for a long time, but it also is important from a hurricane perspective to mitigate the damage in the tidal surge that is going to come into these wetlands and potentially carry this oil into marsh habitat.

Mrs. CHRISTENSEN. Thank you.

Ms. BORDALLO. Your time is expired. Just to remind the Members that we will have a second round if you so desire.

Now to recognize the gentlelady from New Hampshire, Ms. Shea-Porter.

Ms. SHEA-PORTER. Thank you. Mr. Westerholm, how long have you been in your job, please?

Mr. WESTERHOLM. It is about two and a half years.

Ms. SHEA-PORTER. Two and a half years. OK. Thank you. Well, I was reading from your testimony, and you said that NOAA is a natural resource trustee, and your job is protection and assessing, and so I just wanted to read something that Mr. Barham said when he was talking about the oil in his testimony.

He said, "We do not have a complete understanding of the toxicity of the various concentrations of oil and dispersants to all the life stages of all species of aquatic life."

He goes on to say, "We have little knowledge of deepwater transport mechanisms. We have little knowledge of deepwater ecology. Although we have some experience with relatively small releases of oil in our onshore areas, the immediate residual effects of large quantities of oil over large, shallow areas we don't know. Largely unknown." And he said the list can go on. So, when you said to protect and assess, how did you do that? How were you engaged in trying to protect the coast?

And before I go any further, because I think all of us have a responsibility for this. In 2008, back and forth, Congress has fought over whether oil is safe, whether we should be changing this. I have listened to my colleagues who are now upset with the government for not responding fast enough, and they were the ones who said don't worry. This can't happen.

There is a kind of arrogance on the part of human nature to assume that there won't ever be an accident, and therefore we don't have to know this. So what was NOAA's role to protect and assess? What exactly were you assessing? Because when I listen to the other gentleman's assessment, he said we don't know.

Mr. WESTERHOLM. So I will address it. There were several questions there, and I will do the best I can do address them.

Ms. SHEA-PORTER. Thank you.

Mr. WESTERHOLM. Part of that in the protection is what we are required to do under law and by regulation, and that is early on in the planning stages and the preparedness stages exercises.

During the response, actually providing scientific support and assessment of what is going on and making recommendations so that we try to minimize it, not eliminate, because it is impossible to eliminate, but minimize the environmental damage. So in many cases, as my colleagues have pointed out, it is a tradeoff. And then last in the restoration phase, restore the environment to the prespill conditions.

Ms. SHEA-PORTER. Yes.

Mr. WESTERHOLM. So part of the——

Ms. SHEA-PORTER. Excuse me for interrupting, but did you think or ever have a conversation with anybody? Wow, what would happen if we had a big spill——

Mr. WESTERHOLM. Yes.

Ms. SHEA-PORTER [continuing]. Off the coast of Louisiana?

Mr. WESTERHOLM. Well, part of that is the structure, and if you are looking at me personally——

Ms. SHEA-PORTER. No. Your agency. I just want to know did you——

Mr. WESTERHOLM. Absolutely.

Ms. SHEA-PORTER [continuing]. Fear this?

Mr. WESTERHOLM. Part of the process is there is an area committee for each of the Coast Guard sectors down there—it involves the state, local citizens, industry and others—to develop plans to respond to spills, including some offshore spills, including working with MMS.

The second piece of that is the regional response teams, which approve dispersants and others and——

Ms. SHEA-PORTER. Right. But let me get back because I want to go back to before the accident because this won't be our last one.

Mr. WESTERHOLM. Right.

Ms. SHEA-PORTER. I want to do what we can right now to make sure we prevent it. Did you ever express any concern that there didn't seem to be enough regulation? Did you work with other agencies?

You know, we had a very, very, very friendly Administration, very friendly to the oil industry, and now we know that there were a lot of things that were very, very wrong. Did you have any awareness, any concern that we weren't properly overseeing drilling?

Mr. WESTERHOLM. I think that goes back to two questions. Again, one is did we do everything to work with our partners to help prepare for the eventuality of oil spills in advance, and we did. Now, obviously this was an unprecedented event. Part of the offshore——

Ms. SHEA-PORTER. Wait. Wait. I am sorry to keep interrupting you, but you said we did everything we could. Well, what did you do?

Mr. WESTERHOLM. OK.

Ms. SHEA-PORTER. Because we are watching this, and there seems to be very, very little that is working, and it has taken time to get this together. I am not just trying to go after you. I am concerned that what happened was everybody could see the possibility. I believe that we could see the possibility.

Indeed, I am going to quote Dr. Barham at the end, who asked. He said, "But because of our dependence on foreign fuels, society or its agencies may be driven to take risks that otherwise would not be acceptable." In my mind, this was never an acceptable risk. We have fought about this in Congress. They wanted to drill even closer. They wanted to drill right off the coastline.

In your role and NOAA's role, did anybody say this is a really bad idea because, actually, we don't really know what we are doing yet? Because your job, your agency's job again, and I will read it: Protect, assess, natural resource trustee.

Mr. WESTERHOLM. Correct. So if you will let me go back, part of that process in the beginning is the assessment of whatever activity is going on and our participation in that.

In addition, our participation in developing spill response plans to mitigate environmental damage when it occurs. We were involved with that, and that has continued. I think the response group that stood up and the activities that are going on now is a representation of that.

Ms. SHEA-PORTER. I am grateful for the effort.

Mr. WESTERHOLM. The second part of your question is——

Ms. SHEA-PORTER. I am very grateful for the effort, but we know we are not getting too far. Did you do a tabletop exercise before the accident?

Mr. WESTERHOLM. Several, but I don't believe we have done one for deepwater drilling off the coast. We may have, but I am not aware of one, and that gets to the second part of your question, which is permitting of deep well drills and what activities should we have expected, or did we expect, which is different.

Ms. SHEA-PORTER. Did you ever protest it?

Mr. WESTERHOLM. Did I personally?

Ms. SHEA-PORTER. Protest, right. The agency.

Mr. WESTERHOLM. I am not sure that we have. I know we provided comments. I don't know about a protest.

Ms. SHEA-PORTER. Thank you.

Ms. BORDALLO. Your time has expired. I would like now to recognize the gentleman from Michigan, Mr. Kildee.

Mr. KILDEE. Thank you, Madam Chair. I am assuming, to Ms. Lyder, that the Fish and Wildlife Service will need to make adjustments in its Migratory Bird Conservation Grant Program, such as grants funded under the North American Wetland Conservation Act.

Will certain areas affected by the spill be ineligible in the short term, and will it be the responsibility of BP to cover the cost to restore any recently completed conservation project that is damaged by the oil spill?

Ms. LYDER. It will be the responsibility of BP to restore any project that has been completed and that has been damaged, and we are working with our partners.

In fact, I have a note that said we had a meeting today with Ducks Unlimited and with the National Fish and Wildlife Foundation, and we are looking at where we now need to focus our efforts, focus our NAWCA grant money in response to the spill.

Mr. KILDEE. Mr. Westerholm, you had contingency plans for something like this, but nothing on this magnitude. What changes would you make in your plans, had you been able to anticipate the sheer magnitude of this oil spill?

You had some contingency plans. What changes would you make now for the future, or what changes do you think would have been more effective had they been in place when this took place?

Mr. WESTERHOLM. Yes. And I think that that is a great question because I think some of the premises that the original plans for worst case scenario that were built on certainly have changed.

The expectation that the systems would work and the blowout preventers would work and you would be dealing with a spill of a certain magnitude over a certain period of time. We are obviously getting to the point where we are exceeding that, so one of the changes would be to look at those conditions where we would have a spill for a long period of time.

The second thing that I would do is put more emphasis on the oil coming up from subsea. Especially in this case we have mile deep, but we have other drilling units out there that are pumping oil from that depth and greater, so I think certainly part of the planning and exercises and contingencies would incorporate that.

And then more investigation and research on what happens to that oil at depth, what happens if you disperse that oil at depth. And I think those are some of the initial lessons we are learning now that we are going to try to build on for better planning in the future.

Mr. KILDEE. And as tragic as this whole thing has been, we have to try to learn as much as possible from this. I am sure your agency is going back through the learning process and seeing how much you can anticipate and what measures you might take.

Mr. WESTERHOLM. Absolutely. I think we all are going back through that process, and we will continue. You know, as many have said at this table already, the spill is not over even when the oil stops. There will be years of learning and additional research that will be needed.

Mr. KILDEE. Thank you. Thank you very much, Madam Chair.

Ms. BORDALLO. I thank the gentleman from Michigan, Mr. Kildee. And now I would like to recognize the gentlelady from Colorado, Ms. DeGette.

Ms. DEGETTE. Thank you very much, Madam Chair. I have a question for the entire panel.

I know you have talked a little bit about dispersants so far. I am wondering. The use of dispersants in this spill has been widespread and extensive, and what we are hearing now is dispersants are causing oil to remain in the water column, rather than collect on the surface so, as a result, plumes of oil are dispersing into the Gulf. A lot of people are saying that we are just trading the devil we know for the devil that we don't know.

So my question is, do any of you think that we know enough now to conclude that dispersed oil will be less harmful to the ecosystem than nondispersed oil? Whoever wants to start can.

Mr. WESTERHOLM. I will start.

Ms. DEGETTE. OK.

Mr. WESTERHOLM. OK. You know, I don't think we do know enough. I think that is one of the reasons we are trying to do as many measurements and testing as we can.

One of the expectations and maybe some of the answers we don't know is how fast that will biodegrade. Will the impact on the ecological system and resources be greater than if black oil were to get up into the marshland?

Obviously you would want to be able to not have the oil come out at all or collect it all, but in those environmental tradeoffs those decisions are made and we are trying to measure those and get the most——

Ms. DEGETTE. What kind of timeframe are you looking at to figure that out? Because I will tell you. Some of us from the Energy and Commerce Committee—Dr. Christensen was there with me and others and Mr. Burgess. I don't see him, but we were down in New Orleans on Monday of this week, and we saw the black oil already in the marshlands.

We were told by the Louisiana Fish and Wildlife Service and others that once that gets back up in there to the marsh, it is going to kill everything, including the plants. So what is your timeframe? What is your timeframe for figuring this out so we know what to do?

Mr. WESTERHOLM. And I apologize for maybe not quite understanding the question. Obviously there are two different things. The black oil getting into the marshes is part of that. What the application dispersants was doing is to minimize that.

Ms. DEGETTE. Minimize that.

Mr. WESTERHOLM. Obviously it would have been a lot worse had they not dispersed the oil. However, the dispersed oil does have an impact, and that is why we are trying to get as many measurements——

Ms. DEGETTE. And what is your timeframe for figuring that out?

Mr. WESTERHOLM. Well, we have ships out there now collecting samples to determine at what level the oil is in parts per million, parts per trillion, and try to figure out where that oil is, and then we know from some ecological studies what that impact might be.

Ms. DEGETTE. So they are still putting the dispersants out, though, correct?

Mr. WESTERHOLM. They are, although, as you may recall, there have been limitations put on in the——

Ms. DEGETTE. Right.

Mr. WESTERHOLM [continuing]. Intervening weeks and the amount if dispersants and where they can use them.

Ms. DEGETTE. Right. So again my question. Do you have any sense how long it is going to take you to make that determination?

Mr. WESTERHOLM. Well, I think every day they make the determination as to the use of dispersants or in situ burning or——

Ms. DEGETTE. For that particular situation.

Mr. WESTERHOLM. Correct.

Ms. DEGETTE. But what I am saying is——

Mr. WESTERHOLM. The long-term impact is something that we are continuing to study.

Ms. DEGETTE. Yes. So do you have some sense when you are going to have a view? Because this is going to be a problem. This leak is going to continue for some time.

And my question is, rather than making a day-by-day decision, do we put the dispersants today or not, when are we going to know what kind of policy we are going to have on this?

Mr. WESTERHOLM. Well, part of that, as you know from the subsea one, is continuous daily tests to determine the dissolve oxygen level and the toxicity test on rotifers that EPA and ourselves and others are looking at, and so if it exceeds certain toxicity levels, they shut off the subsea dispersants at that moment.

The other part of it is one we are trying to get a better picture of of the three-dimensional impact of the oil and the water column.

Ms. DEGETTE. So you don't foresee a cohesive policy dispersants/no dispersants? What you are saying is that decision is being made on a daily basis based on the conditions?

Mr. WESTERHOLM. It is at the regional response team and the——

Ms. DEGETTE. OK. One last question. BP originally stated there aren't any plumes and has continued to insist that there are no underwater oil plumes in large concentrations from the spill. Mr. Westerholm, are BP's statements consistent with the findings of NOAA and other researchers?

Mr. WESTERHOLM. And as you know, we have only begun to get those first pieces of information back, but I think it is important to define the definition of plume and how people envision it.

It is much like smoke coming out of a fire. You certainly see black smoke, and as it rises up in the air it gets lighter gray and lighter gray and then you can't see it. Even those areas where you can't see, our detection ability to measure in the parts per million/parts per trillion in what may not be visible is still there.

The water column is very much the same thing. As it rises from depth, it disperses and the water column gets moved by the currents, but continually expands in a plume-like feature. But we know that even in small parts that there can be impacts to the environment, so that is what we are trying to measure.

Ms. DEGETTE. Thank you.

Ms. BORDALLO. Thank you very much. And now I would like to recognize the gentleman from Louisiana, Mr. Boustany.

Mr. BOUSTANY. Thank you, Madam Chairwoman. I represent Louisiana's 7th Congressional District. I have roughly half the coast of Louisiana from the central to the western part of Louisiana, the Texas border.

And let there be no mistake. This is a real tragedy, a human tragedy. We lost 11 lives in this. Others were injured. It is an environmental and ecological challenge and tragedy, and it is an economic tragedy.

And as I look at the title of the hearing, I see the title is Our Natural Resources at Risk: The Short and Long Term Impacts of the *Deepwater Horizon* Spill. I can't help but think of a sentiment I share with my fellow Louisianans—Secretary Barham referenced this—and that is our unique Louisiana perspective on this.

We have always had a sense of balance about how our environmental, our economic and our energy policy can go hand in hand together. We value all three and know that all three are critically important as we look at our natural resources. We value our wetlands, which we consider to be America's wetlands. These are working wetlands where we strike that balance.

For over 50 years, Louisiana delegations have fought to get revenue sharing from the oil produced so that we could protect our coastline. We had minimal success with that just recently a few years ago. And as we look at this, I urge everybody to step back and think about that balance and what is going to be necessary for the economic health of our country, as well as our energy security.

I have deep, deep concerns about the moratorium imposed by the President that is going to affect 33 exploratory wells in the deepwater of the Gulf of Mexico. I want to lay out a few facts. Roughly 33 percent of the nation's domestically produced oil comes from the Gulf of Mexico and 10 percent of the nation's natural gas. Eighty percent of the Gulf's oil and 45 percent of its natural gas comes from operations in more than 1,000 feet of water, the deepwater.

Suspension of these operations means that roughly 33 of these floating drill rigs, which are typically leased for hundreds of thousands of dollars per day, could be idled for six months or longer, given the current moratorium. The economics behind this amount to somewhere around $250,000 to $500,000 per day per rig, roughly

resulting in somewhere between $8.2 and $16.5 million per day in costs for idle rigs.

Secondary impacts of all this include the supply boats, roughly two boats per rig, with day rates of around $15,000 to $30,000 a day for each of the 33 rigs. This is roughly a $1 million impact per day.

But also consider the impacts to the suppliers and related services to this valuable industry that supports our nation's energy supply—the welders, the divers, the caterers, the transportation, the mechanics, the electricians, those who fabricate the tools, the drilling fluids and so forth. We are talking about a huge economic impact.

Let us look at the direct cost. If you take these rigs, 90 to 140 employees at any one time. Double that because you have two shifts per day. You have two week shifts, so you can multiply that. We are talking about 800 to 1,400 jobs per idle rig platform that are at risk. Those are the direct jobs. And for every one of those jobs, there are roughly four to six additional jobs that provide support.

These are good paying jobs. We are talking about the potential for lost wages, just with the rigs, of over $5 to $10 million per month per drilling platform. That could be over $165 to $330 million per month if you take all 33 of these rigs. These workers, many of them work in Louisiana. Our state is going to see a decline in income tax revenue and sales tax revenue. Many of our small communities depend almost solely on the revenue generated by this industry.

Now I want to reference something that Secretary Salazar has said in reference to this. The 33 Gulf wells where operations have been suspended are ones that were inspected immediately after the *Deepwater Horizon* blowout, and according to Secretary Salazar, I quote, "only minor problems were found on a couple of rigs."

He goes on to say, I quote, "Additional safety measures can be taken, including dealing with cementing, encasing of wells and significant enhancements and redundancies of blowout prevention mechanisms. Although these rigs passed the inspections, we will look at standards that are in place."

This deepwater moratorium is arbitrary, and it is irresponsible. It is going to cause a severe economic hardship to the State of Louisiana, unlike anything we have ever seen, and that is part of our overall environmental concern. It is the human environment that is going to be affected here.

And so I am urging that we take a step back and have some balance as we look at this and be thoughtful about how we approach this. It is unreasonable to impose a six-month or more deepwater moratorium. It is unnecessary. There have already been delays in putting together this Presidential commission, undue delays.

I have a letter here that I am sending out to Secretary Salazar and the President today urging the President to move forward so we can get the necessary information together. Much of it is there. But to continue to delay this is unreasonable and wrong.

And finally on the shallow water moratorium, the Department of the Interior has been extremely irresponsible by misleading many of us in Louisiana with equivocal information about whether there

is a moratorium or not. I have sent two letters now—one of them was a bipartisan letter—urging the immediate lifting of the moratorium on shallow water drilling. We are talking about very mature technology, very different technology, and this is critical to jobs and the economy of Louisiana and the energy security of our country.

So I am urging this Committee and the Congress to work with the Administration. Let us be reasonable about how we approach this. I see that my time has expired, Madam Chair. Thank you.

Ms. BORDALLO. I thank the gentleman from Louisiana for his comments and certainly will take that under advisement. I would like now to recognize the gentleman from Florida, Mr. Bilirakis.

Mr. BILIRAKIS. Thank you, Madam Chairwoman. I appreciate it very much. And thank you for allowing me to sit in on the panel today.

Mr. Westerholm, in your testimony you indicated that, amongst other things, NOAA's mission is to conserve and manage coastal and marine resources to meet our nation's economic, social and environmental needs. It is with that in mind that I relate to you the concerns of several fishermen in my district.

The immediate and overwhelming fear is insolvency. They wonder how they are going to support their families if their livelihoods are decimated. Many have offered suggestions from relaxing catch quotas to waiving permitting fees. These are proud, robust workers, who cringe at the thought of standing in line to get a paltry check from BP. They want to work.

While I realize that the primary focus remains on capping the well, and it should be, have there been discussions within NOAA about short-term relief for those in the fishing industry, and what are the prospects for long-term relief?

Mr. WESTERHOLM. And thank you for the question. Apart from the disaster declaration that we spoke of earlier, you did mention catch quotas and permit fees.

And while I can't speak to any specifics on that right now, it is under discussion, and I believe that in the advent of stopping the leak and when the spill is cleaned up, NOAA has to look at their whole fisheries management cycle over this year and next year, based on the impact that this has had to the fishing community, and is committed to do so.

Mr. BILIRAKIS. Great. Thank you. I would also like to follow up with Ms. DeGette's question on dispersants. I know that representatives from the Southern Shrimp Alliance have expressed a deep and abiding fear that the use of the dispersants poses an exponential threat to certain species in the Gulf of Mexico.

As I understand it, John Williams, the Executive Director of the Alliance, wrote NOAA and EPA weeks ago, but has yet to receive a response. I hope I can get an answer right here and now. Why are dispersants still being used when EPA called upon BP weeks ago to find a less toxic means of breaking up the oil slicks at the surface?

It is unprecedented that tens of thousands of gallons a day of dispersant are being used subsurface. We have no clue what type of long-term ecological destructions these toxins will cause. Would you agree with me that while the spread of oil is destructive enough,

oil compounded with the dispersant is exponentially more devastating? If so, why are dispersants still being used?

I would like to hear I guess first from Mr. Westerholm and anyone else who would like to address that issue as well on the panel. Thank you.

Mr. WESTERHOLM. I will take the question first. And the short answer is that dispersants are still being used as a tradeoff with respect to the total environmental risk.

And I would say that one of your statements, which was the toxicity of dispersed oil in that localized area is probably greater based on testing. However, the construct of using dispersants is that it will more quickly biodegrade and so being that far out offshore the oil that is already dispersed will disperse and biodegrade before it reaches shore.

And that balances the tradeoff. Obviously one of the things we are concerned about is what is that impact of that dispersed oil in the ecosystem that is being dispersed.

Mr. BARHAM. If I could join? The problem with the dispersants is it is subsea. There is no scientific data that it will degrade quicker at subsea conditions under pressure and in those temperatures. Absolutely no scientific confirmation of that.

The problem we have is that it is now there unseen and unknown as to where it is going. We are constantly on patrol. We will have places where we will see absolutely no evidence of oil being present. The next day you will have heavy oil. It obviously came in under the booms that are out there. It traveled in a subsea transport system.

We have no idea the impact on the entire food chain that is going to be there. You asked a question earlier. The lady from California, I believe, asked a question how—Colorado. I am sorry. Asked a question how long we will be assessing this. It will probably be decades because you will have to do constant analysis, and what we fear is that there is some link in the food chain that will be destroyed by these subsea dispersants.

These are little microscopic particles that can be consumed all the way by the plankton, the phytoplankton, the copepods, the shrimp, the larvae, the sea creatures that are out there and then consumed farther and farther up the food chain, and until we have had the time to assess that that is the fear we have. This is an experiment that has been conducted which we objected to from the very beginning.

Mr. BILIRAKIS. Anyone else on the panel? Yes, please. Thank you.

Dr. RAGEN. I would just comment that dispersants are controversial in virtually every oil and gas situation. I would agree with this comment. Dispersants are a tool. We just need to know how to use them well.

And in order to do that I think we need the background research at periods when we are not in the middle of an emergency or a crisis in order to understand the nature of the dispersants, how they work with specific types of oil, whether they work better in offshore areas or near shore areas, et cetera.

There is a lot of background work that really needs to be done that I think tends not to happen as it should when we are not in

the middle of a crisis and so now we are faced with making ill-informed decisions sometimes.

Mr. BILIRAKIS. Thank you very much. Thank you, Madam Chair.

Ms. BORDALLO. I thank the gentleman. I would like to now recognize the gentleman from Louisiana, Mr. Cao.

Mr. CAO. Thank you very much, Madam Chair. I just want to ask the panel a very specific question regarding the subsurface oil plumes that we have been hearing through the news.

It seems to me that it goes against all logic. If oil is lighter than water it should float up to the surface. So why are we having the problem of subsurfaces? Is that part of the dispersants that are being used that somehow make this oil heavier than water?

Mr. WESTERHOLM. I can take the first part of that question and look at it from both a surface and subsurface. If you are looking at the injection of subsurface dispersants, I think it was rightly brought up that we don't know all we need to know at depth.

However, oil will rise. Even dispersed oil will rise. It will rise at a slower rate the smaller the micronic size, so if you have a very small particle it may take a very long time to get to the surface. If you don't treat it at all, the majority of that oil comes up in about three hours.

So even if you never disperse the oil, small particles of oil break off, and it is our estimate that maybe somewhere between 30 and 50 percent of the oil that is emanating from the bottom already disperses in the water column before it gets to the surface whether you added any chemicals or not to it.

So when you add the addition of subsurface dispersants you are accentuating that issue in putting it in there, but ultimately those oil particles will start to rise to the surface. However, if they are small enough, they may be carried by subsea currents in a particular way.

What we are trying to do is map that three-dimensional picture out the best we can to determine at what level they are. Even if they are not visible, is there a detection? How far away from the wellhead source is that detection?

Mr. CAO. Now, my next question is to you again, Mr. Westerholm, and to Ms. Lyder. I would like to know what are your respective agencies' plans, the long-term plans with respect to the recovery of the Gulf Coast? I guess what would be your role in the long-term recovery plan?

Mr. WESTERHOLM. I guess I will speak first on it. And I would divide that into a couple sections. One is the natural resource damage assessment process that we talked about, and Ms. Lyder will also talk about that issue and how that damage assessment will be used to restore the environment to the pre-spill conditions.

The other part, though, and part of our long-term plans is looking at the economic impact from the Department of Commerce and the fisheries, which I spoke of earlier, so there is a fisheries/seafood safety impact that has to be considered, independent of the natural resource damage assessment process.

Ms. LYDER. Yes. I want to point out that BP as the responsible party is responsible not just for long-term restoration costs, but also for immediate response, and part of the immediate response

that we are looking at right now is what are we going to do about the birds, the migratory birds that are coming back in the fall.

How are we going to divert them from heavily oiled areas? What are we going to do about the fish and the wildlife that are suffering right now, and how are we going to prevent further damage? And that is part of removal response under the Oil Pollution Act. That is a covered expense that BP should be responsible for.

Mr. CAO. I understand, but can the government participate to expedite this recovery process——

Ms. LYDER. Oh, yes.

Mr. CAO [continuing]. And then just hand them the bill and ask them to reimburse you all for it?

Ms. LYDER. Oh, yes. The government can come up with what the removal action should be, can go to the Coast Guard and say this is what we want to do, this is what we need to do and we want the funds to pay for it, in which case the Coast Guard then decides if it is an appropriate response cost, gives us the money and bills BP for the cost.

So that is separate from the natural resource damage assessment process. We are a trustee in that process, the State of Louisiana is a trustee in that process, and BP will also be responsible for the long-term restoration of what has been damaged.

Mr. CAO. My next question is to Secretary Barham. I know that the Governor and the parish presidents are pushing for a system of 24 berms being built. Right now the Coast Guard has approved the construction of six of them. Is that correct?

Mr. BARHAM. That is correct.

Mr. CAO. And based on your assessment of the success with respect to the berms, should we go ahead and push for the construction of the remaining berms that right now have not yet been approved?

Mr. BARHAM. Absolutely we should. It is the first line of defense for oil that is coming ashore. It is much easier to clean. You can clean oil from a hard surface much easier than you can from a marsh environment. It is almost impossible in a marsh environment to clean.

Beyond that, it also will mitigate the damage of a tropical storm or hurricane as far as storm surge and carrying this oil into the marshes and the habitat that these migratory waterfowl use and other creatures along the coast. So absolutely we are pushing for the continuation of this, the construction of these berms.

Mr. CAO. Thank you very much, Madam Chair. Those are all of the questions I have. Thank you for allowing me to participate in this hearing.

Ms. BORDALLO. I thank the gentleman, Mr. Cao from Louisiana. We are going now into the second round, and I just have a couple of quick questions here, but I would like to remind the Members that we still have two full panels to hear.

This has to do with, Ms. Lyder, migratory birds, wading birds and colonial nesting birds are all expected to be significantly impacted by this spill. What is the Administration doing to pursue civil, if not criminal, penalties under the Migratory Bird Treaty Act against BP?

Ms. LYDER. Well, my understanding is the Department of Justice is looking at all aspects of civil and criminal liability for the spill. The Migratory Bird Treaty Act—excuse me. I have the Houma cold that is circulating through the BP facility, a facility that is supposed to house 300 people, but has 1,000 right now.

The Migratory Bird Treaty Act is a strict liability statute. It works with prosecutorial discretion. We decide when we are going to bring a criminal action against somebody who has caused the death of migratory birds.

We are not right now—at least I am not aware of us—actively looking at criminal sanctions under the Migratory Bird Treaty Act, but I do know that Eric Holder is looking at all levels of liability for the spill, and I imagine the Justice Department has probably considered that. Our Solicitor's Office will be working with the Justice Department as they decide which elements of law to hold the responsible party liable for.

Ms. BORDALLO. Good. My second part of that question. Are present wildlife rehabilitation facilities adequate to address the volume of birds impacted by the spill, or are additional facilities needed?

Ms. LYDER. The rehab centers are fairly nimble. The planning for the rehab centers was to stand up a few of them with the idea that there would be backup centers, so I think at this point the rehab centers are in a good position.

Ms. BORDALLO. Very good. Dr. Ragen, just for the record I would like to ask you a couple questions. You have testified that, at the appropriate time, the Commission likely will sponsor a review of the spill responses to learn as much as possible from it and use that information to help the regulatory agencies improve their ability to respond to such events in the future.

When will this take place? When would be an appropriate time, and what will be the scope and the content of the Commission's review?

Dr. RAGEN. I think we would probably prefer to wait until this situation is under better control. Right now we are focusing on trying to provide as much support for NOAA and the other agencies and the work that they are doing.

When things seem to come under control and while things are still fresh in our minds, I think that would be the appropriate time to sit down and say what went wrong, what worked well in your response, and how do we prevent that in the future. So I am anticipating and I am hoping that that might be sometime perhaps late summer, early fall.

Ms. BORDALLO. Good. OK. All right. And to your knowledge, has either NOAA or the Fish and Wildlife Service ever authorized the incidental take of a marine mammal during oil and gas activities in the Gulf of Mexico? And if not, can you please explain why?

Dr. RAGEN. To my knowledge, they have not. Virtually all of our oil and gas activities in the incidental take authorizations pertain to marine mammals in arctic waters, Alaskan waters and so on.

I cannot explain to you why that does not happen in the Gulf, and that is something that I think needs to be rectified.

Ms. BORDALLO. All right. Well, we need these answers for the record. How does this process work different for the Gulf of Mexico

than other regions—well, you just answered that I guess—such as Alaska where authorizations are secured prior to offshore drilling?

Dr. RAGEN. That is correct.

Ms. BORDALLO. Yes. All right. In the past year and a half, how many takes of endangered species and marine mammals have been reported from OCS activities in the Gulf?

Dr. RAGEN. I cannot give you an exact number. I can look that up, but the takes would include from seismic studies, from vessels and from support activities, et cetera, so I would guess that the takes would number in the hundreds or thousands.

Ms. BORDALLO. All right. And do NOAA and the Fish and Wildlife Service have access to this data or is it solely managed by MMS, and when will it be published if there is any data?

Dr. RAGEN. I believe that NOAA, in particular, and also the Fish and Wildlife Service should have access to the data because they are the ones that issue the incidental take or harassment authorizations.

Ms. BORDALLO. And last, how has it informed the Marine Mammal Protection Act incidental take rulemaking process?

Dr. RAGEN. I think our primary problem is that when we look at applications for incidental take authorization, there are areas there is considerable uncertainty about what the impact will be.

We have tried to identify those areas and lay out strategies for reducing that uncertainty through research over time, but that is a painstaking and slow process, slower than frankly I think it should be, and so our direction right now is to try to keep drawing attention to these things to anticipate the kind of effects that we have described here today and figure out strategies for both monitoring and preventing them in the future.

Ms. BORDALLO. Well, certainly the Committee is interested and we will be following and monitoring this process.

I would now like to recognize the Ranking Member, Mr. Cassidy, for any questions on the second round.

Mr. CASSIDY. Dr. Ragen, the Ixtoc blowout in Mexico released probably about six million barrels, give or take a million. Clearly we must have data on, I am told, the fisheries. Now, granted that was not marshland affected. That was open water, but your testimony and Dr. Lyder's testimony pertains more to open water.

Those fisheries apparently recovered. Do we have data and can we use that data to predict the effects on the open water species, shrimp, et cetera, of this blowout, which so far has not achieved the volume of the Ixtoc?

Dr. RAGEN. I can't actually tell you the data that we have on the shrimp and fisheries in those areas. Most of the information that I would have access to would be pertaining to marine mammals.

Mr. CASSIDY. OK. In the marine mammals. Was there an effect from the Ixtoc on the marine mammals?

Dr. RAGEN. I do not believe that we have good information on the effect on marine mammals. One of the problems that we have with these things is that we expect that the effects occur at sea, many of the effects. They probably are not observed and so it is very hard to put any hard and fast numbers on how many animals might have been affected.

Mr. CASSIDY. Dr. Lyder, again the Ixtoc. What was that effect, which we are talking about the ecosystems? Presumably there was some analysis of the effects on the ecosystem in the Gulf from that blowout.

Ms. LYDER. Well, my understanding is that there was a thought by the MMS and others involved in the U.S. industry that what occurred in the Ixtoc blowout could not occur in U.S. waters and on our OCS.

Mr. CASSIDY. No. I am just concerned, though, as it regards its effect upon plankton, shrimp, et cetera.

Ms. LYDER. I would defer to NOAA on plankton and shrimp. I know that the oil eventually did wash up in Texas, and it had impacts on beaches, but in terms of what we focus on, the species we focus on, there is not a lot of similarity between the Ixtoc.

Mr. CASSIDY. Then let me go to you, sir.

Mr. WESTERHOLM. And I probably don't have a great answer for you but, as I recall, there were certain studies that were done on the beaches of Texas when the oil reached up there, but very limited studies on——

Mr. CASSIDY. No. But I am speaking about the oil plumes. Was there no work done on the oil plumes back then?

Mr. WESTERHOLM. Back then? No.

Mr. CASSIDY. OK. Now, Lake Barre had a——

Mr. WESTERHOLM. But you were looking at a different type of release from Ixtoc, so——

Mr. CASSIDY. I accept that.

Mr. WESTERHOLM. OK.

Mr. CASSIDY. Lake Barre had a big effect upon the lagoon in Louisiana. It is Terrebonne Parish. Secretary Barham, you can correct my geography, but I think Lake Barre had a huge pipeline contamination, oil into the bayous there. And I gather that those marshlands recovered reasonably well.

Any comment on that vis-á-vis that experience and how it instructs us for this experience, either you, Mr. Westerholm, or you, Secretary Barham?

Mr. BARHAM. I don't think there is a lot of comparison between that. I am not as familiar with that event, but of course I believe that would have been processed oil for one thing, and it was in a very enclosed environment, although terribly impactful for that.

This is spread across a whole system, and you are talking about a whole food chain potentially endangered by the events offshore, so I don't think we will gain a lot of information specific to this event from comparing it to that one.

Mr. CASSIDY. Mr. Westerholm?

Mr. WESTERHOLM. Yes. I think that is a great analogy, and I think that each spill has its own unique capabilities. You know, one of the things that was mentioned before is this is such a biologically diverse area that it is often hit hard and one of our more sensitive areas, but because it also is one of the most thriving areas, the recovery rate oftentimes in this area is great.

So I think there are a couple issues to worry about. One is marshland; if we lose the marsh grass, what impact that might have on the sedimentology and others. What about the habitat?

What about the seasonal spawning in particular species? So there are a lot of issues that will come up because of this spill.

Mr. CASSIDY. But do we have data from Lake Barre to know how Lake Barre recovered?

Mr. WESTERHOLM. I don't know if we have data on that.

Mr. CASSIDY. OK. Next, let me ask one more thing. Now, clearly the marshlands are where we know that there is the potential havoc. Now asking NOAA, how are you allocating your resources vis-á-vis deepwater research versus marshland?

Frankly, it seems like the marshland is what we know will be most impacted, whereas the deepwater is more theoretical. Can you give me a sense of the allocation of your resources one versus the other?

Mr. WESTERHOLM. I can tell you that, in the past, most all of it was in the marsh area and the impact of oil on marshes and the ability to clean it up. I think after this spill, some of the priorities will change to deepwater release of oil and what the impact——

Mr. CASSIDY. But currently in terms of your current research effort.

Mr. WESTERHOLM. Right now it is a sampling effort to collect as much information as possible.

Mr. CASSIDY. And that is deepwater and marshland?

Mr. WESTERHOLM. It is both.

Mr. CASSIDY. OK. And my last question, if I may, since I have the Secretary from Louisiana and the Federal officials. Is there any problem with the interface between the Federal Government and the state government since our waters only go out three miles, and clearly this is impacting state waters more so than other Gulf states?

Mr. BARHAM. No. We will absolutely depend on cooperation from all our Federal partners and the other people associated with this event, and we will just overcome any problems that develop. We can't afford to have problems.

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

Ms. BORDALLO. I thank the gentleman. And now I would like to recognize the gentlelady from Colorado.

Ms. DEGETTE. Thank you very much, Madam Chairwoman. I just want to follow up a little bit on Mr. Cassidy's last line of questioning abut the marshlands, and I wanted to ask you, Mr. Barham, about that.

Because as you heard me say with my previous questions, I was down there with the Energy and Commerce Committee, and we went out in boats and we saw the miles and miles of marshlands, and what we were told I think by some folks from your agency is that where the water is moving then that will have a natural ameliorative effect. The oil might come in, but it will go back out again.

And what they are really worried about is when the oil gets into those marshes, and it doesn't move out. Not only does that have a bad effect on the grasses and the other vegetation, but also on the wide variety of fish and birds and mammals and others that use those marshlands for the breeding grounds.

So my followup question to you is, what impact do you think that the oil is having on that marsh ecosystem, and do we have any

sense of good methods to remove that oil from those vast miles and miles of marshlands?

Mr. BARHAM. I will answer you the second part of your question first. No, we do not have a good method to remove them. That is why we believed from the start that these berms are so important to keep them from intruding into the marsh.

If you went with me on a day-to-day basis out to those cane areas and the marsh area, what would strike you is how deathly silent it is.

Ms. DEGETTE. Yes.

Mr. BARHAM. If you went on a normal day, first the mosquitos would carry you away and the gnats and the flies and all the creatures that the birds are feeding on and the little fish are feeding on. It is deathly silent, and nothing would bite you.

Ms. DEGETTE. Yes. Well, we did get a few bites, but not as many as we probably would on the other days.

Mr. BARHAM. That is right. It is a whole system, and once that oil intrudes into that cane and into that marsh, you cannot get it out.

Ms. DEGETTE. Let me ask you a question about those berms. Because I hear what you are saying about the berms, but I don't think, having observed it with my own eyes, that there would be any way we could build enough berms to protect all of that marshland. Maybe I am wrong, but it——

Mr. BARHAM. Well, you can create berms that will protect the most critical parts or the most fragile parts.

Ms. DEGETTE. But you have to do it really in a targeted way.

Mr. BARHAM. We do, and we have a target plan. The berms that we have proposed, we believe, are very targeted and in good locations, in the prime locations to do that protection that we desperately need.

Ms. DEGETTE. But you are still going to have vast damage in those other areas.

Mr. BARHAM. We are. We already will have it because of the intrusion of the oil into those areas now, which we can't get out.

Ms. DEGETTE. Secretary Lyder, I am wondering if you know, or if someone else on the panel knows, what is the holdup to construction of those berms that Mr. Barham is talking about that we have seen so much in the media?

Ms. LYDER. Well, the state filed its application with the Corps of Engineers on May 11, and we met on May 12. All the Federal agencies met with the Corps to discuss it, and then the state came to Houma and met with the Fish and Wildlife Service and the U.S. Geological Survey on the 13th, and on the 14th they amended their proposal.

On the 27th, the Corps of Engineers gave them a permit for six, about 45 miles worth of berm. Then there was a question as to how much of that would be an appropriate response expense for BP to pick up, and that was the Coast Guard's decision, not the Corps of Engineers and not any of ours.

Initially the Coast Guard said just one part would be an appropriate response, and then after the Governor spoke with the President, the President asked Thad Allen if he would please reconsider,

and he came back and said yes, the whole 45 mile area is appropriate response.

And my understanding is they have begun. The dredges are moving. I don't know that the berms are actually there. The state had asked for 128 miles of berm, and they have been given a permit for 45 miles of berm.

Ms. DEGETTE. And what is the reason they haven't been given the rest of those?

Ms. LYDER. Well, originally when the state came in they said it would take six to nine months to build the system of berm they were interested in, so I think there was some concern on the part of the Corps and the Coast Guard that it wouldn't be a timely response in terms of the oil involved.

There are other issues that the Corps and the Coast Guard had that were not Interior Department issues. We were a little concerned about where the dredged sand would come from and its impact on the Barrier Islands out there, but within days that was resolved. We met with the state.

As I say to everyone, Houma is open 24 hours a day and people are working 24 hours a day, so things actually can be done quickly if people get together and talk and try to work them out. At least at the Interior Department we work very closely with both the fisheries and wildlife people and Louisiana's coastal protection agency.

Ms. DEGETTE. I am sure the Chair and the Ranking Member would join me in saying anything we can do to facilitate those conversations because if those berms are going to work for even some of those marshlands, then we should make that happen. It shouldn't be a matter of resources or miscommunication or something like that. If they are going to work, they should happen. This Committee, I am sure, will work with you to make those connections.

Ms. BORDALLO. I thank the gentlelady from Colorado. I would like to thank the witnesses on the first panel—you have been here all morning—for their testimony and for being here today and now call up the second panel of witnesses. Thank you very much.

[Pause.]

Ms. BORDALLO. All right. Ladies and gentlemen, if the second panel would please be seated as soon as possible? We do have votes midafternoon, so we would like to get through the next two panels.

The witnesses on the second panel, please be seated. Ms. Brenda Dardar Robichaux, Principal Chief, United Houma Nation; Mr. Aaron Viles, Campaign Director, Gulf Restoration Network; Dr. Michael Fry, Director for Conservation Advocacy, American Bird Conservancy; Dr. Carys Mitchelmore, Associate Professor, University of Maryland Center for Environmental Science; and our final witness on the second panel is Mr. Mike Voisin, CEO, Motivatit Seafoods.

I would like to welcome our second panel of witnesses and again note that the red timing light on the table will indicate when your five minutes have passed, and your time is concluded. We would appreciate your cooperation in complying with these limits, but also be assured that your full written statement will be included in our record.

Principal Chief Robichaux, thank you for being here today. You may begin.

STATEMENT OF BRENDA DARDAR ROBICHAUX, PRINCIPAL CHIEF, UNITED HOUMA NATION, GOLDEN MEADOW, LOUISIANA

Ms. ROBICHAUX. Good morning, Madam Chair.

Ms. BORDALLO. Would you get closer to the microphone, please?

Ms. ROBICHAUX. Good morning, Madam Chair and to you all. My name is Brenda Dardar Robichaux, and I am Principal Chief of the United Houma Nation. Thank you for giving us a voice in this process.

We have several tribal citizens here today, Vice Principal Chief Michael Dardar; Incoming Principal Chief Thomas Dardar; my father, Whitney Dardar, a lifelong commercial fisherman; and my sons.

The United Houma Nation is an indigenous nation of approximately 17,000 citizens who reside along coastal southeast Louisiana. We have existed in the bayous and rivers of Louisiana for centuries. The relationship between the Houma people are our land is fundamental to our existence as an Indian Nation.

The medicines we use to prevent illness and heal our sick, the places our ancestors are laid to rest, the fish, shrimp, crabs and oysters our people harvest, our traditional stories and the language we speak are all tied to these lands inextricably. Without these lands, our culture and way of life that has been passed down generation to generation disappear.

Since 2005, we have dealt with four major hurricanes and, through our own efforts, have made significant progress in recovering and getting our lives back. Today, the BP *Deepwater Horizon* disaster presents us with perhaps the greatest challenge in our history. For the Houma, this oil spill looms as a death threat to our culture as we know it.

There is plenty of evidence of how these estuaries, bayous, plants and wildlife will be devastated. Not only will it change the environment we live in, but our land loss will be critically accelerated, dwarfing the impacts of Katrina. Providing our families with meals based on fresh seafood and game may no longer be an option, which means putting food on the table will be difficult for some of our people.

But the seafood industry is also a major source of employment. During the shrimp season, my father says it is like Christmas every morning. I fear he may never have another Christmas. The tribe is also concerned about those making a living in related professions, such as net makers, tour guides, marinas and restaurant owners. None of them have been compensated adequately.

We are concerned because many of the stories that we see in the media about BP cleaning up don't match what our own eyes have seen. Tribal members in surrounding communities have all reported there are many contaminated areas where there is no sign of cleanup work. Only a fraction of the workers and boats that are certified for the cleanup are being utilized.

People working for cleanup aren't being properly advised on how they need to protect their long-term health from the poisons that they are handling. We are concerned that waste produced by the spill cleanup will find its way into disposal sites and our tribal

area, such as the oil fill waste disposal site next to our Grand Bois community.

Federal law defines any waste generated during the production of petroleum as nonhazardous, no matter how poisonous they actually are. Because of this absurd definition, these materials can be land farmed in community as nonhazardous all fill waste. We do not want these materials dumped in our communities again, and we would respectfully request that this law be changed to protect all U.S. citizens and all communities from this kind of waste.

Most worrisome is the fact that we are now in hurricane season. A tropical storm or hurricane coming ashore can flood these communities with an oily-waste storm surge, similar to the Murphy Oil incident in St. Bernard Parish during Hurricane Katrina. These homes and properties were declared hazardous sites and are toxic and uninhabitable to this day.

When a disaster hits, Federal resources are filtered to Federally recognized tribes. We have been recognized by the State of Louisiana, but have been stuck in the Federal acknowledgement process since 1979. As a result, we do not receive services from the BIA or any other agency that requires Federal recognition status.

We would ask that we be included in the Federal dialogue about how this spill will affect tribal communities, whether we are recognized or not. Our tribe will also require independent sources to credibly collect data on air, water, and soil quality to provide the special outreach efforts our tribal citizens will need to respond effectively to changing conditions.

The Houma are strong, independent and resilient people. We have watched hundreds of acres of wetlands wash away. We have seen freshwater bayous turn into saltwater. We have seen our traditional medicines disappear. We have seen our lands taken from us because our people were not taught to read and write. We have spent 30 years in the Federal acknowledgement process without a final determination.

Through it all we have done what is necessary to survive, but this oil spill presents a major challenge to our existence as a tribe. I ask that you please support our efforts to bring resources to the United Houma Nation to preserve our way of life for current and future generations. Thank you.

[The prepared statement of Ms. Robichaux follows:]

Statement of Brenda Dardar Robichaux, Principal Chief, United Houma Nation

Good morning Chairwoman Bordallo, Ranking Member Brown and members of the Subcommittee. My name is Brenda Dardar Robichaux and I am Principal Chief of the United Houma Nation of Southeastern Louisiana. Thank you for the opportunity to testify at today's hearing –"Our Natural Resources at Risk: The Short and Long Term Impacts of the *Deepwater Horizon* Oil Spill." We have several tribal citizens here today – Vice Principal Chief Michael Dardar, incoming Principal Chief Thomas Dardar and my father, Whitney Dardar a life-long commercial fisherman.

The United Houma Nation is an indigenous nation of approximately 17,000 citizens who currently reside along coastal, southeast Louisiana. The Houma, first encountered by LaSalle in 1682, have existed in the bayous and rivers of South central Louisiana long before Louisiana became a state and New Orleans became a French colony. Today, nearly 90% of our citizens reside in coastal Terrebonne, Lafourche, Jefferson, St. Mary, St. Bernard and Plaquemines Parishes. The majority live in communities which are at or below sea level.

The relationship between the Houma People and these lands is fundamental to our existence as an Indian nation. The medicines we use to prevent illnesses and heal our sick, the places our ancestors are laid to rest, the fish, shrimp, crabs and oysters our people harvest, our traditional stories and the language we speak are all tied to these lands inextricably. Without these lands, our culture and way of life that has been passed down generation to generation will be gone.

Tribal citizens have been living, hunting, fishing, shrimping, crabbing, trapping and harvesting oysters in the coastal marshes and wetlands of our communities for centuries. Our people follow the seasons. In the summer we catch shrimp, crabs and garfish. In the winter we harvest oysters and trap nutria, muskrat, and otters. This is how my father and countless other tribal citizens make their living. This lifestyle is now in jeopardy.

Houma fishermen are intimately familiar with the lakes and bayous of our region. They know the stories of how these places got their names. They know how the tides flow and the winds blow. They can predict the weather without the help of technical gadgets.

Not only are many tribal citizens both directly and indirectly dependent on the commercial fishing industry, but Houma citizens harvest palmetto in the coastal marshes for basket weaving, Spanish moss for traditional doll making and many herbs and plants for traditional medicinal remedies used by tribal traiteurs or traditional healers. All of these traditions are in danger of disappearing once the continuing flow of oil infiltrates the inner coastal marshes and wetlands of our communities. These plants are irreplaceable and many only grow in our rich marshes.

The United Houma Nation is no stranger to dealing with adversity. In the early 1900's Houma children were not allowed into public schools because they were Indian. Christian missionaries came into our communities in the 1930's and established schools for Houma children. Those schools only went up to the seventh or eighth grade, the teachers were often unqualified and children were punished for speaking their language. It was not until the passage of the Civil Rights Act that the Houma children were allowed into public schools. The lack of educational opportunities resulted in many Houma People continuing the traditional ways of making a living off the land.

Another obstacle for the Houma has been obtaining recognition from the federal government. We have been recognized by the State of Louisiana but have been mired in the Federal Acknowledgment Process since 1979, a year after the system for recognition was established.. In 1985, we filed our petition; we received a negative proposed finding in 1994. The proposed finding stated that we met four of the seven criteria for acknowledgment. Subsequently, we filed our rebuttal in 1996 to demonstrate that we do meet the remaining three criteria. Nearly fifteen years after we submitted our rebuttal and over thirty years after we began the process, we still do not have a final determination. We have one of the largest petitions on file and are the largest tribe to go through the federal acknowledgment process. Despite our lack of federal recognition, the United Houma Nation continues to function as a government and provides services to tribal citizens.

Located in coastal Louisiana, our communities face special challenges. We have long lived with hurricanes, and over the years, we have become efficient in preparing for and recovering from them. Within the last five years, we have dealt with four major hurricanes – Katrina and Rita in 2005 and Ike and Gustav in 2008 – and, though these storms presented incredible challenges, we have made significant progress in recovering and getting our lives back. The Tribe established a hurricane relief center where tribal citizens can receive cleaning supplies, food, clothing and other essential items. We coordinated hundreds of volunteers to help clean and rebuild homes. Through our own efforts, we have been able to get tribal citizens back on their feet and some back into their homes.

While it takes time to recover from hurricanes, even after these huge storms, our people were able to resume their lives and our fishermen have gone back to work. Because most of the Houma communities exist outside of hurricane protection levees, they are at constant risk from normal tidal flooding and from tropical storm and hurricane surges. With each hurricane, some tribal members move outside the tribal communities to areas less prone to flooding. Many cannot afford the insurance to rebuild.

Now, the BP *Deepwater Horizon* disaster presents us with perhaps the greatest challenge in our history as we are at risk of losing the heart of our culture – our homelands. It is without question that the oil spill will affect the estuaries within which the Houma tribal fishermen make their living. As the oil enters our coastal marshes the wetland vegetation will be killed. This prevents fish, shrimp, crabs and oysters from reproducing because these marshes are where these species spawn and

receive protection from natural predators. In addition, these marshes are home to already diminishing wetland mammals such as mink, otter and muskrat.

Once the vegetation is dead, mud plains poisoned with oil will become open water, thereby eliminating critical habitat. Not only will this spill change the environment we live in, but our land loss will be critically accelerated, dwarfing the impacts of Katrina and the other recent hurricanes. This spill will have far-reaching effects that will compromise the economic, environmental and mental health of all of southeast Louisiana. For the Houmas, it also looms as a death threat to our culture as we know it.

Our tribal citizens are deeply concerned about the short and long term impacts of this oil spill. Growing up I never knew we were considered poor by government standards because we had a rich culture, were surrounded by abundant natural resources, and always had fresh food on the table. I grew up eating fish, shrimp, crabs, oysters, ducks and rabbits. Providing our families with meals based on fresh seafood and game may no longer be an option, which means putting food on the table will be difficult for some of our people.

But seafood is more than just a major source of food for our tribal citizens. Working in the seafood industry is also a major source of employment. During shrimp season, my father says it is like Christmas every morning. I fear that he may not have another Christmas. While some tribal fishermen have received checks from BP, these do not replace what they have temporarily and maybe even permanently lost. The Tribe is also concerned about those making a living in related professions such as net makers, seafood distributors, restaurant owners and others. With a limited education through no fault of their own, many tribal citizens do not have options for alternative employment. How will they support themselves and their families once the checks stop.? The answer we do not know.

We are concerned that waste produced by the spill clean up (used booms, pads, etc.) will find its way into disposal sites in our tribal areas, in particular our Grand Bois community. Grand Bois is located adjacent to an open pit oilfield waste disposal site in Lafourche parish. The 1980 Resource Conservation and Recovery Act (RCRA) defined any wastes that are generated during the exploration and production of petroleum, which will include any wastes generated in the clean up of this spill, as non-hazardous. Neither the crude oil nor any dispersants used in responding to this disaster are regulated as hazardous waste. Although these materials are hazardous by nature, they can be "landfarmed" in Grand Bois and other communities as "Non-Hazardous Oilfield Waste" or NOW. We do not want these materials disposed of in our communities, and we would respectfully request that this law be changed to protect all US citizens from exposure to these harmful chemicals. The citizens of Grand Bois as well as the thousands of citizens who live near oilfield waste disposal sites can testify to the toxic effects of these supposedly non-hazardous materials.

Most worrisome is the fact that we are now in hurricane season. The National Oceanic and Atmospheric Administration (NOAA) predicts between 14 and 23 named storms this year and between 3 and 7 major hurricanes. The entire United Houma Nation along the Louisiana coast is completely vulnerable to widespread inundation by oil-contaminated waters. Some of our communities have been totally excluded in parish and Army Corps of Engineers levee protection systems, and many communities have very little and/or compromised protection.

A tropical storm or hurricane coming ashore west of Louisiana before the oil flow is capped and existing surface and subsurface oil cleaned up will flood these communities with an oily waste storm surge, similar to the Murphy Oil incident in St. Bernard Parish during Hurricane Katrina. Residents' homesteads had to be purchased by Murphy Oil. These properties and homes are uninhabitable to this day. A minimal tropical storm or even a simple strong summer storm during high tide will be disastrous to our communities. Our citizens are now very concerned that if they are required to evacuate, they may never be able to return to their homes. Such a very possible scenario will equate to thousands of Houmas being permanently displaced.

We have a special concern for the effects of this disaster on our youth. In early May, the tribe held a tribal youth leadership conference. Participants were asked about their concerns for the future and nearly all of them mentioned the oil spill. They are concerned that they will not be able to carry on the traditions of our people.

As a result of our lack of federal acknowledgment, we do not receive services from the Bureau of Indian Affairs or any other agency that require federal recognition status. When a disaster hits, federal resources are filtered to federally recognized tribes. Although sympathetic to our needs, their hands are tied in providing financial assistance to the United Houma Nation that suffers the greatest impacts of these disasters. A final determination on our petition was due over 10 years ago.

We have dealt with countless hurricanes during that time and now this massive oil spill. We most certainly could have used additional resources that would be available to federally recognized tribes and need them now more than ever. In this case of the oil spill, we have been contacted by the U.S. Department of Interior, the U.S. Department of Commerce, the U.S. Environmental Protection Agency and the U.S. Department of Health and Human Services. We plan to continue discussions with these departments and are hopeful that sufficient resources will be made available to the United Houma Nation.

Because of the enormous scope of this disaster, our tribal leadership must make tremendous efforts to ensure that our members receive timely and accurate information about its ongoing environmental and health impacts. Due to limited educational opportunities in the past, many of our tribal elders lack the skills needed to read and understand written notices or effectively use the Internet to gather information. Many of our communities are isolated, and there is limited if any monitoring of environmental conditions in them. Our tribe will require resources to collect data on air, water, and soil quality and to provide the special outreach efforts our tribal citizens will need to respond effectively to changing conditions.

The Houma are a strong, very independent, and resilient people. We have seen small canals turn into large bayous; we have watched hundreds of acres of wetlands wash away; we have seen freshwater bayous turn into saltwater; we have seen our traditional medicines disappear; we have seen tribal members move out of our communities due to constant flooding; we have seen our lands taken from us because our people were not taught to read and write and we have spent 30 years in the federal acknowledgment process without a final determination. Throughout it all, we have done what was necessary to survive.

This oil spill presents a major challenge to our existence as a tribe. Therefore, I ask that you please support our efforts to bring resources to the United Houma Nation to preserve our way of life for current and future generations.

[NOTE: Ms. Robichaux's responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. I thank you very much, Principal Chief Robichaux, for your very thoughtful input on this, and we will have some questions for you later.

Mr. Viles, I look forward to your testimony, and you may proceed.

STATEMENT OF AARON VILES, CAMPAIGN DIRECTOR, GULF RESTORATION NETWORK, NEW ORLEANS, LOUISIANA

Mr. VILES. Chairwoman Bordallo, Subcommittee Members, thank you for the opportunity to testify in front of you today. My name is Aaron Viles. I am the Campaign Director with the Gulf Restoration Network. We are a 15-year-old nonprofit environmental advocacy organization, with an exclusive focus on the health of the Gulf of Mexico. We have staff in New Orleans, in Texas, in Florida, and we have board members representing all five Gulf states.

So as you might anticipate, this crisis has been a game changer for us and has absolutely forced us to drop what we were doing to respond to this, which a lot of people are calling it a spill. I don't really think that captures this issue adequately. This is a deepwater drilling disaster that has opened up a fissure in the earth that is spewing forth incredible amounts of oil, unprecedented amounts of oil.

And I think we should be mindful of how we reference it because we are almost minimizing it when we call it a spill or a leak. A spill is what happens when my daughter knocks over her glass of milk. This is far more significant. We have seen multiple Exxon Valdez's worth of oil emptied into the Gulf of Mexico, and we know

the environmental impacts will be significant and long lasting. We will be responding to this for years, if not decades.

I have issued robust comments for my testimony. Please look at those. If you want the facts and the figures, they are there. What I would like to tell you is more of what we are seeing on the ground with our efforts to monitor this disaster.

We were one of the first nonprofits in the air to take a look at the source of this, to go 45 miles off the bird's foot delta in a private plane and look at it. It was Sunday, April 25, and it was mind blowing to see how large it had already grown.

I think at that point—I am not sure what the timeline is, but I think BP might have been saying that it actually wasn't issuing any oil, but clearly that was not accurate, which is what we have seen from BP since day one is inaccurate statements being made about the impacts. They have minimized. They have denied. They have delayed their response, which I think is inexcusable and quite possibly criminal.

I know that we have been restricted in what we are able to do to monitor and respond to this disaster. The flight that we went on took quite a lot of work to try to get out there. My pilot, my volunteer pilot with South Wings, another nonprofit organization, spent his entire Saturday on the phone trying to get clearance to fly into the area.

There is a temporary—"temporary"—flight restriction. You know, 42 days in we still have that flight restriction, which does not let pilots drop below 3,000 feet in a vast and growing expanse of the Gulf of Mexico. That I think is unnecessary. It is an overreach.

When he spent his Saturday to try to get into that flight restricted area, first he talked to the FAA, who quickly put him in touch with duty agents of the Coast Guard. He bounced between those folks for quite awhile, until late Saturday night he got a phone call from somebody at the *Deepwater Horizon* Response Center, actually an employee of BP, telling him that we could not get a discrete code to fly into that area. We did it anyway.

We were lucky because the conditions were clear, and we got images that showed what BP was doing at the source, which was not consistent with what they were telling the public. We saw three boats out there. This was Sunday, the first Sunday of this disaster. They had talked about dozens of boats being mobilized and thousands and workers, and we saw three boats. One of them was a skimmer that was not in fact skimming. Apparently the conditions were too rough. It was a very moderate day for the Gulf of Mexico with probably under three foot seas.

Since that, we have been continuously underwhelmed by the response. I know that we had a great panel, the first panel. We had two veteran representatives talking about the expansive efforts. I will say that what we continue to see, although it is more significant than it was, is still not up to the challenge.

We have called for a really Federalized response to this effort and not using BP and not letting them control the efforts or direct the efforts with a thumbs up from the Federal Government, but in fact bringing in the military to make this happen.

Four and a half years ago, almost five years ago, we went through a horrific scenario that I didn't think I would ever seen

anything close to again. Unfortunately, what we are seeing right now is likely ultimately going to be worse when it comes to the impacts on our ecosystem. And unfortunately we had a sea of Federal response at that time, and I would hope that a general honorary type could be found to marshal the Federal resources to combat this crisis.

So as I wrap up, I would like to urge this Subcommittee to help the region. Specifically, we are very interested in seeing the appointment and creation of regional citizen advisory councils. There is an opportunity to create them under the OPA, and I think they have been very effective in Alaska. They need to be created in the Gulf of Mexico, and we need your help to make that happen.

Also, we need to make sure this does not happen again. As we clean up this ecosystem that is incredibly threatened right now and vulnerable because, in part, of a 50-year legacy of oil and gas exploration and abuse in Louisiana's coastal wetlands, we need to make sure this ecosystem is restored and we need Federal resources to do that.

We know that this Administration has been very engaged. They actually created a road map for restoration that we thought showed great promise, was very ambitious. It of course has been a little bit deprioritized right now understandably, but as we move forward with the NRDA process, we need to look at that restoration road map as a way to actually restore this ecosystem.

And then finally I think what we need to see is a far more aggressive response as to getting our transportation sector off of oil so this doesn't have to happen again. We have heard a lot of people defending the oil industry. We have heard a lot of pushback against, in my mind, a sensible six-month moratorium to assess what happened and make sure it doesn't happen again, but clearly the best way to make sure this doesn't happen again is to keep us from having to get into the deep and ultra-deep waters, by reducing our dependence on oil.

So I would like to just wrap up by saying thank you again for the opportunity to come here and share our views with you, and I look forward to any questions.

[The prepared statement of Mr. Viles follows:]

Statement of Aaron Viles, Campaign Director, Gulf Restoration Network

The Gulf Restoration Network is a fifteen year old environmental advocacy organization exclusively focused on the health of the Gulf of Mexico. Our mission is to unite and empower people to protect and restore the natural resources of the Gulf for future generations. Our primary efforts have focused on ensuring healthy waters, protecting and restoring coastal wetlands, and defending marine fisheries and ecosystems. We have staff in Texas, Florida and in our home office of New Orleans, with board members representing all five Gulf states.

Since April 22, 2010 when the *Deepwater Horizon* sank into the Gulf, we have re-assigned staff and organizational resources and sought to independently monitor and respond to this growing, slow-motion, environmental catastrophe, which is likely to be judged as the worst our nation has experienced.

We have monitored BP's deepwater drilling disaster from the water and the air, with an average of two flights and one boat trip per week. Our first flight over the surface of the disaster occurred on Sunday, April 25th, and we were shocked. Despite claims made by BP at the time, that dozens of boats had been mobilized, we saw three boats on site, neither of which were skimmers. *Three boats.* Just three days after the rig sank, an enormous amount of sheen and emulsified oil had already accumulated at the surface of the disaster.

An amount of oil equivalent to multiple Exxon Valdez tankers has flowed into the Gulf of Mexico, and clean up and containment efforts have been horribly ineffective. Despite a regime of skimming, booming, and burning, only a small percentage of BP's crude has been physically removed from the Gulf so far. In addition to the insult of the oil, is the exceptionally risky science experiment being conducted with the dispersants. An unprecedented amount, currently over 1 million gallons of dispersant has been applied both to the surface, and injected undersea. The long-term impacts of the dispersants to the benthic community and up the food chain is unknown.

As reported by NOAA and the U.S. Fish and Wildlife Service, the numbers of dead and stranded wildlife are beginning to tell the tale of the magnitude of this disaster. As of June 8th, 315 sea turtles have been collected in BP's drilling disaster impact area, 265 were dead, and 50 were collected alive, most at sea and visibly oiled. Of the five species of sea turtles that live in the Gulf, 3 are classified as endangered, and 2 are threatened. The most endangered seaturtle, Kemp's ridley seems to be hit the hardest, as juveniles of this species have been the most dominant species found. If beaches are oiled at the time of turtle nesting, it is likely that emergent hatchling mortality will increase, both due to the impacts of the oil on the turtles, as well as contact associated with the process of physically removing oil. August is the important nesting time for the endangered loggerhead turtles which are already experiencing a reduction in observed nests in the Alabama/Florida panhandle area at risk of BP's crude.

So far, 1007 birds have been collected, 594 of which were dead, 413 of which were alive and oiled. The images of oiled brown pelicans seen by the world, are haunting, and troubling, as the Louisiana state bird was only removed from the endangered species list just last November. This is the time of the year that pelicans nest. Much nesting occurs on barrier islands, several of which are currently surrounded by oil. Sadly, even if the birds can maintain their nests until fledglings hatch, it is likely this spill will have significant impacts on those fledglings. First flight for the brown pelican doesn't happen for 75 days, a time during which the blind and featherless hatchling is entirely dependent upon their parents, as both the mother and father play a role in caring for the hatchlings. Plunge feeders which apparently are unable to differentiate between oiled and non-oiled waters, the brown pelican is highly susceptible to oiling, and studies have shown that even cleaned and rehabilitated birds do not return to optimal health.

Two stranded dolphins have been collected, and 30 dead dolphins have been found. Marine mammals are susceptible to the oil and dispersants through ingestion or inhalation. As marine mammals surface to breathe, the highly volatile nature of this oil can have significant impacts on these animals, including respiratory inflammation, pneumonia and death. Further, the inhaled vapors can confuse the animals causing them to become stranded.

The Mississippi Canyon area is the primary feeding area of the Gulf of Mexico sperm whale sub-population, currently estimated at 1665 individuals. Sperm whales are endangered and the subject of a recovery plan. These whales spend their time in the area year-round. Sperm whales dive even deeper than the 5,000 feet depth of the well-head, and spend ¾ of their time hunting. When they surface, they often sit in a vertical, rest dive, as they recover their energy. In this state, they have been known to be hit by boats, suggesting that in this state the whales have decreased acuity, a situation which may lead them to be further exposed to and affected by oil pollution. Impacts to sperm whales can come from ingestion of oil, respiratory distress from hydrocarbon vapors, contaminated food sources, and displacement from primary feeding areas. Current research suggests that if human-caused mortality exceeds 3 whales annually, then recovery of the Gulf sperm whale pod will be negatively impacted. The total impact of the oil on sperm whales may be difficult to determine, as sperm whale carcasses are unlikely to be found due to their offshore habitat.

Other offshore species are threatened as well. The globe trotting Western Atlantic bluefin tuna is an amazing fish, larger than Shaquile O'Neal and can swim faster than a greyhound can run. But their populations have been cut by 80% since 1970 due to overfishing, and they only spawn in the Gulf of Mexico. April and May are the peak spawning time for this species, and researchers have found significant amounts of larvae in what is now BP's impact area. This is troubling as fish eggs and larvae are highly sensitive to oil and dispersants. As a result, this year's age-class of bluefin tuna, as well as many of the 42 federally managed species in the Gulf of Mexico may suffer significant decreases to population size, which will in turn effect the commercial and recreational fisheries of the Gulf. For example, we may see impacts to commercially and recreationally important species that are already

overfished, such as red snapper, greater amberjack, gag grouper, and gray triggerfish.

Dispersants, like BP's preferred product, Corexit 9500/9527, are a mixture of solvents, surfactants and other secret ingredients that are designed to make oil more soluble in water. Most of what is known about the toxicity of dispersants and dispersed oil is based on acute toxicity tests. The scientific literature suggests that acute (short-term) toxicity tests with death as the primary endpoint may not adequately assess the long-term impacts of chemically-dispersed oil. Long-term studies are needed to adequately determine delayed effects due to metabolism of chemically-dispersed oil, bioaccumulation, or photo-enhanced toxicity. The scientific literature is inconclusive on the impact of dispersants to the marine environment. One long-term study did show that dispersants reduced the persistence of oil in subtidal and intertidal sediments compared to untreated oil. However, in toxicity studies, it has been shown that Corexit 9500A combined with fuel oil #2 is more lethal than either fuel oil #2 or the dispersant alone. Additionally, when the chemically-dispersed oil is exposed to sunlight it undergoes photomodification, transforming it into a more toxic chemical. Chemically dispersed oil is significantly more toxic than oil alone when exposed to sunlight.

Photosensitization could be another long-term problem. Photosensitization can occur when polycyclic aromatic hydrocrabons bioaccumulate in the tissues of aquatic organisms and form free-radicals when these organisms are exposed to sunlight. If, as feared, Gulf species accumulate toxic dispersed oil in their tissue, then exposure to the sun could increase the toxicity For example, Corals would be at risk for photosensitization since they are known to bioaccumulate spilled oil quickly and are not adept at filtering the toxins out.

The general consensus of the scientific community is that the use of dispersants requires a trade-off. The choice to use dispersants means accepting 1) greater concentrations of chemically-dispersed oil in the water column, 2) a potential reduction in persistent stranded oil, and 3) increased unknowns in terms of long-term toxicity on sediments and marine life. So far, BP has applied over 1 million gallons of dispersant to the surface and subsea in response to their drilling disaster. The initial decision to use dispersants was based on a stated desire by the company and the federal agencies to keep the oil out of sensitive marsh areas at the expense of deep water marine life in the hope that marine bacteria would metabolize the oil. However, the current situation makes clear that the application of dispersants are not preventing oil from reaching shore, and that no amount of dispersants will be sufficient to prevent landfall in light of the magnitude of the amount of BP's oil that continues to flow into the Gulf. A growing concern is that the bacteria that eat oil also metabolize oxygen in the process. This has the potential to create an enormous area in the Gulf with depleted dissolved oxygen, which in turn may result in fish kills and other environmental damage. In short, BP's continued application of dispersants is tantamount to the largest chemical experiment ever attempted in the Gulf of Mexico or elsewhere and the magnitude of the negative impacts of this experiment on the marine resources of the Gulf may not be known for decades.

As experienced on our first flyover, and seen on every flight and boat trip taken since that first week of the disaster, the efforts by BP to contain and clean up their oil are underwhelming and insufficient to the enormous challenge they have created for themselves. Boom is inadequately deployed to protect coastal resources, and insufficient for the task, in part due to dispersants moving the oil below the surface of the Gulf. Whether by choice or by neglect, not enough physical removal of the oil is occurring, and the oil is making it into Louisiana's marsh.

One take-away lesson of this disaster is that the Gulf coast is environmentally rich, yet also an exceptionally fragile ecosystem. As we hold BP accountable we must ensure that there is sufficient funding to ensure that a thorough assessment of the damages, both short and long-term, to this ecosystem are fully documented and that, where possible, restoration of those resources be required. We have a responsibility to ensure protection and restoration of the marine resources of the Gulf states.

We also cannot forget the coastal resources that are being impacted. For example, the wetlands of the Mississippi River Delta, now threatened by BP's oil, make up 41 percent of the nation's total coastal wetlands. As an economic resource they are invaluable, providing support to 40 percent of the national oil refining capacity, 28 percent of the national fishing harvest, the largest concentration of migrating waterfowl in the United States, and a variety of other wildlife. Coastal Louisiana also boasts productive agriculture and tourism industries, including a now-limited and hamstrung multi-billion dollar commercial and recreational fishing industry and support services. In addition to the many economic benefits wetlands provide, the

value of the storm protection they have historically offered for the residents of the Mississippi River Delta is a priceless commodity.

Louisiana's coastal wetlands were already in trouble before BP's drilling disaster, with 25 square miles of those wetlands disappearing each year. The oil now entering those wetlands will only increase coastal wetlands loss. Louisiana officials estimate that the cost to restore the state's coastal wetlands is at least $50 billion and will take over three decades to complete. Coastal scientists are in agreement that wetland loss is an overwhelmingly complex issue and includes a myriad of direct and indirect sources. Two of the primary forces at work in Louisiana's coastal zone – oil development and navigation—have clearly benefitted the nation, and as such, argue for a national commitment to the region's recovery.

Although the most commonly cited cause of Louisiana's wetland loss is the blockage of sediment input from the Mississippi River, oil and gas-related activities are the second most significant cause of this loss. Studies have empirically demonstrated that the direct and indirect effects of oil and gas exploration, recovery, and development are together responsible for 40 to 60 percent of documented wetland loss. And, even Shell Oil's own scientists predict that if nothing is done to restore and protect coastal wetlands, Louisiana could lose another 500 square miles over the next 50 years.

The spider-web of canals, which support the 500-plus oil and gas drilling sites throughout the coastal zone, have led to a significantly increased rate of land loss due to the hydrologic isolation of the local marsh from neighboring water bodies caused by the spill banks surrounding each waterway. Today, over 10,000 miles of canals dredged by the oil and gas industry remain open, forging a canal-spill bank network that represents seven percent of the current total wetland area. Despite developments and improvements in the drilling process, historic practices such as the abandonment of oil and gas canals, has prevented the natural re-growth of the surrounding wetlands.

In hindsight, it is no surprise that 80 percent of national wetland losses—the most dramatic coastal wetland losses in the US—are in the states of the Gulf Coast. Since 1930, Louisiana has lost about one million acres of coastal wetlands.

There is still hope for Louisiana. Projects implemented locally and regionally have demonstrated that wetland environments are incredibly regenerative. As dead-end canals are filled in and spoil banks are demolished, vegetative re-growth flourishes and subsidence reversal shows promise. It is also clear that reintroduction of Mississippi River fresh water and sediment through large-scale river diversions will play a role, in addition to pipeline sediment delivery of dredged spoil.

In our efforts to ensure that BP addresses the environmental consequences of its actions, we must ensure that Louisiana's wetlands are restored. State and federal agencies should focus restoration funding received from BP on healing the old scars of existing canals and spoil banks at least as much as with the steady-handed and clear-minded distribution of future dredging permits.

As state and federal trustees move forward with a Natural Resource Damage Assessment, and ultimately use the NRDA to hold BP to account for this crisis, GRN urges the trustees to utilize existing yet under resourced coastal restoration efforts and initiatives as the vehicles for the natural resource restoration that BP must pay for.

In summation, the Gulf Restoration Network is highly concerned that BP's deep water drilling disaster will have significant, long-term impacts to the marine ecosystem of the Gulf of Mexico. Sea turtles, seabirds, marine mammals and coastal habitats are all being affected now, and will continue to experience harm as BP's oil and dispersant mix pollutes the Gulf. We are calling for an end to the use of dispersants unless and until the EPA and independent scientists can show that the risk is outweighed by the rewards. We are calling on a full federalization of the cleanup efforts, leaving BP to bring their expertise to bear one mile below the seafloor, but calling in the Navy to bring the full resources and organization of the U.S. military to the war against BP's crude. BP must ensure the natural resources of the Gulf harmed by their oil are restored, or if impossible, that their investment in the resources of the Gulf match the destruction they have caused. In addition, we must ensure our coastal communities, which have not recovered from the hurricane seasons of 2005 and 2008 are defended and given the resources necessary to ensure their future.

We are calling for the creation of a Gulf of Mexico regional citizen's advisory council, consisting of commercial and recreational fishing interests, tourism, conservation and local government representatives spanning all five Gulf states. The advisory council should be created in order to provide an effective counterweight to the energy industry in the Gulf of Mexico, which has for far too long, allowed unchecked exploration and development in the sensitive habitats of the North Central Gulf of

Mexico. A well-resourced, staffed and deployed advisory council should be created while we seek answers as to the causes and consequences of BP's deepwater drilling disaster, and should be funded by those who profit off the exploitation of our Gulf.

Ultimately, Congress must make the changes necessary that a disaster such as this never happens again, either in the Gulf of Mexico, or any U.S. coast. Regulations must be effective and enforced, deep water drilling must develop a safety net able to prevent this scenario, and it is time to get serious about moving our transportation sector away from oil. If these lessons are not learned, and our leaders do not sound the call for a clean future for the Gulf and all our coasts, than this tragedy will have been in vain.

Thank you for the opportunity to share our views.

[NOTE: Mr. Viles' responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. Thank you very much, Mr. Viles, for your valuable input here for the Committee.

And welcome back to the Subcommittee, Dr. Fry, and please begin your testimony.

STATEMENT OF MICHAEL FRY, PH.D., DIRECTOR FOR CONSERVATION ADVOCACY, AMERICAN BIRD CONSERVANCY, WASHINGTON, D.C.

Dr. FRY. Thank you for inviting me to testify. My name is Dr. Michael Fry. I am Director of Conservation Advocacy at American Bird Conservancy. I work on issues of pesticides, oil spill and other toxics.

I also serve as chair of the Minerals Management Service Scientific Advisory Committee for Environmental Studies Program. I served on this committee from 1988 to 1996 and as chair for two years and was reappointed to the committee in 2006. The Scientific Committee reviews the Environmental Studies Program and makes recommendations on studies and program direction to the Secretary of the Interior.

I am an avian toxicologist with expertise on the effects of oil spills and dispersants on seabirds. I have described the effects of oil on birds in my written testimony.

There are many parallels between the Exxon Valdez spill and the *Deepwater Horizon* spill. The Exxon spill was a catastrophic event that occurred over a period of only a few days, but the oil spread across southern Alaska for months. More than 1,300 miles of shoreline were oiled and, even after cleaning, it took years for the habitats to recover. Some sensitive habitats still have oil.

The oil probably killed hundreds of thousands of birds, although only 35,000 birds were recovered. Many bald eagles were oiled and killed, but the population recovered quickly, while other species still have not fully recovered 21 years after the spill. I expect the *Deepwater Horizon* spill will have equally far reaching and long-term effects, and the wetlands and mangroves will not recover for decades.

The persistent oil in wetlands will have long-term negative effects on nesting seabirds. This year it will be impossible to prevent nesting birds from trying to find food outside of boomed areas. There will be near total breeding failure in oiled areas this year.

A major difference between the Exxon Valdez spill and the *Deepwater Horizon* is the continuing release of huge quantities of oil

into the ecosystem. The explosive discharges of oil at depth result in naturally dispersed oil under the surface, as well as floating oil on the surface. All of this oil will continue with movements and will likely oil more than a thousand miles of coastline during the coming storm season.

In addition to birds, endangered sperm whales in the Gulf of Mexico are at high risk of death, just as killer whales were killed in the Exxon Valdez spill. Sperm whales are territorial and live in the oiled areas. They have been observed surfacing in oil slicks, and they will inhale the oil, suffocate and die. These animals need special attention.

I need now to change subjects and discuss the Minerals Management Service Environmental Studies Program that my Federal advisory committee is charged with reviewing and evaluating. This program began in the 1970s with a good budget to develop baseline data on the sea bottom, seabirds, marine mammals, fish and their habitats. I was an expert for the U.S. after the Exxon Valdez oil spill.

Without detailed studies funded by the MMS during their program, identification of injury would not have been possible. If I could show that first graph? Thank you. Today, however, the budget of the Environmental Studies Program at MMS is about one-third of the $55 million figure that it was in 1975, and if corrected for inflation it is now about 10 percent of what it was in 1975.

This graph shows only a token increase in studies immediately after the Exxon Valdez, the little blip there halfway down the graph, but then a substantial cut almost immediately after that. It is not appropriate for Congress to continually cut the budgets of mission-oriented studies and expect that there will be no future consequences.

This is a time of significant expansion in the mandated Minerals Management Service to evaluate new areas off the Atlantic coast, Florida, the Pacific Northwest, as well as expanding existing programs in southern California and Alaska.

It is the opinion of the Advisory Committee that the current MMS program is severely underfunded, and that the Scientific Committee in 2008 recommended to the Secretary of the Interior that the Environmental Studies budget be at least doubled. A five-fold increase would bring it back to earlier levels.

We repeated this recommendation in 2009, and I urge the Subcommittee and your congressional colleagues to substantially increase the budget for these studies. The U.S. collects $23 billion annually in royalties and bonus bids from the MMS leases. None of these dollars go back into the MMS program.

The consequences of inadequate congressional appropriations have now come home to roost with the *Deepwater Horizon* disaster, which was partly a result of extending leasing beyond the understanding of the risks. MMS critically needs augmented funding to catch up to the demands of the domestic oil production.

In 2009, they made a plea—if we could show the second picture—for the studies in the North Aleutian Basin, also known as Bristol Bay, Alaska, because of the highly productive crab and red salmon fisheries and extremely large number of migratory birds and critically endangered Pacific right whales. This picture shows a small

portion of the birds and a whale surfacing in the middle. You can see it is an incredibly productive area and really at risk from the oil spills.

I personally recommend that no leasing be conducted in Bristol Bay or the Arctic Ocean until adequate studies are funded to understand the risks in these highly sensitive habitats. The risks of floating ice in the Arctic, as are shown by iceberg scars on the ocean floor, point to the dangers of icebergs and huge sheets of ice damaging oil facilities with catastrophic consequences.

If spills cannot be prevented in these critical habitats, no leasing should go forward. It will be impossible to clean up oil under ice cover. It is irresponsible to continue leasing and exploration in icy waters without developing and testing the safety and response systems that will be needed when the inevitable Arctic Ocean spill happens.

It has been announced that the MMS will be split into three separate bureaus to separate royalty collection from leasing and regulatory parts of the agency. I strongly believe that the mission targeted Studies Program remain within the Leasing Branch so that the mission targeted studies can best be designed in support of future leasing. Without that remaining there, if the Studies Program is changed to another agency it will lose that mission target orientation.

I thank the Committee for letting me present my views and the views of the Federal Advisory Committee. I will be glad to respond to questions.

[The prepared statement of Dr. Fry follows:]

Statement of Donald Michael Fry, PhD, Director, Conservation Advocacy, American Bird Conservancy

Chairman Bordallo, Ranking Member Brown, and distinguished members of the Insular Affairs, Oceans and Wildlife Subcommittee, I would like to thank you for inviting me to testify on behalf of the American Bird Conservancy (ABC) and the Federal Advisory Committee for Minerals Management Service Outer Continental Shelf Environmental Studies Program.

My name is Dr. Michael Fry, and I am the Director the Conservation Advocacy Program at American Bird Conservancy. In addition to being responsible for interpreting the science and federal policy issues concerning pesticides and other toxics, my job includes a issues related to the effects of wind projects on habitat impacts and mortality to birds.

My qualifications include a PhD in Animal Physiology from the University of California, Davis, and 35 years experience in avian ecology and toxicology at the University of California and at American Bird Conservancy. I serve as Chair of the Minerals Management Service, Outer Continental Shelf Environmental Studies Program, Science Advisory Committee.

American Bird Conservancy (ABC) is a 501(c)3 not-for-profit organization, whose mission is to conserve wild birds and their habitats throughout the Americas. It is the only U.S.-based, group dedicated solely to overcoming the greatest threats facing birds in the Western Hemisphere. In brief, ABC has been an active participant in national symposia on seabirds and has an active program for conservation of seabirds throughout the Americas and Pacific.

My second role today is that of Chairman of the Federal Advisory Scientific Committee for the Outer Continental Shelf Environmental Studies Program. I served on this committee from 1989 to 1996, as Chairman for two years, and I was reappointed to the Committee in 2006 and am the current Chairman. The Scientific Committee reviews the environmental studies program studies plan each year and makes recommendations on proposed studies and suggestions for program direction to the Secretary of Interior.

I am an avian toxicologist with experience in studying the effects of oil spills on populations of seabirds, including the pathology of oil and the effects on behavior

and reproduction of birds exposed to oil. I conducted research on seabirds experimentally exposed to oil in the 1980s, and worked with the oil spill responders in Alaska following the Exxon Valdez spill. After the Exxon Valdez spill I participated in the Natural Recourses Damage Assessment with the Trustees, and helped evaluate the long-term effects of the spill on the many bird species present in Coastal Alaska.

Oil exposure to seabirds causes a cascade of injuries. The initial injury is fouling, and everyone has seen photos of pelicans and other birds coated with oil so that they are unable to fly or forage for food. Oil, either fresh, weathered or chemically dispersed, destroys the insulation properties of feathers, and allows water to penetrate to the skin of birds. When this happens, the birds become cold, and must metabolize stored nutrients in order to maintain body temperature. This causes loss of stored fat followed by muscle wasting, so that the birds are severely weakened, cannot fly, cannot feed, and rapidly deteriorate. If not recovered by rescue teams within a few days, they will starve to death. If oiled birds are far out to sea, many will drown and sink without ever being detected. This is particularly true for diving juvenile Northern Gannets, which are highly pelagic and remain out at sea throughout the year. Gannets were the first birds recovered at sea in the *Deepwater Horizon* spill, and I fear that many will be oiled and never be detected or recovered.

The cascade of injury continues with internal oil exposure. Birds that attempt to clean themselves by preening oil from their feathers will ingest quantities of oil, which causes injury to the digestive tract, liver and kidneys, resulting in greatly elevated stress, and especially impaired kidney function. Exposure to fresh oil containing the gasoline components results in respiratory injury from inhalation of toxic fumes. Without adequate veterinary care, most moderately and heavily oiled birds will die.

The consequences of even light exposure to oil can be severe and long-term. We did studies in the 1980s in which we lightly oiled different species of seabirds with less than 1/3 of a teaspoon of oil. Most exposed birds abandoned their nests and failed to breed, or failed to hatch the few eggs that were laid, and shearwaters oiled in one year had impaired reproduction in the year following exposure as well. I expect that even lightly oiled pelicans, gulls, herons, and other birds exposed in this spill will have breeding failure this year, and the great disturbance in the colonies will carry forward at least into the breeding season of 2011. I sincerely hope that the oil spill responders and Natural Resource Damage Assessment teams will be able to continue their studies into future years to be able to adequately assess the injury to the ecosystem caused by this spill.

I would like to discuss the similarities and differences between the Exxon Valdez Oil Spill and the *Deepwater Horizon* (AKA Mississippi Canyon 252) oil spill.

The Exxon spill was a catastrophic event that occurred over a period of only a few days, but which spread across Southern Alaska for months. More than 1300 miles of shoreline were oiled, and even after cleaning it took years for the habitats to recover. Some sensitive habitats, such as shellfish beds of mussels in rocky intertidal areas still have oil present. The spill caused injury to many species of birds and marine mammals, and probably killed hundreds of thousands of birds, although only about 35,000 oiled birds were recovered. Some of the species, such as Bald Eagles, recovered quickly, with no detectable population effects after only a couple of years, while others, such as Marbled and Kittlitz's Murrelets, Harlequin Ducks, Black Oystercatchers, and Common Murres exhibited population level decreases that could be detected for several years. A few of the species may still not have recovered to pre-spill numbers, and it is now 21 years after the spill. Exxon was prosecuted and convicted for violations of the Migratory Bird treaty Act, and for violations of the Clean Water Act. I believe violations of both laws have also occurred with the *Deepwater Horizon* oil spill and warrant prosecution.

I expect that the *Deepwater Horizon* spill will have equally far reaching and long-term effects on bird species in the Gulf of Mexico, and that the wetlands and mangroves of the Gulf Coast will not recover for decades. Although I am not an expert on mangroves, I believe that if sensitive mangroves are killed, it is likely that some barrier islands will be weakened and may erode more quickly, increasing the risks of storm damage, especially during hurricane season. The presence of persistent oil in wetlands will have long-term negative effects on the colonial waterbirds that use these islands as nesting areas. Brown Pelicans, Laughing Gulls, herons, egrets, spoonbills, ibises and gallinules have already been affected, with responders having recovered more than 1000 birds alive and dead so far. I expect the number of injured wildlife to continue to increase, as it is impossible to prevent birds that are caring for chicks from trying to forage for food outside boomed areas, even if their breeding islands remain successfully protected by oil booms. Diving species such as pelicans and terns will continue to hunt for fish in oiled waters, and

will become victims of the spill. The un-hatched eggs of these birds may become contaminated with oil, which will cause failure, and it is probable that entire colonies of wetland birds will fail this year, and perhaps experience lowered breeding success in future years.

A major difference between the Exxon Valdez spill and the *Deepwater Horizon* spill is the continuing release of huge quantities of oil and the constant release of fresh oil into the ecosystem. The depth of water is also a major difference, as the explosive discharges of oil at depth results in immediate natural dispersion of small droplets into the water column, in addition to the dispersion of oil using chemical dispersants. Dr. Ed Overton of LSU has eloquently described these phenomena, and has described the mix of very sticky weathered and un-weathered oil, which complicates the skimming and cleanup operations. Like the Exxon Valdez oil, this oil will continue to move with currents and along shorelines and may oil a similar amount of shoreline, especially if blown toward shore during the anticipated storm season.

The endangered marine mammals of the Gulf of Mexico, especially Sperm Whales, I believe are at high risk of injury and death from this spill. Sperm Whales have been observed surfacing in the oil slicks, and could easily inhale oil which would cause injury or death. This occurred with Killer Whales (Orcas) during the Exxon Valdez, and although no Orca carcasses were observed or recovered in 1989, observers were able to identify missing members of whale pods (groups) in years following the spill and were able to document the injury to the Alaska whale population. A great deal of work has been done with the Gulf of Mexico population of Sperm Whales, and an emergency team of observers should be deployed to document whale behavior and potential injury from this continuing spill, which is occurring within known territories of Sperm Whales.

There are excellent teams of wildlife rehabilitators caring for oiled birds at several sites along the Gulf Coast. These are well trained people some if which I worked with in Alaska in 1989, and have been well organized with funds generated by the Oil Pollution Act of 1990, passed by Congress following the Exxon Valdez spill. These teams had equipment and supplies pre-deployed in the Mississippi Delta prior to the spill and staff were immediately sent to set up their facilities within days after the explosion and fire on the *Deepwater Horizon* rig. I believe this wildlife rescue effort will be successful in cleaning birds, as responders continue to clean oil from the beaches and coastal waters. However, if the spill continues, which is likely, the cleaned birds will have no safe place to return to, and it may be impossible to successfully return them to the wild. Even if birds are taken far outside the spill area, it is probable that they will try to return even hundreds of miles back to their breeding colonies, which may still be oiled, and this will prove disastrous for all the birds nesting along the Gulf Coast. There has been some press and media discussion of the futility of cleaning oiled birds, and some have even recommended that all oiled birds be euthanized humanely without attempting to clean or rehabilitate them. I strongly disagree. The knowledge of cleaning and rehabilitation of birds gained by bird rescuers during the past 40 years has been impressive. Every spill has been a training ground for increasing knowledge, which is shared and communicated at national meetings, in journal articles, and in training sessions every year. The success at cleaning and rehabilitation has improved over the years, and will continue in the future, as no one has been able to prevent oil spills from occurring. The Fish and Wildlife Service and private organizations have conducted radio telemetry studies to evaluate survival of oiled birds, and in many cases the cleaning and rehabilitation efforts have successfully returned many, or in some cases, most of the oiled birds back to the wild to successfully breed in subsequent years. This has not been true for some species and some oil spills, and the success has been highly variable from spill to spill, but I believe that continued wildlife response is very important and warranted. Just as human medicine and surgery have advanced over the past hundred years, the art and science of wildlife rehabilitation are advancing, and should continue, and should continue to be well funded.

I would like to briefly change subjects and discuss the Minerals Management Environmental Studies Program that my Federal Advisory Committee is charged with reviewing and evaluating. MMS contracts studies which are necessary targeted research on environmental issues related to offshore energy production, including risks to the environment and the technological advances to reduce risk and avoid environmental injury arising from energy production.

The MMS studies program began with a good record for comprehensive evaluation of the offshore environment and seabed and has continued during the period I have been a reviewer of the program. MMS began this program in the mid-1970s with a significant budget to contract, oversee and evaluate environmental studies, and developed an excellent baseline of studies during the 1970s and 1980s.

One of the primary charges of the studies program was, and continues to be, developing baseline information on the natural resources of areas with potential for energy production. MMS conducted a continent wide Outer Continental Shelf Environmental Studies Program (OCSESP) to inventory the resources offshore in the Gulf of Mexico, Eastern seaboard, Pacific Coast and Alaska. Without the MMS studies data, the US would not have had the scientific background to be able to assess the oil spill injury from the Exxon Valdez, nor would the US have been able to identify the significance of the injury to many species of seabirds, marine mammals, fish and their habitats.

I was a technical expert for the US and the Oil Spill Trustees on the injury and recovery of wildlife from the Exxon Valdez spill, and was a technical expert for the US in the ensuing litigation to recover funds from Exxon to restore the environment and compensate injured parties. Without the detailed studies funded by the MMS during their OCSESP program, identification of injury would not have been possible.

Today, however, the budget for the Environmental Studies Program at MMS is about 1/3 the $55 million figure that it was in 1975, and if corrected for inflation, the current budget of approximately $20 million is only about 10% of what it was in 1975.

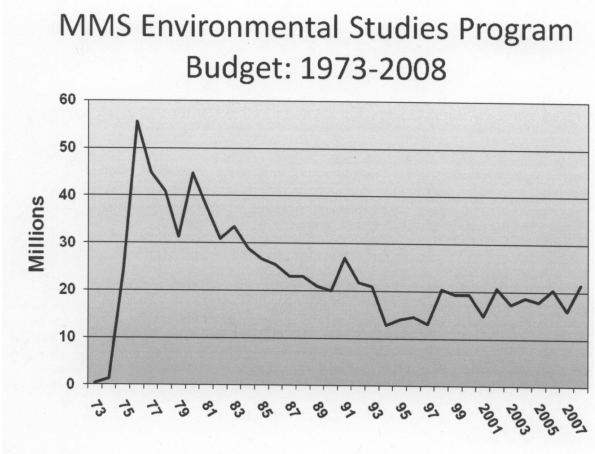

Figure 1. Graph of the Environmental Studies Budget for the period 1973-2007.
Source: MMS program presentation to the Science Committee 2008.

This is at a time of significant expansion of the mandate of MMS, not only evaluating vast new areas of the outer continental shelf off the East Coast of the US, the Eastern Gulf of Mexico, the Pacific Northwest, and the Arctic Ocean, but also for expanding the existing programs in the Western Gulf of Mexico, Southern California, and Alaska.

The new proposed leases in the Beaufort and Chukchi Seas in the Arctic Ocean will pose unprecedented challenges, and without adequate funding I foresee disasters in this uncompromising environment.

In addition, MMS is faced with new challenges of evaluating the environmental concerns of offshore wind technologies, which present very different challenges than that of assessing risks and technology development of offshore and deepwater oil and gas production. It has been the opinion of the MMS Science Advisory Committee that the current MMS Environmental Studies Program is severely underfunded, and the Scientific Committee in 2008 recommended to the Secretary of the Interior that the environmental studies budget should be at least doubled to adequately fund the necessary environmental studies that must be done to assess the offshore resources and protect the offshore environment, including the seabed. We repeated this recommendation at our 2009 meeting in Anchorage as well.

In the past, MMS has developed and carried out a comprehensive program to evaluate oil and gas exploration technologies, oil spill prevention, regulation of spills and discharge of oil drilling fluids and wastes. In addition, the Environmental Studies Program has conducted a program to identify and protect sensitive and unique sea bottom ecosystems, especially "hard bottom" communities, as well as marine mammals, seabirds and fish. They have conducted studies of the potential disturb-

ance of seismic exploration noise on marine mammals, toxicity of oil to seabirds and other marine life, and disturbance of sensitive animals from placement of platforms and drilling operations. In my opinion, the MMS has successfully conducted a broad range of studies, and has reduced risks in the offshore environment with an excellent record up to this Spring.

I know that these are difficult economic times, but I urge the Subcommittee and your colleagues in Congress to adequately fund the environmental studies program so that with continued and expanded offshore development, both for oil and gas, and for alternative energy, the MMS will be able to continue their excellent record of environmental evaluation.

At the 2009 Anchorage meeting I made a personal plea for expanded environmental studies in the North Aleutian Basin, also known as Bristol Bay, because of the highly productive crab and red salmon fisheries, an extremely large number of migratory and resident seabirds, and critically endangered Pacific Right Whales found in the region.

The Environmental Studies Program was unable to fund many valuable studies with their ever decreasing budgets (in constant dollars), and I personally recommended that no leasing be conducted in Bristol Bay or the Arctic Ocean until adequate studies could be undertaken to understand and minimize the risks to these highly sensitive habitats. Today I more strongly believe this, and I continue to recommend that leasing of Alaskan waters be deferred until adequate studies are undertaken to assess and minimize risks. It is especially important to better understand the risks posed by floating ice in the Arctic, as iceberg scars present on the ocean floor belie the dangers of icebergs or huge sheets of ice damaging oil production facilities with catastrophic consequences, as it will be even more difficult to clean up a spill in arctic waters than it is in the Gulf of Mexico, which is proving to be almost impossible. I believe it is highly irresponsible to continue leasing and exploration in icy waters without first studying and refining the safety and response techniques that will almost certainly be needed when the inevitable Arctic Ocean oil spill occurs.

In 2008, the U.S. collected almost $23 billion in revenues from federal oil and gas production and leases: $13 billion in royalties and $10 billion in bonus bids. None of these dollars went back into the MMS program to fund the critical mission-related studies that MMS needs to be able to support their leasing activities. I personally think it has been a very dangerous situation for the Agency to try and continue to lease in uncharted waters without adequate studies, and I believe the consequences of inadequate funding by Congress, and the unknowns in attempting to cope with infrequent but highly injurious accidents such as the blowout of the well during operations aboard the *Deepwater Horizon* have been exacerbated by extending leasing beyond the understanding of the risks. MMS critically needs augmented funding to catch up to the demands of our domestic energy production.

I believe it is a very significant part of the budget graph that Congress augmented the studies Budget immediately after the Exxon Valdez oil Spill, but then just a few years later again substantially lowered the appropriations for this program. I believe it is not appropriate for Congress to continually cut budgets of mission oriented studies and expect that there will be no future consequences.

Recently it has been recommended that the MMS be split into three separate Bureaus to separate the royalty collection from the leasing and regulatory parts of the Agency. I have no opinion as to the appropriateness of this action, nor of the effect on the functioning of the Agency, but I would strongly plea that the mission-targeted studies program remain within the leasing branch, so that mission–oriented studies can best be designed and conducted in support of future leasing. I think it would be damaging to the Agency to transfer the Studies program into a another Agency, such as USGS, because the mission and focus of another Agency would be quite different, and the mission-targeted nature of the studies program would likely be lost, with consequential further loss of critical information needed to understand the interactions between energy development and the environment and to reduce the risks of venturing into uncharted waters.

I thank the Committee for inviting me to present my views and the views of the Federal Advisory Committee at this hearing. If you have any questions I will attempt to respond now or later in writing.

Thank you very much for giving me this opportunity to testify,

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[NOTE: Mr. Fry's responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. Thank you. Thank you very much, Dr. Fry.

Dr. Mitchelmore, it is your turn to testify. Please begin.

STATEMENT OF CARYS MITCHELMORE, PH.D., ASSOCIATE PROFESSOR, UNIVERSITY OF MARYLAND CENTER FOR ENVIRONMENTAL SCIENCE, CHESAPEAKE BIOLOGICAL LABORATORY, SOLOMONS, MD

Dr. MITCHELMORE. Thank you. Good afternoon, Madam Chair and Members of the Subcommittee. Thank you for inviting me to discuss scientific issues concerning dispersant use. I am Carys Mitchelmore. I am an aquatic toxicologist and have been researching the impacts of pollutants, including oil and dispersants, on organisms for over 15 years.

Unfortunate recent events in the Gulf have brought to the forefront issues pertaining to the impacts of oil. My testimony today will focus on some effects and uncertainties regarding dispersant use.

Related to this I would like to stress two major points. First, significant data gaps in understanding the fate and effects of dispersants and chemically dispersed oil exist, particularly with subsea applications. Second, there are numerous reasons why the impact of chemically dispersed oil in the environment may be underestimated.

Dispersants are used to redirect an oil slick by breaking it up into small droplets that move down into the water, spreading in three dimensions. They do not remove oil. They simply alter its chemical and physical properties, changing where it goes, where it ends up and its potential effects. Subsurface dispersant application is used to keep the oil in the water column, preventing it from coming to the surface.

With the *Deepwater Horizon* leak, dispersants are used to protect organisms from contacting the surface slick and to protect sensitive shorelines and wetlands from the slick coming ashore. This protection is an environmental tradeoff and is at the expense of organisms living in the water column and potentially those on the sea floor.

Toxicological data feeds into these tradeoff decisions. However, limited toxicological information exists to fully assess its risk to organisms, particularly in the long term. Toxicity data, based on short duration exposures and the risk of death to organisms, are those most often used to assess how toxic a chemical is, and which species are those most at risk. Indeed, the National Contingency Plan Product Schedule uses such tests.

Toxicity depends on the specific dispersant under study, the species and the life stage of that particular species. However, even using these simple acute toxicity tests, there is conflicting scientific evidence on whether chemically dispersed oil is more, equally or less toxic than oil.

Acute toxicity tests are limited as organisms can also be affected in other ways other than death. Dispersants and chemically dispersed oil can cause many sublethal impacts, including reduced growth and reproduction, cardiac and metabolic problems, immune system suppression, developmental deformities, cancer and changes in behavior.

These subtle endpoints can have huge consequences for populations, and delayed effects may occur long after brief exposures. Some species, like corals, are more sensitive than others. Tradeoff decisions between species are difficult if toxicity data is not available for these or closely related species.

Data may also not be available for the vulnerable early life stages of organisms. This is of concern as larval life stages often inhabit near surface waters during reproductive seasons where dispersed pollutants are at their highest concentrations. Furthermore, traditionally laboratory tests can underestimate toxicity to fish, larvae and other translucent organisms like corals.

In surface waters, natural sunlight can interact with the oil taken up by organisms, thereby increasing toxicity up to 50,000 times. This photo enhanced toxicity mechanism will increase the footprint of dispersed oil effects.

Dispersants change how organisms are exposed to oil and may facilitate the uptake and bioaccumulation of oil. It is what dispersants do to oil that often drives toxicity rather than the inherent toxicity of the dispersant itself. Small oil droplets are taken up by suspension feeders such as oysters. Zoo plankton can mistake oil droplets for food. Current models that predict oil spill effects do not take into account droplet exposure pathways.

Phytoplankton and zooplankton reside in surface waters. This is where the plume is most concentrated. These are essential components at the base of the food web. If these organisms are lost, then higher trophic level organisms, including the coastal and shoreline organisms that dispersants are used to protect, will simply not have enough food and will suffer reduced growth, reproductive output and eventually death. These organisms may also accumulate oil and so contaminate the seafood that feeds upon them.

With the *Deepwater Horizon* leak, many further unknowns exist, given the sheer volume of dispersants used and novel subsurface application. A recent meeting conducted concluded to date that dispersant use has been less environmentally harmful than allowing the oil to reach sensitive wetlands. However, increased monitoring should be carried out, and tradeoff decisions should be constantly reevaluated and will become more complex with an increasing amount of oiled shorelines.

In summary, Madam Chair and fellow representatives, we face huge challenges to protect the health of our coastal and oceanic systems. With oil spills, this involves making difficult tradeoff decisions and what species to protect at the expense of others.

By using dispersants, we change how organisms are exposed to oil, yet we do not fully understand the implications of this. Where and how and even what organisms are exposed? How do we identify sensitive species? And what are the sublethal and long-term effects, and what is the impact to the food web?

The recent spill in the Gulf has brought us into unchartered territories, given the volume and duration of dispersant use, its novel application at the seabed, limited baseline monitoring data to evaluate the species at risk. With more information, we can be better prepared to deal with such disasters. Increased knowledge translates to better solutions, and we need that knowledge now. Thank you.

[The prepared statement of Dr. Mitchelmore follows:]

Statement of Carys L. Mitchelmore, Ph.D., Associate Professor, University of Maryland Center for Environmental Science, Chesapeake Biological Laboratory, Solomons, Maryland

Chairman Bordallo and members of the Subcommittee. I am Dr. Carys Mitchelmore and I would like to take this opportunity to thank you for inviting me today to highlight some of the issues concerning the effects of oil spill dispersants and dispersed oil.

By way of background: I am faculty at the University of Maryland Center for Environmental Science, Chesapeake Biological laboratory. I have been conducting research and publishing books and articles for over 15 years concerning the impacts of pollutants, including oil and oil spill dispersants on many aquatic species. Today I am representing my views as a researcher in the field of environmental health. I began investigating the impacts of oil on marine organisms following the Aegean Sea Oil spill in 1992. Since then, as opportunities have arisen, I have carried out research investigating the effects of oil and it's constituent compounds on bivalves, corals, fish and reptiles. Specifically, in the last few years my focus has been on investigating the routes of exposure to and the toxicity of the dispersant Corexit 9500 and dispersed oil on sensitive species, such as corals (REFS 1–9). I was also co-author on the recent 2005 NRC publication on "Oil Spill Dispersants: Efficacy and Effects" (REF 10).

Unfortunate recent events in the Gulf have once again brought to the forefront issues pertaining to the impacts of oil, oil spill dispersants and dispersed oil in our marine and coastal ecosystems. My testimony today will focus on issues relating to the potential impacts and the uncertainties (data gaps) regarding oil spill dispersants and dispersed oil. The three key points I would like to raise today are the following:

1. Limited data is available concerning the toxicity of dispersants and dispersed oil.
   - There are significant data gaps relating to understanding sublethal, delayed and long-term effects, particularly to sensitive species (e.g. corals).
2. Ecosystem-based approaches.
   - Is bioaccumulation of oil in the food web enhanced or decreased with dispersants?
   - Indirect toxicity issues can influence higher trophic level organisms.
3. What and where are the data gaps?
   - What would help reduce the uncertainties in dispersant application decisions?
   - Specifically what are some of the unknowns with the recent oil spill in the Gulf of Mexico.
     - Issues relating to the two drivers of toxicity; concentration and time.
     - New application methods (subsurface rather than surface).
     - Limited toxicity data regarding the less toxic dispersant alternatives.

Overview and Introduction: What are dispersants and why are they used?

When oil is spilled response decisions are quickly made based upon the best available science and on numerous and often continually changing variables. The use of dispersants is an environmental trade-off; the protection of one habitat at the cost of another. In the current Gulf of Mexico oil spill (Deepwater horizon (DWH) leak) dispersants are used to protect the shoreline (and surface) species at the expense of organisms residing in the water column and potentially those in the benthic (seabed) environment.

Dispersants are chemical mixtures containing solvents, surfactants and other additives, (including proprietary chemicals) that are used to facilitate and enhance the break-up with wave energy of the surface oil slick into small oil droplets that disperse into the waters below. They **do not** remove oil from the environment, they simply change the inherent chemical and physical properties of the oil and in doing so alter the oil's transport, fate and potential effects. The small droplets stay suspended in the water column and spread in three dimensions instead of two. The premise behind dispersant use is that this oil movement results in a plume of dispersed oil and dispersants that is quickly reduced to low levels with depth in the Ocean. In addition, this dispersal effectively increases the surface area to volume ratio of oil so that microorganisms that naturally degrade oil can be more effective in doing so.

The Gulf of Mexico contains sensitive coastal habitats, such as wetlands, that serve as nursery grounds to numerous species, including those that migrate long

distances to these breeding areas. Oil coated shorelines not only decimate intertidal food reserves for ourselves (e.g. oysters, crabs, shrimp, fish) and other organisms but will also cripple recreational activities and local economies. Oil, if allowed to come to shore, can remain in those habitats (e.g. in the sediment) for long periods of time continually exposing and impacting local resources for years or decades following the oil spill.

Recently a scientific meeting (May 26–27th) of over 50 experts from government agencies, academia and industry was convened specifically to provide input for the Gulf of Mexico's regional response teams (4 & 6) on the use and effects of dispersant and dispersed oil in going forward with future incident decisions. It was the consensus of the group that "up to this point. . .dispersing oil into the water has generally been less environmentally harmful" (see REF 18). However, concerns were made over the unknowns especially regarding the fate and potential long-term effects (discussed in later sections herein) of dispersants and dispersed oil and their continued long-term use. Therefore, some strong caveats were mentioned; that increased monitoring efforts and continued re-assessments should be made to ascertain that these trade-off decisions are still scientifically sound. I highlight these latter points.

With increased time these trade-off decisions could change given 1) the volume of dispersants used and the footprint (in space and time) of the impacted area in the water-column, 2) sensitive species movement into and out of different habitats (e.g. bluefin tuna and other species spawning in the open Ocean waters), 3) continued and increasing impact of oil onto sensitive shorelines, therefore, reducing the percentage of habitat saved by using dispersants. Of concern is that we do not (and probably never will) know the extent of the harm and loss of organisms in the water column and on the seabed. Mapping of who, what, and where species are in these habitats is limited or in the case of the seabed down at 5000ft, non-existent.

Summary of what is known about the short and long-term effects of dispersants and dispersed oil.

1. Limited data is available concerning the toxicity of dispersants and dispersed oil.

As concluded in both of the NRC dispersant reports (REFS 10, 11) limited toxicological information exists to fully assess the risks to organisms to dispersants and dispersed oil. Although this lack of toxicological data is not unique to oil spill dispersants. It is mirrored by the tens of thousands of chemical contaminants (again often proprietary mixtures) that are also being released into the environment. The majority of toxicity data regarding dispersants and dispersed oil address acute and short-term effects derived from laboratory toxicity tests. There is much more limited data available detailing the potential sublethal or delayed effects of exposure, which could be much more detrimental to a population in the long term. Examples of the major questions that arise are detailed in the following sections:

a) How toxic are the dispersants alone?

Although dispersants themselves would not be released into the environment alone, toxicity tests are required (for human and environmental safety) so that they can be approved for use (i.e. listed on the EPA's National Contingency Plan Product Schedule (NCPPS) table; see REF 12) and included on the products material data safety sheets (MSDS). However, many of the dispersants are proprietary and do not list their chemical components in detail on the MSDS sheets. In addition, toxicity studies are often limited in scope (i.e. they are acute short-term toxicity tests in two standard test organisms). Acute toxicity tests are used to compare toxicity between chemicals and between organisms to identify highly toxic chemicals and sensitive organisms. Results are standardized and presented as the lethal concentration of a chemical that causes death to 50% of the test organisms following a set exposure time (i.e. LC50, 24–96 hours). The **lower** the LC50 level is (i.e. the number), the more toxic the chemical.

With respect to dispersants, toxicity depends upon the specific dispersant under study, the species being tested and also the life stage of the particular species under investigation. Some organisms are much more sensitive to (i.e. affected by) dispersants than others. For example, gulf mysids and copepods (crustaceans), diatoms (algae) and fish larvae are affected at low concentrations of Corexit 9500 (i.e. LC50, 96 hour at the low ppm level). However, other organisms are only affected by 3–10-fold higher concentrations of Corexit 9500. To date the majority of toxicity studies (those listed in the NCPPS table and in the scientific literature; see REF 10) have been focused on the Corexit formulations. Fewer toxicity studies (i.e. less species evaluated) have been carried out for Corexit 9500 compared with the earlier Corexit 9527 formulation. In comparison, to date even more limited and scientifically robust data exists (that is publically available) for any alternative formu-

lations. Some studies have found dispersants to be less toxic compared with oil or dispersed oil in direct comparisons, although some studies report an increased dispersant toxicity compared with oil or dispersed oil (see REF 10).

b) How toxic is dispersed oil?

There is conflicting scientific evidence to date regarding the toxicity of dispersed oil in comparison to oil. The 2005 NRC report addresses this at length (REF 10). For example, some studies have stated that dispersed oil is more toxic than oil, others have shown that the toxicities of dispersed oil and oil are equivalent. The NRC 1989 report concluded that the acute lethal toxicity of chemically dispersed oil is primarily associated not with the dispersant but with the dispersed oil and it's dissolved constituents following dispersal. Some species and life stages are much more sensitive than others, for example, the LC50s for oyster and fish larvae were as low as 3mg/l (i.e. 3ppm) for dispersant alone (Corexit 9527) and 1mg/l (i.e. 1ppm) for dispersed oil (REF 13).

It is inherently difficult to compare dispersed oil with oil and discrepancies can arise simply due to the experimental design of the toxicity tests. Therefore, in the 1990's efforts were made to standardize toxicity tests (i.e. CROSERF and following publications; see discussion in REF 10). Great advances were made at that time, however, there is a dire need to expand this work further to include new additional and complicating issues that will be discussed in the following sections.

Understanding basic toxicity mechanisms and species sensitivity across diverse taxa in laboratory studies aid in the risk assessment of what organisms are potentially those most at risk. During a spill these data can be compared with the predicted dispersed oil concentrations (using computer modeling) or actual oil concentrations measured in the field. There is still a need to fill the serious fundamental scientific data gaps regarding the basic toxicology of dispersants and dispersed oil as highlighted in the NRC reports.

Recently the EPA (directive dated May 10th and addendum 2 on May 20th) requested that BP should use a less toxic dispersant. Given their LC50 guidelines only **four** of the listed products on the EPA NCPPS would meet these toxicity criteria. BP responded to EPA's request within 24 hours (posted on May 22nd) and defended their use of the Corexit formulations stating limited toxicity data, potential long-term effects of some components in some alternative formulations coupled with limited availability in the volumes required for the Gulf spill. Following BP's response the EPA announced (addendum 3 on May 26th) that in addition to requiring that BP reduces it's use of dispersant (by around 75%) particularly at the surface they also stated that they will be carrying out toxicity tests to further evaluate these alternative products.

c). Sublethal, delayed toxicity and potential long-term effects.

As summarized in the recent NRC publications oil and oil spill dispersants can cause many effects, including death and a variety of sublethal impacts including reduced growth, reproduction, cardiac dysfunction, immune system suppression, metabolic and bioenergetic effects, developmental deformities, carcinogenic, mutagenic, teratogenic effects and alterations in behavior (REFS 10, 11). These more subtle endpoints than death can none-the-less have huge consequences for populations. Additionally, delayed effects may occur which are hard to track and follow following an oil spill event unless monitoring programs span years after the spill event. Even then these monitoring programs may come too late i.e. if baseline monitoring before the spill was not carried out it is impossible to fully assess the final extent of damage. Some aquatic species are more sensitive than others to dispersants and/or dispersed oil. Therefore, making trade-off decisions between species is difficult if toxicity data is not available for those or closely related species. Additionally, it has been shown that it is the early life stages of organisms, e.g. eggs and larvae that are more sensitive to chemicals and are at particular risk. This is especially of concern given that these life stages often inhabit surface waters, especially as is the case for the Gulf of Mexico now given that this is the spawning and reproductive period for many species.

i) Water column organisms: Organisms resident in the water column are those at risk following dispersant application. A dispersed oil plume contains high levels of dispersant, dissolved oil and oil droplets meters down into the water column. It is in these surface waters that many organisms are concentrated in. This includes phytoplankton (algae) and zooplankton (small invertebrates or larvae of fish and other organisms); essential components at the base of the food web that organisms (including shoreline species) rely upon.

Other organisms at risk include fish, reptiles and marine mammals. A dispersed plume is not static. Like a surface slick it will move with the wind and ocean cur-

rents. In some cases the larger organisms (large fish, reptiles and mammals) having detected a harmful substance may be able to move away and avoid the plume if their sensory systems and behavioral mechanisms have not already been impacted by the oil plume. This is not the case for the smaller organisms. They will more than likely move with the plume increasing their duration of exposure to the toxicants. Dispersed oil may affect these water column organisms in a number (or combinations) of ways:

1) direct toxicity through exposure to the dissolved oil components and/or dispersant.
2) ingestion of oil particles and hence bioaccumulation of oil components.
3) coating of external surfaces (e.g. gills/skin) by oil droplets potentially enhancing oil uptake (dissolution) across surfaces or simply physical effects reducing respiration leading to eventual smothering and death.

Recent studies demonstrating sublethal effects and new toxic pathways suggest that the full impact of exposure to dispersed oil may be underestimated and further studies are required to investigate this in detail. For example, in translucent organisms (e.g. fish larvae) the toxicity of accumulated oil can be 12–50,000 times underestimated because the traditional toxicity tests were not carried out under conditions of natural sunlight (REF 14, REF 10). This phenomenon called 'photoenhanced toxicity' may be critical in determining the effects of dispersed oil in surface dwelling (e.g. translucent pelagic larvae) and shallow water translucent organisms (including corals).

Studies have also shown that dispersants may facilitate the uptake and potentially the bioaccumulation of oil constituents in organisms from ingestion routes (e.g. see REF 15) or by oil droplets sticking to biological surfaces (e.g. fish gills; see REF 16) and facilitating the dissolution of oil components (dissolved polycyclic aromatic hydrocarbons (PAHs)) into tissues. However, dispersed oil has also been shown to be less 'sticky' and does not interact with biological surfaces or sediment (see discussions in REF 10). These issues relating to the fate (i.e. where the oil ends up) are important to know for a full risk assessment on the impact of dispersants. As with photoenhanced toxicity any enhanced bioaccumulation routes would increase the 'footprint' of the potential effects of dispersed oil and further studies are required to address these data gaps and uncertainties in predicting the fate and effects of dispersed oil.

ii) Benthic/Intertidal organisms (e.g. oysters, mussels and crabs): In a deep open ocean spill benthic organisms are usually at minimal risk of exposure and the direct effects of surface dispersed oil. Although they still could be indirectly affected by the oil spill if their food source is impacted. However, if the dispersed plume comes towards shallower coastal locations then intertidal and benthic organisms will be exposed. Suspension (filter) feeders, such as oysters and mussels, will bioaccumulate oil droplets in addition to the dissolved oil components. Dispersed oil droplets generally range in size from <3 to 80μm. These sizes overlap with the preferred size range of food for many suspension-feeding organisms, including zooplankton (see later). Oysters and amphipods can select these particles, as they are similar in size to the phytoplankton they feed upon.

The importance of this oil droplet (or particle bound oil PAH) exposure route was highlighted in studies flowing the New Carissa Oil spill near Coos Bay, Oregon. Mussels (suspension feeders) contained much higher levels of oil constituents (PAHs; 500 times more) than crabs (an omnivore) collected from the same area (REF 17). Chemical (PAH) profiles also highlighted that the mussels had accumulated the PAHs both from the dissolved oil constituents in the water and from oil droplets whereas crabs had only accumulated them from the dissolved phase. These data are very important as current computer models designed to predict the effects of an oil spill do not take into account exposure routes other than the dissolved components. This research has implications for the effects of a dispersed oil plume on coastal fisheries and highlights the importance in understanding the routes of exposure of oil to species and in determining the levels of oil constituents in each of these phases for a better understanding of risk.

Of additional relevance for the DWH oil leak is the novel use of dispersants at the subsurface. This type of application has never been done before and the impacts are unknown.

iii) Corals: In the last few years my research group has investigated the toxicity of dispersants and dispersed oil on corals. Laboratory experiments were conducted to investigate the acute, sublethal and delayed effects of dispersant and dispersed oil (Corexit 9500 and weathered Arabian light crude oil, 1:25 ratio). In summary, soft corals died in environmentally relevant concentrations of dispersant (LC50 8 hours 30ppm; LC50 96 hours <16.5ppm). Sublethal behavioral effects (narcotic response resulting in the cessation of coral pulsing) were observed within hours at low

(10ppm) exposures. In attempting to mimic a dispersed oil plume moving through a reef corals were exposed for 8 hours to dispersant alone (at 20ppm i.e. the dose used for the 1:25 (v/v) dispersant:oil ratio), dispersed oil (dissolved PAHs and oil/dispersant droplets and dispersant) and undispersed oil (i.e. dissolved PAHs under an oil slick) using an oil loading of 0.5g l^1 oil:water (1:2000 w/v). After exposure corals were placed in clean seawater to follow potential delayed effects and sub-lethal repercussions. Thirty-two days after exposure coral growth was significantly reduced in the chemically dispersed oil and dispersant exposures and delayed effects (further death in the dispersed oil treatments) were observed. The cnidarians accumulated oil (PAHs) in their tissues derived from both the dissolved oil components and the oil droplets. This highlights that to fully assess and understand the risks involved from dispersed oil consideration must be given to the exposure route of the oil for a particular species rather than simply the total amount of oil.

2. Food web effects.

As mentioned in previous sections the upper layers of the water column are teeming with phytoplankton and zooplankton that are critical components of the food chain. All complex food webs, including those for shoreline/coastal species contain these organisms at their base. If these organisms are removed then higher trophic level organisms simply will not have food to eat and will ultimately suffer reduced growth, reproductive output and eventually death. Therefore, dispersants and dispersed oil do not have to directly affect an organism for them to have serious repercussions. This is called indirect toxicity, whereby the contaminant impacts organisms that another organism needs for food.

These lower food chain organisms can also accumulate oil (either inside them or stuck on the outside of their bodies) so that organisms feeding on them become, and often to much higher levels, contaminated with oil. Suspension feeding organisms, like zooplankton (e.g. copepods), which are extremely important food sources at the lower end of food webs, have been found to feed on dispersed oil particles (size range 5–60μm). This has effects on those organisms; organisms higher up the trophic level that feed on them and ultimately may poses severe food safety issues for humans (contaminated seafood etc). Information related to the trophic transfer of contaminants is relevant to fully understand and evaluate the risks of oil exposure. Models currently based on dissolved oil levels can significantly underestimate oil exposure.

3. In summary what we still don't know (data gaps and uncertainties).

In addition to those highlighted in the previous sections there are still many unanswered questions that we need to know to fully assess the risks involved with dispersants and dispersed oil. These were highlighted in the 2005 NRC report (REF 10). Although the 2005 NRC study was specifically tasked to address the potential risks of dispersant use in near-shore environments many of the conclusions of the report are valid in open-ocean spills, such as the DWH leak. Many questions and data gaps needed for improved risk analyses and ultimately effective oil spill responses were highlighted. Some basic concepts and issues regarding dispersed oil fate and effects simply lacked adequate research. In addition other areas of study require increased research efforts, as conflicting data currently exists.

The many questions and issues that we have limited data for include the following;

1. What is the fate of dispersants and dispersed oil (i.e. where will they end up, in what form, how biodegradable are they and what are the break-down products? Are the break-down products more or less toxic?
2. What are the potential-long term effects of dispersant and dispersed oil, even after a brief exposure, to aquatic organisms? What are the sublethal effects? Will there be delayed effects?
3. There are limited studies on sensitive at risk organisms (e.g. corals).
4. Does dispersed oil reduce or enhance uptake/bioavailability of oil to organisms?
5. Does photoenhanced toxicity increase the 'footprint' of effects?
6. Does dispersed oil reduce or enhance microbial degradation? If enhanced will this bacterial 'bloom' result in an increased dead zone in the water (i.e. increased footprint in hypoxic zones or just a significant reduction in water oxygen levels)?
7. Is dispersed oil less 'sticky' to biological surfaces and sediment?
8. What are the routes of exposure to organisms to dispersed oil? Is it dissolved PAHs or the oil droplets, or both.
9. How will the food web be impacted? Issues relating to trophic transfer and species loss.

10. What are the new risks with subsea application? Is the oil readily biodegradable? Will it cause more damage than allowing the oil components to disperse into the air, weather and degrade by abiotic and biotic surface processes?

Unfortunately many of these questions are unanswered given the very limited opportunities available to carry out research in these areas. Some of the research recommendations made in the 1989 NRC report (REF 11) were once again highlighted in the 2005 NRC report (REF 10) as these research questions had not been undertaken during those 16 years. Since the 2005 NRC report some limited progress has been made in addressing the data gaps outlined.

As stated before oil spill responders base their decisions on the sound scientific data that is available to them regarding species that would be at higher risk than others from the impact of oil or dispersed oil. The NRC report (2005) highlighted that some of the very basic assumptions made concerning the use of dispersants have still not been adequately investigated, despite being highlighted in the earlier 1989 NRC report (REF 11). For example, one main argument for using dispersants is that they enhance microbial degradation of the oil. Conflicting data exists regarding this assumption. Some studies have shown that dispersants are toxic to some bacteria and that biodegradation is reduced in chemically dispersed oil exposures. Other studies have shown enhanced biodegradation and increased numbers (blooms) of bacteria. The question is if blooms occur will this have a significant impact on dissolved oxygen levels in the water (i.e. likened to nutrient enrichment and eutrophication)?

Additional Specific issues regarding the Gulf Oil spill.

The unfortunate recent events in the Gulf have once again raised many of the issues discussed above regarding the fate and effects of dispersants and dispersed oil in addition to adding further questions regarding the novel use of undersea dispersant application. As many have asked in the past weeks, potentially what will the environmental consequences be of the dispersant application, what will be affected, to what extent and how? This is impossible to predict for many reasons.

As mentioned earlier open ocean spills are pre-approved for dispersant application given the minimal perceived risks to the ocean and the seafloor based upon the depth and volume of water available to dilute the dispersed oil. However, this spill is unique and a first for many reasons opening up many questions regarding the decision to use dispersants and what their potential effects may be. First, the sheer volume of dispersants applied is unprecedented; no spill in U.S. waters has used the amount of chemical dispersants that have currently been released (nearly 1 million gallons as of June 6th, 2010). Although it should be noted that the IXTOC spill (1979; see REF 19) in the Gulf of Mexico used a total of 2.5 million gallons of dispersant (not in U.S. waters), two-thirds of which were Corexit 9527. As in the IXTOC spill dispersants are usually only applied to surface slicks. In the DWH leak dispersants are also being applied at the leak site. The question is how will this dispersed oil impact the benthic (seafloor) environment?

The surface oil slick is easily viewed via satellite but what about the sub-surface plume(s)? In toxicology it is the concentration of and the duration of exposure to a toxicant that determines its effect. Therefore, we need to know where the plume is, at what concentration, for how long and what species are present. Various agencies, oil spill responders and independent scientists are running models trying to predict the oil plumes concentration and trajectory. Additionally some measurements of oil concentrations/particle sizes are being taken at depths in the Ocean around the spill site. Only in knowing the size of this plume in three dimensions, the concentration of the dispersed oil in the plume at these locations and the duration of exposure in one area, will predictions be able to be made of the potential effect. Indeed increased monitoring of subsurface plumes was a recommendation from the recent dispersant meeting (REF 18). Unlike with oil impacts along the coast and shoreline, it is very difficult to see the actual effects of the dispersed oil in the Ocean. Organisms, that die will fall to the seafloor. Those that do not die may not show sublethal repercussions for a while. Declining populations of a water column species may occur and shoreline species may become severely limited in their food sources in addition to being faced with a contaminated food source.

With the increasing volume of oil and dispersants entering the system for extended periods of time there may be, at some time, a point reached in which the harm to the water column organisms (and now potentially benthic organisms) does not outweigh the harm to the shoreline. This may be particularly relevant if shorelines are increasingly being impacted by the oil. Therefore, these original trade-off decisions will become less clear. These dispersants are approved for use in the open ocean, although there is no limitation as to how much and for how long they can be used. How long can the 'solution to pollution' reasoning hold? Furthermore, with

the continued production of dispersed oil plumes from the surface and from the ocean floor will the dispersed oil plume reach the shallower, coastal locations that the decision to use dispersants has been based on? It is quite possible that a dispersed oil plume may reach and impact a shoreline.

In summary

Chairman Bordallo and members of the subcommittee I would like to thank you again for allowing me to testify today regarding the effects of oil spill dispersants. We face huge challenges to protect our coastal and oceanic ecosystems. As in the case of oil spills this sometimes involves making difficult trade-off decisions on what ecosystem to protect at the expense of another. However, pollution cannot simply be treated as 'out of sight out of mind' or that 'the solution to pollution is dilution'. These assumptions need careful analyses on a continued basis that depend upon sound scientific data. The proprietary components in dispersants should be made available to researchers and further toxicity testing of dispersants is required especially if considering alternate formulations. Although many decisions are based upon acute short-term toxicity studies we are constantly unraveling new and more subtle sublethal toxicological pathways and toxicity mechanisms. These sublethal impacts ultimately have dire consequences to a species survival, consequences of which alter the fine balance of food webs, alter ecosystem services, and the overall health of the environment. During an oil spill event it is hard to assess the effects on the organisms that you do not see and equally challenging to follow the potential long-term consequences of the spill. More respect needs to be given to efforts directed at baseline monitoring and mapping of our Oceans and seafloor ecosystems. We cannot assess impacts or follow restoration efforts unless we know what species were there beforehand. We need to monitor the subsurface plume(s) in space and time.

There are still many unanswered questions and uncertainties associated with the decisions to apply dispersants. I emphasize the recommendations for additional studies made in the recent NRC report that will help fill these critical data gaps in the knowledge and understanding of the behavior and interaction of dispersed oil on the biotic components of ecosystems (see REF 10). Whatever choices are made this unfortunate recent event in the Gulf will impact ecosystem health, local economies, food sources and recreational activities, the extent to which is currently unknown. We need better information to close these uncertainty gaps that oil spill response decisions are based upon and we need it now. Thank you.

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[NOTE: Dr. Mitchelmore's responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. Thank you very much, Dr. Mitchelmore, for making these important points about the impacts of this situation.

Mr. Cresson, we will hear from you next.

Mr. VOISIN. Thank you.

Female VOICE. Mr. Voisin. I am sorry.

Mr. VOISIN. Thank you. I am Mike Voisin.

Ms. BORDALLO. Oh, I am sorry.

Mr. VOISIN. That is OK, Madam Chair. Nobody can pronounce my name.

Ms. BORDALLO. Voisin. Voisin.

Mr. VOISIN. Voisin.

Ms. BORDALLO. Correct.

Mr. VOISIN. It means neighbor in French.

STATEMENT OF MIKE VOISIN, CEO, MOTIVATIT SEAFOODS, HOUMA, LOUISIANA

Mr. VOISIN. Thank you for the opportunity to speak to you today and the Committee about the impacts of the *Deepwater Horizon* oil spill in the Gulf of Mexico. I am a seventh generation seafood and oyster farmer and processor in the Gulf of Mexico.

Charles Darwin said a long time ago that it is not the strong that survive. It is not the most intelligent, but those that adapt to change. In south Louisiana we are used to adapting to change. Sometimes it comes rapidly at us. Sometimes it takes time.

The spill is clearly an ecological and human challenge that will surely affect not only the fragile habitats where fisheries, including shrimp and oysters, are harvested, but the very core of the community that brings these iconic delicacies from the waters of the Gulf to the tables of America.

The Gulf community is one built not only on the bounty of pure waters, but on the backs of small businessmen and women whose families, like mine, immigrated to the shores of Louisiana, called by the sea and a culture like no other in this country. The culture and those Americans, we now need your support during these challenging times.

Fishermen, shrimpers, oystermen who harvest safe, healthy seafood from the Gulf are being impacted by precautionary closures of state and Federal waters along parts of the coast like no other else in the region. We support the precautionary closures in order to ensure consumers continue to have access to seafood maintained with a level of quality and safety expected from the Gulf, but the impact of these needed safety precautions falls disproportionately on the men and women who work the waterways.

The short- and long-term impacts of the spill are being felt and will be felt for a considerable amount of time in Gulf Coast communities. Short-term, besides the environmental and resource challenges, there are lost incomes and insecurities about the future ability to earn an honest living.

Longer term is difficult to prognosticate at this time, since the event continues and the economic and human challenges are not yet close to being complete and understood. In my written testimony I have lists of what I consider the short- and long-term impacts.

There needs to be a continued long-term commitment by the Federal Government, the Gulf states and, most importantly, the responsible party to mitigate the damages and return our communities to what they were prior to these challenging times.

In 2008, our 17,000 commercial fishermen in Louisiana alone harvested 1.27 billion pounds of seafood, creating a total economic impact of over $2.4 billion. Meanwhile, 3.2 million recreational fishermen along our shores took to the waters, completing a total of 24 million fishing trips.

The reality of the potential economic impact of the oil spill on species like oysters may be extensive. The Gulf of Mexico states lead the Nation in the production of oysters. My home, Louisiana, is the second largest seafood producing state in the country, and the impact of the spill on our fisheries and our businesses are sure to range from immediate to long term, as I have previously discussed.

But just how much of an impact it will have can't be determined yet. We are not just talking about multiple habitats and multiple species like crabs, shrimp and oysters and finfish. We are talking about multiple communities—St. Bernard, Plaquemines,

Terrebonne, Jefferson, Vermillion, St. Mary, Iberia and Lafourche Parishes—as well as all the Gulf states.

One of the challenges we are also faced with is this moratorium on oil and gas exploration in the offshore. That is the second, a greater tragedy in my mind that what is happening almost with the oil spill. The oil spill is a tragedy and it is an economic challenge, but the moratorium being put on will be the potential death knell to these communities. We must have that moratorium lifted so that these communities can viably move forward and continue to have an economic base.

In leaving I will share with you a quote from Raúl Armesto, and it says, "The world isn't interested in the storms you encountered, but whether or not you brought in the ship." I will share with you that we will bring that ship in. We have had many storms in the last five years, and we will work through this challenge and we will bring the ship in.

I must apologize. I have to leave to catch a plane. We have to meet with some Cabinet Members in New Orleans tonight, having dinner and some meetings, so I would be glad for a couple minutes if you have any questions of me. I will be glad to answer them. If not, I really have to leave to catch that plane. Thank you.

[The prepared statement of Mr. Voisin follows:]

Statement of Michael C. Voisin, Motivatit Seafood's LLC, Gulf Oyster Industry Council, Houma, Louisiana

Good morning, Thank You for the opportunity to speak to the Committee today about the impact of the *Deepwater Horizon* oil spill in the Gulf of Mexico.

The spill is clearly an ecological and human challenge that will surely effect not only the fragile habitats where fisheries, including shrimp and oysters are harvested but the very core of the community that brings these iconic delicacies from the waters of the Gulf to the tables of America. The Gulf community is one built not only on the bounty of pure waters but on the backs of small business men and women whose families, like mine, emigrated to the shores of Louisiana; called by the sea and a culture like no other in this country.

That culture and those Americans need your support during these challenging times. Fishermen, shrimpers and oystermen who harvest safe healthy seafood from the Gulf are being impacted by precautionary closures of State and Federal waters along parts of the coast like no one else in the region. We support the precautionary closures in order to ensure consumers continue to have access to seafood maintained with the level of quality and safety expected from the Gulf but the impact of these needed safety precautions fall disproportionately on the men and women who work the water.

The short and long-term impacts of this spill are being felt and will be felt for a considerable amount of time in Gulf Coast Communities. Short term, besides the environmental and resource challenges there are lost incomes and insecurities about the future ability to earn an honest living. Longer term is difficult to prognosticate at this time since the event continues and the economic and human challenges are not yet close to being complete and understood. I have listed below a number of thoughts relating to both short and long term challenges.

There needs to be a continued long term commitment by the Federal government, the Gulf Coast States and most importantly the responsible party to mitigate the damages and return our communities to what they were prior to these challenging events.

In 2008, our 17,000 commercial fishermen in Louisiana alone harvested 1.27 billion pounds of seafood, creating a total economic impact of over $2.4 billion. Meanwhile, 3.2 million recreational fishermen along our shores took to the water completing a total of 24 million fishing trips.

The reality of the potential economic impact of the oil spill on species like oysters could be extensive. The Gulf of Mexico States lead the nation in the production of oysters; nearly 70% of all the oysters harvested in this country or some 500 million pounds of in-shell oysters are produced annually with an annual total economic im-

pact of over $600 million. That's more than 250 million pounds of in-shell oysters from Louisiana alone.

My home, Louisiana, is the second largest seafood producing state in the country and the impact of the spill on our fisheries and our business are sure to range from immediate to long term as I have previously discussed. But just how much of an impact it will have can't be determined at this point because there's never been an oil spill of this magnitude in the Gulf and unfortunately, at last check, the oil continues to flow.

We're not just talking about multiple habitats, multiple species—crabs, shrimp, oysters, fin fish—we're talking about multiple communities and multiple livelihoods St. Bernard, Plaquemines, Terrebonne, Jefferson, Vermillion, St. Mary, Iberia and Lafourche Parishes as well as all of the Gulf States.

Thank you for doing your part to focus on the impact this disaster is having on another irreplaceable resource we pride our selves on in the Gulf. . .the Seafood Community.

I will be glad to answer any questions you may have.

Potential Short and Long Term Impacts;

1) The short and long-term impacts of this oil spill on the local community—Workers are starting to lose their jobs, they'll stop spending as freely in the community, homes sales are going to suffer (as well as sales tax revenue). . .this is going to ripple through the entire community as the fishing community idles, layoffs continue (they're already starting). Government services budgets will tighten, potentially long term, we may be looking at a loss of population as people look for work in other areas or move in with family members in other communities and states

- Short term
  - Extreme stress of the presence of liquid hydro carbons introduced to the fisheries and wild life habitat areas causing potential casualties in some species
  - Greater demands placed on community services that include but are not limited to rental assistance, utility assistance, food stamps, and unemployment benefits.
  - Loss of wetlands—direct damage and further destruction of the wetlands increases flooding risks from hurricanes
  - Loss of Jobs
    - Fisheries—not able to fish because of closure of fishing areas, oyster leases and shortened season. Erratic seasonal openings and closings driving up fuel and provision costs. Support business closing because of a lack of inventory (processors), lack of customers (docks and ice houses)—and lack of market (concern about contamination). The traditional transition industry that those working in the fisheries depend up to survive difficult time is the oil field service industry
    - Oilfield service—Current Moratorium on drilling will force drilling operation to other countries causing significant layoffs starting immediately and lasting for potentially up to 5 years
    - Commercial retail—Small grocery stores, marine mechanics and dock service companies in the lower areas of the States that service the fishing community will be hard hit. Local restaurants that depend on an abundance of local, available seafood will be challenged.
    - Recreation and leisure—Multiple bookings have been canceled by those seeking recreational fishing among the charter companies. Bird watching, swamp tours and recreational boating will be negatively impacted.
    - Banking—Many of the local and regional banks may be at risk because of limited portfolios to the region.
  - Loss of cultural livelihoods
    - subsistence fishermen and hunters no longer able to live off of the land—many Native American and/or some Vietnamese
- Long term
  - Review and reevaluation of Census data—our census data has been mostly collected but will not reflect the short or long term damages to the community that will include the sudden loss of income and rise of unemployment. Ineligibility relating to federal assistance and support funds will further hamper and impede community outreach, infrastructure rebuilding and economic development programs availability.
  - Loss of large capital equipment to other countries with the oilfield service companies

- Loss of tax revenue
- Loss of population seeking work
- Loss of business infrastructure
- Loss of local lending capacity

2) The need for prolonged commitment by the Federal government, the States, and the responsible party to mitigate damages. The Responsible Party needs to be responsive to the individuals, communities and businesses its actions are impacting and in a timely manner. Allowing for an extended reviews process (two to three weeks for some) for claims to be processed is unreasonable when it means the business may close. The States must be nimble in their response and support of business' needs—we cannot wait 18 months (or longer) to implement programs to assist in this disaster.

British Petroleum role and responsibility—Fund the cleanup and restoration of our environment. Take the initiative in the areas that their expertise is unique or proprietary.

- Federal role and responsibility—Oversee and insure delivery of goods, services, technical assistance, enforcement of law, restitution and replacement to extent the damages warrant. Insure the delivery system for a plan of recovery.
- State role and responsibility—Insure continuity and relevance of requests for reimbursement of damages made. Estimate the total potential loss and develop a plan in conjunction with local officials to insure as rapid a recovery as possible
- Local role and responsibility—make relevant claims. Work with the States to develop a broader strategy to recovery. Inform the Federal Agencies of issues not being resolved. Make known to all three the impacts of their actions and any unintended consequences thereof.

3) The sufficiency of community outreach to disseminate information to and receive information from the public about the environmental impacts of this oil spill

- Environment impact
  - Assess and monitor fisheries to reassure the safety of domestic product
  - Resonation of the wetlands to insure the stability of the marsh, for all species rebound, protect the citizenry from hurricane
  - Transparence is critical to regain the trust of the citizenry
- Economic development
  - Local economic development organizations and planning and development districts need to be coordinated
  - Unintended consequences developing because of lack of coordination and inclusion are further damaging the economic environment of the community
- Workforce development
  - Work with local economic development, community colleges and workforce investment boards to develop strategies to bridge the unemployment gaps.

[NOTE: Mr. Voisin's responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. Thank you, Mr. Voisin. Voisin. Is that correct?

Mr. VOISIN. Voisin.

Ms. BORDALLO. Voisin.

Mr. VOISIN. Voisin.

Ms. BORDALLO. All right. Thank you for sharing your concerns, and if you do leave, we understand.

I have one more person I would like to call upon for this second panel. I am doing this to accommodate our Ranking Member, Mr. Cassidy, since he is one of his constituents.

So I would like to call on Mr. Cresson, Executive Director and CEO of the Coastal Conservation Association Louisiana. Could you please come up and take a seat at the table with the second panel? All right. And please proceed with your testimony.

STATEMENT OF DAVID CRESSON, EXECUTIVE DIRECTOR AND CEO, COASTAL CONSERVATION ASSOCIATION LOUISIANA; BATON ROUGE, LOUISIANA

Mr. CRESSON. Yes, ma'am. Thank you. Madam Chairman, thank you for calling on me to testify today. My name is David Cresson. I am the Executive Director of the Coastal Conservation Association of Louisiana.

Our Louisiana chapter of CCA has more than 15,000 members and volunteers. Our national organization has about 100,000 in 17 coastal states. We are involved in a number of conservation projects, including building artificial reefs across our coast that contribute to restoration efforts and create fish habitats for species that are targeted by anglers.

Serving as executive director of CCA Louisiana is my job, but it is much more than that to me. I am a Louisiana native who was brought up fishing, hunting and enjoying the Louisiana outdoors. Many of my fondest memories growing up in New Orleans are the times spent on the water with my dad, trying to catch trout and redfish.

I grew up dreaming of the day that I could own my own boat and fishing camp, so that I could treat my own children to those same wonderful times. A few years ago I was able to purchase a fishing boat and later a modest camp in Plaquemines Parish near the mouth of the river. Until the oil spill, my family and I spent many of our weekends at our little camp, fishing and enjoying the time together.

In an instant, that has been taken from us. Now the area around our camp is saturated by oil and closed to fishing so that what we have now is a boat we can't use and a camp we can't use. An important part of our family activities have been taken from us. Now, if my situation were an isolated one, there wouldn't be much to discuss. The problem is that my situation is one of thousands like it across our state.

Recreational fishing is much more than an occasional trip to the coast. You will see in my written testimony that an extended Gulf-wide recreational closure will cost us billions of dollars and thousands of jobs. These are friends and families who have built lives over decades that are being destroyed as the oil overtakes our coast. We simply don't know if the many small businesses that rely on recreational fishermen using their services will survive.

Studies will be required to learn the harm that the oil has inflicted on marine life. Programs will be needed to reverse that damage. CCA will be a partner in conducting these studies, and we will be involved in the rebuilding effort.

Moving forward, CCA believes there are two areas that must be addressed in the fisheries recovery—new artificial reefs and a large fish hatchery. Over the years, CCA has been active in coordinating construction of numerous artificial reefs along our coast. These reefs serve as habitats for all sorts of marine life, including the species targeted most by our anglers.

Our reef projects stretch from the eastern coast to the western coast of Louisiana, and as part of the rebuilding effort, we propose that many new artificial reefs using recycled, safe materials be constructed across our coast to attract the type of marine life that is

being killed or chased away by the oil spill. The project would cost an estimated $20 million.

Along with our Wildlife and Fisheries Department, we also propose building a state-of-the-art fish hatchery in Louisiana. Before the spill, Louisiana's estuaries were some of the richest in the world, meaning there was no need for a hatchery system to supplement fish populations. There is no question that the spill will have an effect on our current fish populations, but an even greater effect on the next several years of species recruitment.

Very simply, oily water cannot support fish spawning. Our fish population and, therefore, our economy will be devastated without a hatchery to supplement the process. The project will cost between $50 and $75 million to complete, but that is a drop in the bucket when you consider what is at stake. We need our friends in the Federal Government to support this project.

Madam Chair and Members of the Subcommittee, CCA's reason for existing is to conserve our marine resources. Never in our history have we encountered a manmade disaster such as this, a disaster we anticipate will wreak more damage on our fish resources than any hurricane ever has.

Facing adversity is nothing new to the people of Louisiana. Over the years, we have been devastated by hurricanes, floods and other disasters. Our people have the spirit and the stamina to overcome, but clearly this is not a battle we can win alone. We will need the great resources of the Federal Government and that of the parties responsible for this disaster to help us.

In closing, I have a personal friend who was killed in the explosion on the *Deepwater Horizon*, a young man whose wife was expecting their second child just days after the accident. I attended his funeral and mourned with his family, still shocked at the unthinkable loss.

Over the past several weeks, I have visited the once vibrant marsh and picked up handfuls of thick, sludge-like oil. I have looked into the eyes of fishermen and small businessmen who have a lifetime invested in our coast. I have seen tears in grown men's eyes as they talk about closing their doors. I have seen the disappointment in my own children when I tell them I don't know when we can fish again.

On behalf of CCA, my family and the hundreds of thousands of Louisianans who have made a life on our coast, we need you to help provide the resources that will make it possible for us to one day resume our lives as we once knew them. I thank you for your time.

[The prepared statement of Mr. Cresson follows:]

Statement of David Cresson, Executive Director,
Coastal Conservation Association Louisiana

Good morning Madame Chairwoman. My name is David Cresson, and I am the executive director of the Coastal Conservation Association of Louisiana. I am a native Louisianian and a recreational fisherman. I would like to thank you for this opportunity to address the Committee as it discusses the long and short term impacts of the *Deepwater Horizon* Oil Spill.

CCA was created 33 years ago by recreational anglers who were frustrated by the damage being done to marine resources in the Gulf of Mexico from rampant commercial overfishing. Although today CCA has about 100,000 members in 17 state chapters along the Gulf, Atlantic and Pacific coasts, it all began with just 14 men

and women who saw a need to combat commercial fishing excesses and conserve the resources that they cherished. Their spirit of conservation and stewardship started with the "Save the Redfish" campaign and soon swept across the entire Gulf Coast. By 1985, Gulf-state chapters had formed from Texas to Florida. By decade's end, state chapters were founded through the mid-Atlantic region, and by the early '90s, development of the New England state chapters was completed. In 2007, Washington and Oregon opened CCA chapters.

CCA has been active in virtually every national marine fisheries debate since 1984 and has participated productively in state and federal fisheries management issues for longer than three decades. CCA continues to operate as a three-tiered organization, affecting issues on the local, state and national levels. We have built a very successful model for marine conservation, one in which our members are tied directly to the resources they cherish through stewardship and conservation programs. Our members have fully embraced their role as stewards of the marine environment.

CCA Louisiana had more than 15,000 members before April 20, 2010, when the *Deepwater Horizon* rig exploded and sank 50 miles off our coast. Those members have played an important role in securing Louisiana's title as the Sportsman's Paradise. They have been engaged in countless programs and projects to secure the future of our cherished marine resources.

Before the oil spill, CCA Louisiana was celebrating its 25th anniversary. Our membership was at an all-time high. We were celebrating things like the inauguration of a CCA scholarship in marine sciences and a significant increase in youth participation in our STAR tournament. We were celebrating the growth of our artificial reef program through which we have spent millions of dollars over the years to build and restore marine habitat. We were celebrating our highly successful derelict crab trap removal program, a new youth education program, and the growth of our scientific fish tagging program. We were celebrating the successful removal of indiscriminate and destructive fishing gear from state waters. We were celebrating the signing of a Presidential executive order making red drum a game fish in federal waters. We were celebrating the dedication of our brand new state headquarters in Baton Rouge.

We were celebrating the thousands of ways sportsmen and sportswomen have shown their commitment to protecting and conserving the unique marine environment that is a way of life for us in Louisiana.

I am here today to tell you that the celebration is over. I am here to tell you that many of our members believe that all that work and effort and sacrifice is in mortal jeopardy. Many of our members believe that the future they were working so hard to secure, a future in which their kids and grandkids would have the same opportunity to enjoy coastal Louisiana in the same ways that they did, is threatened. Many of our members believe that the danger that faces not just Louisiana, but all of the Gulf States is beyond their ability to control, impact or influence. And they are scared. Scared and angry.

There have not been many challenges in the past 25 years that the members of CCA Louisiana have not met head on, with their eyes clearly on the horizon. What I see now is a remarkably committed group of people who, for the moment at least, simply don't know where to even begin. The challenge before us is playing out on such a scale that not even the men and women of CCA Louisiana, the same ones who have beaten the odds time and again in their efforts to protect their marsh, their coast, their Gulf and their fish, can find a way to answer it.

I have no doubt that we will find a way to reverse this disaster. I am confident that these darkest of days will be beaten back by the people of Louisiana through the same types of projects that have defined CCA since the beginning. We will rebuild reef by reef, acre by acre, fish by fish. When the leak is plugged and the last camera is turned off, when the rest of the world is no longer focused on the Gulf of Mexico, we will still be here, as we always have been, ready to do what needs to be done to restore the heart and soul of Louisiana. And that will be enough. It will be enough because it HAS to be enough. Because many of us are convinced that when hearings like these have come to an end, there will still be much work to be done. Most of that work will be done under a hot sun, by small groups of people, struggling in the mud and muck, to rebuild by our hands what was destroyed by others. That work will be done out of the spotlight, away from the microphones, out of sight and out of mind of the vast majority of people watching now.

And that will be OK. If I may be so bold as to speak on behalf of the people of Louisiana, we have been here before.

I am glad to have this opportunity before you today not to cast blame or come with hand outstretched. I am glad to have this opportunity today to tell you about groups like CCA, groups that will not just go away when the going gets tough. I

am glad to be here today to tell you of the men and women who are going to suffer from a terrible mistake not of their own making, and who are going to find the will not only to survive, but also ensure the survival of the things they hold dear. It is often when we have lost faith in the things of man that we turn to the things of nature to restore our faith in ourselves. I believe it will be that way in Louisiana.

It will not be easy, though. The connection that our members feel to the marine life of the marsh and of the open Gulf is at a tenuous point. There is a very real danger that, having been cut off from the Gulf of Mexico, having watched the marsh die around them, some people may find it difficult or impossible to return. We hope that is not the case, but no one should underestimate the psychological and financial impacts a slow-motion, unstoppable disaster like this can have on a region. Especially one that is tied so intrinsically to the marsh.

I have a camp in Buras, Louisiana—near the mouth of the Mississippi River in Plaquemines Parish—that is a refuge for me and my family. It is our gathering place, it is the place where I hoped to craft a lifetime of memories for my kids, just as my father and I cemented our relationship in the outdoors hunting and fishing. What will become of that camp if the environment around it is poisoned? What will become of the businesses that depend on people like me going to their camps, going fishing, buying fuel for their boats and trucks, eating out at local restaurants, visiting local bait shops and tackle shops? When the marsh dies, the economy that is built around it will inevitably die as well, and that is as great a threat to our way of life as the oil itself.

The oil spill has resulted in some of the largest fishery closures in history of the Gulf of Mexico, closures that impact both the anglers, tournaments and the businesses that rely on angler expenditures. While much of the focus both in the media and in this Administration has been on the impacts to commercial fishing operations, the damage done to the recreational sector by this disaster must be addressed as well. It may very well be larger in economic terms.

According to a recent economic impact study conducted by Gentner Consulting Group for the American Sportfishing Association, if the entire Gulf were closed to recreational fishing from May through August, the region would lose $1.1 billion in revenue, which supports $2.5 billion in total sales, $1.3 billion in value added, $811.1 million in income and 18,785 jobs. These are not small numbers. That's $8.6 million in expenditures lost for every day of a total closure which generates $20.2 million in total sales, $10.5 million in value added, $6.6 million in income and supports 22 jobs every day. These are just numbers to many of the people at this hearing—statistics to be pored over by economists and lawyers. But these are our friends, our supporters, our neighbors and our families. These are lives that have been built over the decades that are ebbing away like the tide, as the oil makes its way inexorably towards our coast.

Some may point out that the entire Gulf is not closed, nor is it likely to ever be all closed at once. Even though the closures announced to date have encompassed less than the entire Gulf, and have hovered around the 35 percent mark, Gentner asserts that any closure is likely to reduce the trips taken by more than just the area closed because anglers, particularly non-resident anglers, will likely avoid taking a saltwater fishing trip even if their local waters are not officially closed due to adverse feelings about encountering the oil spill. This will be particularly true as the spill spreads to other popular recreational areas on the Florida Coast. If the spill or the perception of adverse impacts from the spill further spreads to the Keys and Eastern Florida beaches, these damages will increase dramatically.

While unlikely, if the closures last long enough, anglers may quit making expenditures on durable equipment entirely. If all durable goods expenditures cease in the Gulf of Mexico, $14 billion in revenue will be lost annually as a result of the *Deepwater Horizon* incident. This level of expenditure supports $32.8 billion in total sales, $26.3 billion in value added, $10.7 billion in income and 261,855 jobs. Fifty-thousand of those jobs are in Louisiana. While it is unlikely that all durable equipment expenditures will cease, the longer the closures persist, the more likely that anglers will buy fewer lures, rods and reels, other equipment, etc. Others may pull their boats and end expenditures on boat maintenance and storage. Boaters will think twice about upgrading or buying a new boat this year and all these choices have negative economic consequences directly tied to the spill.

Admiral Thad Allen pointed out last weekend that the crisis created by the oil spill will continue until the fall. As Admiral Allen put it, and I quote: "This is a siege across the entire Gulf. This spill is holding everybody hostage, not only economically but physically. And it has to be attacked on all fronts."

Nobody really knows what long-term impact the spill will have on recreational fishing. We do know the immediate impact, and it is that recreational fishing in the closed areas is down to zero. We do know that we will have an enormous rebuilding

job. The longer the crisis lasts, the longer it will take to get back to where we were. We don't know if the many small businesses that rely on recreational fishermen using their services can survive. Even CCA, a charitable organization, will suffer serious financial hardship due to reduced memberships and tournament entries.

Studies will be required to learn the harm that massive amounts of crude oil have inflicted on marine life. Programs will have to be implemented to reverse that damage. CCA will be a partner in conducting these studies and we will be deeply involved in the rebuilding effort.

There are two important areas that CCA believes must be addressed in the recovery—new habitat, namely artificial reefs and grass plantings, and a significant fish hatchery and research center.

Over the years, CCA has been active in coordinating construction of numerous artificial reefs along our coast. These reefs serve has habitats for all sorts of marine life, including the species of fish targeted by most anglers. Our reef projects stretch from the eastern coast to the western coast of Louisiana. As part of the rebuilding effort, we propose that many new artificial reefs—using safe, clean recycled materials—be constructed across our coast to attract the type of marine life that is being killed or chased away by the oil spill and to replace reefs that will be damaged or destroyed by the oil settling out of the water column. This project would cost an estimated $20 million.

Along with our Department of Wildlife and Fisheries, we also propose building a state of the art fish hatchery in Louisiana. Before the spill, the estuaries in Louisiana were some of the richest in the world, meaning there was not a significant need for a hatchery system to supplement fish populations. There is no question that the oil spill will have an effect on our current fish population, and an even greater effect on the next several years of species recruitment. Very simply, oily water cannot support fish spawning. Referring to Gentner Consulting Group's numbers above, we cannot afford several years of greatly reduced or no spawn. Our fish population (and therefore our economy) will be devastated without a hatchery to supplement the process. The project will cost between $50-$75 million to complete. . .a drop in the bucket when you consider what is at stake. We will rely on our friends in the federal government to support this project.

Madam chair and members of the subcommittee, CCA's reason for existing is to conserve our marine resources. It is what we were founded on and what drives our vision. Never in our history have we encountered a man-made disaster such as the BP oil spill. For that matter, we anticipate that the oil spill will wreak more damage to our fish resources than any hurricane has done.

Facing adversity is nothing new to the people of Louisiana. Over the years, we've been devastated by hurricanes, floods and other disasters. Our people have the spirit and stamina to overcome great obstacles, but clearly this is not a battle we can fight and win alone. We will need the great resources of the federal government and that of the parties responsible for this disaster to help us.

I have a personal friend who was killed in the explosion on the Deepwater Horizon. . .a young man whose wife was expecting their second child just days after the accident. I attended his funeral and mourned with his family, still shocked at the unthinkable loss. Over the past several weeks, I have visited the once vibrant marsh and picked up handfuls of thick, sludge-like oil. I have looked into the eyes of fishermen and small businessmen who have a lifetime invested in our coast. I have seen tears in their eyes as they talk about closing their doors. I have seen the disappointment in my own children when I tell them I don't know when we can fish again. On behalf of all of CCA, my family and hundreds of thousands of Louisianans who have made a life on our coast, we don't expect anybody to come in and rescue us; we just want to be provided the resources that will make it possible for us to one day resume our lives on the coast as we once knew them.

Thank you.

[NOTE: Mr. Cresson's responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. I thank you very much, Mr. Cresson, for your testimony and to all the others. Certainly the Committee understands your plight, and I have great feelings for all of you that have lost your livelihoods, and really the future is unpredictable.

I have some questions, and of course the Ranking Member will have some questions as well for you. I would like to begin with Ms.

Robichaux. I was truly struck by your testimony. The oil spill looms as a death threat to the Houma culture. What will it mean for members of your tribe to be separated from each other and from the land that has defined the United Houma Nation?

Ms. ROBICHAUX. It is hard to even discuss this without getting quite emotional. We have lived in our traditional lands for generation after generation. It is very common to have a grandparent living next door to grandchildren and extended family. We are a community.

We have lived that way for many, many years, and the mere thought of having to move away from our traditional homeland and not live as a community, as a family, is just heartbreaking. I don't know how we are going to be able to survive that.

Ms. BORDALLO. What is the population of your tribe?

Ms. ROBICHAUX. We have 17,000 tribal citizens. The majority of them live from St. Mary Parish to Plaquemines Parish, so we are all along the southeastern coast of Louisiana.

Ms. BORDALLO. The other question that I have is, you testified that many tribal citizens do not have options for alternative employment. Can you expand upon that?

Ms. ROBICHAUX. Yes. Our Indian children were not allowed into regular public schools until the Civil Rights Act in the mid-1960s so the people of my father's generation have only a seventh grade education.

They have trawled and fished and harvested oysters their entire lives so it would be really difficult for them, at this point, to be trained to do something different. This is what they have done for generation after generation so we are tied to the fishing industry, whether it is the net makers or the extended services that are provided through the fishing industry.

Ms. BORDALLO. Now, the other question really applies to everybody that has testified here today. I am very curious. Have you received any financial assistance after the spill?

Ms. ROBICHAUX. Some of our tribal fishermen have applied for financial assistance from BP.

Ms. BORDALLO. BP.

Ms. ROBICHAUX. And even that is a challenge because of the lack of educational opportunities. We have great concern that when they go through the application process, they may be taken advantage of and not understand fully what they are signing.

So, some of them have been able to do that, but even with that system, there is no consistency. Our net makers might be compensated $1,000, where all of the nets that they have made and the orders have been canceled, as well as the fact that no more orders are being placed. So, there is really no consistency in the process as to how people are being compensated.

Ms. BORDALLO. I understand that BP put out a $5,000 amount—is that correct?—to each of the fishermen whose livelihoods have come to a halt? Is that so? $5,000?

Ms. ROBICHAUX. That is correct. They have made an initial payment of $5,000, and it is unclear whether or not there will be forthcoming payment.

And so we have families that are really concerned about being able to provide for their families, to pay their bills and to provide

food on the table because some of them have received that $5,000 payment, but we don't know if there is going to be another one forthcoming.

Ms. BORDALLO. Well, especially if you have a small fishing business and you have employees. I don't know how far $5,000 is going. It is just inconceivable that a multi-billion-dollar company can issue a $5,000 check a couple of times to the fishermen. I don't know. This is something that really concerns me.

Mr. Viles, what do you foresee as the worst case scenario for the Gulf of Mexico coastal and marine environment?

Mr. VILES. Well, I try not to think about that really. I think what we have tried to focus on is monitoring the issue and responding where we can, and urging a better, more proactive response, clean-up, and containment efforts.

But clearly Louisiana's coastal marsh is what drives the ecosystem of the Gulf of Mexico. Ninety-five percent of all the marine life in the Gulf of Mexico relies on estuaries, and the Mississippi River is by far the most significant estuary in the Gulf so this could be a horrific experience for the Gulf of Mexico and we might see the impacts from everything from the sperm whales that were discussed, and we are very frightened about the impacts on that unique pod of whales and the bluefin tuna.

Bluefin tuna are a globetrotting species, and they actually come into the Gulf of Mexico every April and May to spawn. Clearly this year's spawning class, because they actually spawn in this exact BP impact zone, they are going to be impacted.

But of course meanwhile we have longliners. Thirty-two percent of the Gulf Federal fishing waters are closed right now. The rest is open. The longline fleet has gone out into the open areas, and the longline fleet, even though they are going after yellowfin and swordfish, there is an awful lot of bluefin bycatch. So we are concerned that we aren't seeing a proactive enough response from the Federal fisheries management folks to ensure that we are keeping the impact to a minimum right now.

But clearly it is going to affect everything from the shrimp and the oysters on up the food chain. Hopefully it won't. We have not seen as widespread an impact to our coastal marsh now as we could have. Clearly the oil is still coming and will be coming at us for months, so we don't know what the worst case scenario is, but we certainly hope that we avoid it.

Ms. BORDALLO. Thank you very much. My time is up, and I would like to turn to the Ranking Member now for any questions he may have.

Mr. CASSIDY. Mr. Cresson, I have the advantage. I went with you down to Plaquemines Parish to see and speak to the marina owners, and I was struck. So here we see the fishing industry, as Ms. Dardar speaks so well of, is devastated. Second, we see that the oil and gas is going to be destroyed by the moratorium with the people unable to make their house payments, et cetera.

What you are saying is that there is a third leg to that coastal economy, which is the recreational fishing, and that now that third leg may be removed almost as much by perception perhaps, as well as by the spill. Now, that just seems the harder of the three to address.

You mentioned the hatcheries, the fisheries. Any other specific things you would suggest for this kind of softer, yet incredibly significant, source of jobs?

Mr. CRESSON. Yes, sir. Thank you, Congressman. You are correct. The recreational fishery is a bit harder to put your arms around because there are so many pieces of it that come from the great sport that we love down in Louisiana.

What I would hope for is that this body, and the entire Federal Government, consider recreational fishermen and the businesses that rely on them in whatever Federal relief package is put out there. You heard Secretary Barham earlier talk about wildlife.

Mr. CASSIDY. Now, you don't mean me going down to do my annual fish, my catching a bunch of speckled trout with my son. You mean the people that have the marinas——

Mr. CRESSON. Yes.

Mr. CASSIDY [continuing]. The bait shops, et cetera?

Mr. CRESSON. Absolutely. And the people that rely on you and your son to go fish. But the marinas, the bait shops, the tackle shops.

The $5,000 check that the Chairwoman mentioned is simply not cutting it for these guys. They are closing their doors on a daily basis, and even if they get one next month they will close those doors. There is a perception that our recreational fishery is closed. That is a major problem because the majority of our state waters you are still able to fish.

But to answer your question directly, Mr. Congressman, we need to make sure that the Federal Government and BP recognize the needs of recreational fishermen in this industry when the time comes, and we thank you for your time.

Mr. CASSIDY. Thank you very much.

Mr. CRESSON. Yes, sir.

Mr. CASSIDY. Mr. Viles, I keep on asking this but apparently, frankly, I keep asking because I haven't heard. I am not saying that in kind of a rude way. I am just very curious.

The Ixtoc put a tremendous amount of oil into the Gulf. Do we know what the sperm whales did during that or the bluefin tuna, et cetera?

Mr. VILES. We don't know. It was an incredibly understudied spill. It was in Mexico. Clearly some U.S. resources were put to help fight it and help shut it down.

Red Adair came out, and actually I talked to somebody who was the ROV supervisor who watched them go through their golf ball exercise as well. Of course, what ultimately shut that down was a relief well, which we know is——

Mr. CASSIDY. Now, you imply that we have some sense of the bluefin tuna population. In fact, you stated that, and we know that it is overfished.

So is there any sort of—I mean, if we graph it out we can say here was the Ixtoc, here was the oil and this is the protected population at that time. Was there a dip in the population, or did it remain a constant, sort of being overfished?

Mr. VILES. Yes. I don't know. Sorry. I am sorry. That research, to my knowledge, has not been done.

Mr. CASSIDY. Ms. Mitchelmore? Dr. Mitchelmore. I am sorry. Sorry to be so rushed. I am supposed to vote, and if I don't vote I don't get reelected next time.

Ms. BORDALLO. You have two minutes.

Mr. CASSIDY. Two minutes. The problem with the dispersants. I am told by NOAA that the effect of the sunlight on the small globules and the evaporation of the benzines, et cetera, will make the oil by the time it hits the Gulf Stream going up the Atlantic probably inert.

And it may coalesce and form weathered tar balls, but it is not going to be something which is going to poison fisheries in the Atlantic. And yet your testimony suggested that photosensitivity has a different effect than what NOAA is suggesting. Any comments on that?

Dr. MITCHELMORE. Yes. That is a couple part question. The first is yes, you do lose some of the smaller, volatile oil components at the surface and the weathered oil does lose those as it moves, but those are the more long-term oil components so you have to tease apart what are the acute short-term effects, rather than the long-term effects. So these more weathered oils will have effects. They are just more long term, like carcinogenic effects.

Mr. CASSIDY. Carcinogenic on the fish or upon the humans that ingest the fish?

Dr. MITCHELMORE. Both. I mean, it depends.

Mr. CASSIDY. Because the carcinogens, the oil will go to the liver. The liver is not typically ingested by the human, so I think of other research data showing that mercury affects people that eat the liver of the fish, which most of us don't eat.

Dr. MITCHELMORE. It depends on the organism you are eating. Some organisms can remove the oil better than others, so it depends on what you are eating.

Mr. CASSIDY. I have to yield back, and I have to go vote.

Ms. BORDALLO. Thank you. I thank the Ranking Member. Panel 2, you will be excused.

We will recess for one hour so that Panel 3 can maybe take their lunch, and we will come back in one hour, which would make it—what time is it now?

FEMALE VOICE. It is 1:15. 2:15.

Ms. BORDALLO. 2:15. 2:15 we will reconvene.

[Recess.]

Ms. BORDALLO. Good afternoon. The Subcommittee on Wildlife and Oceans will now restart, and I would like to call on the third panel to please be seated at the witness table.

Thank you. I would like to introduce the members of the third panel who will testify this afternoon. John Williams, Executive Director of the Southern Shrimp Alliance; Mr. Ryan Lambert of the Cajun Fishing Adventures; and Ms. Joanne McDonough, Nature Tourism Specialist, Alabama Gulf Coast Convention & Visitors Bureau; and Anne Rolfes, Executive Director of the Louisiana Bucket Brigade.

Is Ms. McDonough in the room?

Ms. ROLFES. She was just outside.

Ms. BORDALLO. Oh, all right. Fine. OK. Well, we will begin with Mr. Williams. And again, I think you have been seated here all

morning so you do know that we have a time limit, and the red light will flash on, but we will accept your full written statement into the record.

So, Mr. Williams, thank you for being here today and thank you for the long wait you have had, but we knew this was going to be a long hearing. So please begin.

STATEMENT OF JOHN WILLIAMS, EXECUTIVE DIRECTOR, SOUTHERN SHRIMP ALLIANCE, TARPON SPRINGS, FLORIDA

Mr. WILLIAMS. Thank you. Madam Chairwoman and Members of the Subcommittee, thank you for the opportunity to address the *Deepwater Horizon* oil spill's impact on the shrimp industry. I am the Executive Director of the Southern Shrimp Alliance, and I am also a shrimper. Our organization was founded over eight years ago to represent the shrimp industry in the Gulf and south Atlantic.

Thousands of people currently make their living shrimping off of our southern coast. In recent years, we have survived regulatory shutdowns, high fuel prices, low shrimp prices and massive hurricanes. I have to believe that somehow we will survive this disaster as well.

But let us make no mistake about it. The impacts on the shrimp fishery will be cataclysmic. Every day brings a bewildering flood of new information. The truth is, we don't know what the full extent of the damage will be, and it will be years before we do.

I would like to focus today on three areas for moving forward, where I think Congress and this Administration should work together. First, the oil spill compensation process for shrimp fishermen must be fair and efficient. As you know, the spill has completely shut down a significant portion of our industry. Fishermen face a very uncertain future and cannot wait for relief. When shrimpers ask what they can do, I honestly don't know what to tell them.

The Oil Pollution Act says that fishermen will be made whole for their economic damages, but if you speak to shrimpers in the Gulf, rich confusion reigns. Even the President is now making statements recognizing that this system appears to be fundamentally broken. This situation is completely unacceptable.

Congress and the Administration must either use existing authority to streamline the current process or establish a new one that is tailored to the magnitude of this spill. Despite lessons learned from the Exxon Valdez, history is about to repeat itself. The lawyers will get rich, and the fishermen will go broke. Congress can fix this problem.

My second point is U.S. shrimp currently being sold in the marketplace is safe, wholesome and healthy. This message is absolutely crucial if we are to survive this crisis. The growing misconception that Gulf shrimp is not safe is untrue and unacceptable. We greatly appreciate the efforts of NOAA and FDA to test seafood and inform the public that seafood from the Gulf is safe.

But obviously much more must be done to ensure that this message is heard and understood. It appears that the government's seafood testing and safety efforts are being done without significant industry participation. A stronger partnership between industry and the Federal Government is needed.

A good first step would be the creation of a joint task force, with the fishing industry and the government charged with minimizing the impact of the oil spill on the Gulf seafood market. Funding a consumer education program regarding the safety and health attributes of Gulf seafood would also be helpful.

My final point is that a more formal partnership between the fishing industry and the government should be established. History has taught us that fishermen bear the economic brunt of the damage from oil spills, and the oil companies do everything they can to minimize their responsibilities. This spill will be no different.

Our survival depends on the responsiveness of our government, and I must say that fishermen are losing confidence. Every day fishermen ask me if our government is really working for us. Everything about this spill seems to be downplayed by one Federal official after another, and there is a widespread perception that the government is not being responsive to even the most basic environmental, economic and health concerns.

On May 5, we sent a letter to EPA and NOAA, voicing strong concerns regarding the impact of the chemical dispersants used by BP on marine life, including shrimp. We have not received any response to these concerns. Meanwhile, credible scientists have echoed our concern, and yet BP has continued to apply another million gallons of dispersants.

As we understand it, government officials made a decision that the harm caused by oil spread throughout the water column was preferable to allowing water to rise and remain on the surface. Both NOAA and EPA have described their decision as simply an environmental tradeoff. To date, no one in our government has taken the time to sit down with us to explain why our shrimp industry became a national tradeoff.

The use of dispersants is symptomatic of the need for a much stronger and more constructive partnership between the Administration and the fishing industry. This spill will impact the shrimp industry for a long time, yet the government's actions will be drawn away to another important issue soon after the spill is capped.

Before our fishermen are forgotten, it is vitally important that systems be established now that will remain in place for the long term to help the fishing industry recover. A commission should be created to advise Congress and the Administration of the continuing impacts of the spill as they are discovered and documented; formulate specific recommendations as to an appropriate response to adverse impacts; and provide regular reports on the progress of the efforts to provide fair compensation to fishermen for economic harm caused by the spill.

In closing, I would like to say that while our fishermen are suffering, nothing we face can ever be measured against the personal tragedy of the families of the loved ones and those who perished on the *Deepwater Horizon* rig. I just want to recognize them and let them know that they are in our prayers. Thank you.

[The prepared statement of Mr. Williams follows:]

Statement of John Williams, Executive Director, Southern Shrimp Alliance

Madame Chairwoman and Members of the Subcommittee, thank you for giving me the opportunity to address the *Deepwater Horizon* oil spill's impact on the shrimp industry. I am John Williams, the executive director of the Southern Shrimp Alliance. I am also a shrimper. My son has followed me into the commercial fishing industry and two of my three brothers are commercial fishermen as well. I have been commercially fishing for over forty years and have owned and operated shrimp boats that worked the Gulf of Mexico and South Atlantic since 1973. I began working on a shrimp boat as a boy in North Carolina in 1960 and began commercially fishing for a living in Florida in 1968. I also own a seafood unloading/wholesaling facility and a seafood retail market in Tarpon Springs, Florida.

The Southern Shrimp Alliance was founded over eight years ago to represent the interests of the shrimp industry spanning from Texas to North Carolina along this country's southern coastal waters. We got together to respond to the negative effects of a flood of unfairly traded imports and to insure the future viability of the shrimp industry in this country. I participated in the creation of the Southern Shrimp Alliance and have since taken on the position of executive director because I believe that the shrimp industry is worth fighting for, both for the people who have been shrimping U.S. waters for decades and for their children, who are now taking over or will soon take over their parents' businesses, continuing a proud tradition. Since the Southern Shrimp Alliance's formation, the shrimp industry has battled intense efforts to regulate us out of existence, faced historically high fuel prices at times when prices for our shrimp were at historic lows, and suffered through the devastating effects of massive hurricanes like Katrina, Rita, and Ike. The industry survived all of those challenges, just like the shrimp industry will survive the *Deepwater Horizon* oil spill. But these past few years have taken an immense toll on us and the oil spill will likely weaken our industry further.

Statistics maintained by the government tell the tale of how much the industry has already been weakened. In 2002, the offshore shrimp fleet spent over 200,000 days shrimping in the Gulf of Mexico. By 2008, after six successive years of decline, the fleet spent less than 63,000 days shrimping—less than a third of the fishing effort we claimed just a few years before. In 2002, the states of Texas, Louisiana, Mississippi, Alabama, and Georgia issued nearly 22,000 commercial shrimp licenses. By 2008, these five states reported issuing less than 9,000 such licenses.

Nevertheless, despite these significant setbacks, thousands of people in the Gulf of Mexico and South Atlantic continue to make their living through shrimping. The industry continues to land product worth over $400 million each year, an amount that, on its own, seriously understates the total impact of shrimp fishermen on the economies of coastal communities. Because of its sheer size, the industry will survive this ecological nightmare, but the fact that an industry will continue in some shape or form is little comfort to the men and women who have struggled to make it through to this year and now face imminent bankruptcy because of the oil spill. Our prayers are said first and foremost to the families of those that perished in this tragedy. At the same time, thousands of members of our industry are desperately in need of help.

In my testimony today, I am going to organize my comments to first address the Southern Shrimp Alliance's concerns regarding shrimpers that have been put out of work by the oil spill, then discuss our concerns relating to those shrimpers that have been able to continue to work in areas not yet affected by the spill, and, finally, the role that we believe the shrimp industry should play with respect to the government's efforts to respond to the continuing impacts of this tragedy in the future.

The Compensation Process for Shrimp Fishermen Affected by the Oil Spill Must Be both Fair and Efficient

For a significant portion of our industry, the oil spill has completely and totally prevented making a living on the water. Virtually all of these shrimpers have spent the last five years cutting every expense they could to survive through an extended period of unparalleled low prices and high costs. These shrimpers have little, if anything, in reserve and an inability to fish, to generate income, presents an immediate threat to their solvency. These fishermen cannot wait for relief. Either they receive assistance now that keeps them in business or their small businesses fail and they join the ranks of the unemployed. There are not many other opportunities for gainful employment for these fishermen. The entire industry cannot be expected to smoothly transition into workers at Walmart or other service industries and they cannot all become census workers.

And, yet, when shrimpers ask the Southern Shrimp Alliance for guidance on what they can do, I do not know what to tell them. The law in this area is complicated and the experience of commercial fishermen harmed by the Exxon Valdez spill is by no means comforting for fishermen in the Gulf. The Oil Pollution Act of 1990 (OPA), passed by Congress in the wake of the Exxon Valdez spill, should give us comfort. On the printed page, the OPA says that businesses will be made whole for their economic damages caused by an oil spill. Because substantial amounts of shrimping grounds are closed as the result of the *Deepwater Horizon*'s spill, there is no question that shrimp fishermen have been directly harmed by the disaster. Yet, if you speak to many shrimpers in the Gulf, you will hear massive confusion as to what they ought to do and what they might be entitled to.

On one side, British Petroleum has done at least some of what is required of it under the OPA in establishing a claims process. On another side, lawyers of all stripes have descended on the Gulf Coast and told shrimpers that the OPA process is fundamentally flawed—why would BP do right by them of their own volition? — and that they need to sign up for legal representation now, today, to get the relief they deserve. In response, some shrimpers have submitted claims to BP, others have signed contingency fee agreements that would hand over between one-third and forty percent of any funds received to an attorney, while still others have not taken any action because they do not know what to do or who to believe.

One voice notably absent has been that of the federal government. In the wake of a disaster with unprecedented impacts on commercial fishermen, the government can and should play a central role in informing members of the industry of programs in place to assist them. There are many legitimate questions and concerns that must be answered with respect to the OPA claims process. The press has focused on the question of the OPA's liability limit of $75 million for BP with regard to economic damages. Given the number of businesses affected by the oil spill, economic damage claims are likely to greatly exceed $75 million. Press reports indicate that BP claims to have already paid out $50 million in compensation for economic damages. Once this liability limit is reached, the Oil Spill Liability Trust Fund is unlikely to be able to make up the difference as most of the OPA's current one billion dollar cap per event will be accounted for by costs related to clean up efforts.

Although BP has said in public statements that it will not impose a cap on economic damages and that it will compensate all legitimate claims, it is unclear, in practice, what such declarations mean and whether they have any legal effect. Those that cannot shrimp now are unlikely to be able to return to their fishing grounds anytime in the near future and are unable to predict with accuracy now what the ultimate impact of the spill will be on their businesses. Although the OPA contemplates partial claims and partial recovery, fishermen are very concerned that, when it is all said and done and television cameras have turned away from the oil spill to cover other events, funds will not be available to address continuing harm to shrimpers.

Even if no liability cap is imposed and all legitimate claims are paid, the claims process established by the OPA is likely to be overwhelmed by those affected by the *Deepwater Horizon* spill. The scope of the impact on people in the Gulf is staggering and expands by the day. It would seem to be extremely unlikely that either BP or the U.S. Coast Guard's National Pollution Funds Center (NPFC) will be able to administer the OPA relief process in a timely, expeditious manner. In the face of significant resources constraints and short statutory deadlines, it is inevitable that meritorious claims will be inaccurately rejected and individual fishermen will struggle to meaningfully contest any adverse conclusions drawn by BP or NPFC as to the impact that the spill has had on commercial fishing industries. Without the ability to rely on some basic baseline data or structure of analysis for evaluating claims, the OPA claims process pits the individual shrimper initially against BP, its claims adjustors, and attorneys and, later, against the entirety of the NPFC if any disagreement arises.

Last week, before the House Judiciary Committee, Mississippi's Attorney General, Jim Hood, testified as to his concerns, and the concerns of other Gulf states' Attorney Generals, regarding the OPA claims process administered by BP. Attorney General Hood noted that endorsement of the claims process procedure by the Gulf states' Attorney Generals "would encourage greater participation in it," but explained that he and the other Attorney Generals "cannot embrace any claims review process until we receive adequate assurances of its fairness." If the Attorney Generals of the Gulf states are unable to express support for the OPA claims process as administered by BP, how is a shrimper supposed to determine whether to file a claim or, indeed, what steps he or she ought to take?

In the absence of any guidance from the federal government, attorneys seeking to sign up clients have filled the void. Some of these attorneys tell shrimpers that

the OPA process is fatally flawed, that they must sue or hire an attorney to enter into settlement negotiations with BP to obtain fair compensation, and that they must sign contingency agreements that promise those attorneys significant portions of any funds received. Where these attorneys' efforts are particularly aggressive, in the absence of any federal government guidance, fishermen have been left to the wolves. Widespread reports of undue pressure placed on shrimpers to sign such contingency agreements are troubling and add to the confusion held by many in the industry.

Shrimpers, and commercial fishermen generally, do not want to live off of BP or off of a government largesse. Fishermen want to fish. But without solid assurances that commercial fishermen will be made whole for the economic damages they are suffering now and will continue to suffer as fishing grounds remain closed, many more shrimpers will be forced to exit the business in the hope of finding something, anything, that will put food on the table for their families. For these reasons, the Southern Shrimp Alliance believes that Congress should strongly consider establishing a new process for addressing the injuries caused to commercial fishermen by the oil spill that accounts for the unprecedented nature of the disaster and its impact on the fisheries of the Gulf of Mexico. Such a process would give shrimpers comfort that they will receive fair compensation for what has taken place, such that they will be able to start shrimping again as soon as there are clean waters to shrimp and clean shrimp to land.

In the interim, recent comments by the President appear to recognize the deficiencies of the OPA claims process for commercial fishing businesses and their employees. The Administration seems to be similarly concerned that the process be both efficient and fair. We are hopeful that in response to continued Congressional oversight, proactive efforts will be made to make the OPA claims process as amenable to fishermen as possible.

U.S. Shrimp Currently Being Landed and Sold in the Marketplace Is Safe, Wholesome and Healthy

It is also important to keep in mind that the oil spill has not impacted all of the Gulf of Mexico nor all of the waters commercially fished for shrimp in the United States. Every day, shrimpers continue to go out and work unpolluted waters and land wholesome, healthy U.S. shrimp. But we fear that this is not something that the majority of the American consuming public necessarily understands.

The Southern Shrimp Alliance greatly appreciates the efforts of NOAA Fisheries to inform the public that the seafood currently available from the Gulf is safe because of both (1) the fishery closures in areas affected by the oil spill and (2) rigorous testing of these products. But more needs to be done to ensure that this message is heard and understood. For important and valid reasons, the public's focus has been on the harmful effects of the oil spill and the devastating toll the spill is taking on the environment in the Gulf. The first thing that the public thinks of with respect to wildlife in the Gulf of Mexico is contamination by oil. For shrimpers, this means that not only are the fishermen put out of work by the spill harmed, but those shrimpers that have been to date unaffected face the possibility of a significant decline in demand for their product because of pervasive fears regarding the safety of anything caught in the Gulf or shrimp landed anywhere in U.S. waters.

Assuring the public of the safety of seafood landed in the Gulf is, therefore, essential to our industry. For the time being, this concern relates to those fishermen who ply waters not impacted by the spill. For seafood landed in unaffected waters, there is no question that these products are safe. But at some point in the future, waters currently closed to commercial fishing will be opened. Consumers will inevitably wonder whether the openings came too soon and whether the seafood landed in these waters is genuinely safe. For these reasons, a long-term strategy for ensuring consumers of the safety and health of seafood landed in the Gulf is required.

The Southern Shrimp Alliance is grateful for the establishment of a federal seafood safety/testing program in Pascagoula, but would like to see a far greater partnership between industry and the federal government in developing long-term strategies to insure the public of the safety of Gulf seafood. A good first step would be the creation of a joint task force with members of the commercial fishing industry and the federal government charged with focusing on what steps need to be taken to minimize the negative effects of the oil spill on the market for Gulf seafood. An important next step would be the Congressional creation and development of a fund designed to provide consumer education regarding the safety and positive health attributes of Gulf seafood.

Formal Partnerships between the Commercial Fishing Industry and the Government Should Be Established in Response to the Oil Spill

Every significant oil spill with which I am familiar has taught that commercial fishermen bear the brunt of the damage caused by the contamination. As such, there should be no surprise that the *Deepwater Horizon* oil spill will disproportionately impact commercial fishermen in the Gulf. Moving forward, we hope that our government will appreciate the vulnerability of commercial fishermen affected by the oil spill. Fishermen do not need the government's assistance because they are helpless. Fishermen are famously and fiercely independent and self-sufficient, and many shrimpers fearlessly stepped into the breach to try and mitigate the harm caused by the *Deepwater Horizon* spill. But the circumstances of the spill now force beleaguered, battered small businesses to fight for fair treatment from companies and a government that have substantially more resources at their disposal.

For example, shrimpers have not simply waited for a man with a check to come riding by when oil contamination closed down their fishing grounds. Scores of shrimp fishermen eagerly volunteered to assist BP and the government in cleanup efforts and very few have been taken up on their offers. For those shrimpers that have participated in the cleanup process, the reports of health problems related to those efforts are extremely disconcerting. These fishermen report that their concerns have either been ignored or ridiculed and fear that pressing their concerns further will result in loss of the only income available to them. This is inexcusable. Whatever myriad considerations confront this Administration with respect to the oil spill, a concern that should transcend any other is making sure that those working to mitigate the spill's effect are not put in harm's way. Yet, there is little evidence that federal officials have worked with fishermen working on spill remediation to ensure their safety or address their specific concerns.

For our part, the Southern Shrimp Alliance has faced the lack of responsiveness directly in the concerns we voiced to government officials regarding the use of certain toxic dispersants applied by BP. On May 5th, we sent a letter to Lisa Jackson, the Administrator of the Environmental Protection Agency, and Dr. Jane Lubchenco, the Administrator of the National Oceanic and Atmospheric Administration, voicing strong concerns regarding the impact of the chemical dispersants used by BP on marine life. I have attached a copy of the letter to my testimony and ask that it be included as part of the hearing record. In the letter, we noted that the toxins in the dispersants were likely to have direct adverse impacts on both vertebrate and invertebrate marine life and, further, that the dispersal of oil throughout the water column would increase, rather than mitigate, the harmful environmental effects of the oil spill on marine life. We have not received any response, formal or informal, to these concerns.

In the absence of any direct response, we are given to understand by the public statements of these two agencies that a decision has been made that the environmental harms caused by oil spread throughout the water column were preferable to the environmental harms caused by oil allowed to rise and remain on the surface. Dr. Lubchenco has publicly described the decision to employ dispersants as a "trade-off decision." (Timothy B. Hurst, "EPA, Coast Guard OK Use of Subsea Dispersants for Oil Spill" (May 15, 2010) available at: http://ecopolitology.org/2010/05/15/epa-coast-guard-ok-use-of-subsea-dispersents-for-oil-spill/). An official within the Environmental Protection Agency has separately explained, with respect to the dispersants, "the chemical that's being used has toxicity associated with it, and I think, as the agency has tried to be very clear, this is about an environmental trade-off." (Christopher Snow Hopkins, "EPA: BP Cleanup Means Environmental Trade-off" NationalJournal.com (May 11, 2010) (quoting Jim Jones, EPA Office of Chemical Safety and Pollution Prevention) available at: http://energytopic.nationaljournal.com/2010/05/epa-bp-cleanup-means.php).

To date, no one in our government has taken the time to explain to commercial fishermen or, indeed, the general public why marine life was sacrificed as a trade-off for preventing oil from floating to the surface and creating even more of a public relations nightmare. The statements of government officials appear to concede that the federal government was acutely aware of the environmental harm that would ensue from approving the use of massive quantities of toxic dispersants underwater. To be clear: The shrimp fishery, along with the oyster, crab, bluefin tuna, and other important commercial fisheries in the Gulf, are what was "traded-off" in the decision to allow the unprecedented use of these toxic chemicals. And along with these fisheries, there appears to have been an intentional determination made that the thousands of family-owned small businesses in the Gulf related to commercial fishing would bear the brunt of the environmental impact of the spill.

It may yet be proven that there were valid scientific reasons for the decision to allow the use of dispersants, but we fear that the decision had little to do with

science and more to do with limiting the visual impact of the oil spill by keeping oil in the Gulf out of the viewfinders of television cameras. Our fears appear to be validated by the insistence of both BP and federal agencies that underwater oil plumes do not exist, despite mounting evidence to the contrary from independent observers and scientists. And, still, neither EPA nor NOAA has reached out to the commercial fishing industry to convene a formal meeting with those whose commercial futures were endangered by this "trade-off" to explain the decision, answer questions, and address concerns obviously held by fishermen.

There needs to be a much stronger partnership between the Administration and the commercial fishing industry to address both short term and long term issues arising from the spill. However, such a partnership will not take place unless Congress forces the issue. Without Congressional oversight, too much focus will continue to be placed on managing the public relations aspects of the spill rather than addressing the substantive problems generated by what might now be fairly considered as the largest environmental catastrophe in U.S. history.

At this moment in time, the nation's eyes are affixed on the fishing industry in the Gulf and the public's strong sympathy has been voiced (and felt) regarding our plight. But we know that these sentiments, while very much appreciated, are fleeting. The impact of the *Deepwater Horizon* spill will be felt over a long period of time, well after the public's attention has been drawn away to other important issues confronting this country. As such, it is vitally important that formalized systems be established now that will remain in place for the long-term to help the commercial fishing industry recover. Precedent for such entities exists in the actions taken by Congress in the aftermath of the Exxon Valdez spill, when various bodies were created that explicitly required the inclusion of commercial fishermen. Here, an advisory body or Commission should be created to (1) advise Congress and the Administration of the continuing natural resource and economic impacts of the spill as they are discovered and documented over the coming years; (2) formulate specific recommendations to Congress and the Administration as to appropriate responses to those adverse impacts identified; and (3) provide regular reports on the progress and development of efforts to provide fair compensation to commercial fishermen for economic harm caused by the spill.

Thank you again for inviting me to present the concerns of the domestic shrimp industry and I am happy to answer any questions that you might have.

Southern Shrimp Alliance, Inc
P.O. Box 1577
Tarpon Springs, FL 34688
Ph. 727.934.5090
Fx. 727.934.5362
john@shrimpalliance.com

May 5, 2010

Lisa P. Jackson,
Administrator
Environmental Protection Agency
Aerial Ross Building
1200 Pennsylvania Ave., NW
Washington, DC 20460

Dr. Jane Lubchenco,
Administrator
National Oceanic and Atmospheric Administration
1401 Constitution Ave., NW
Washington, DC 20230

Dear Administrator Jackson and Administrator Lubchenco:

The Southern Shrimp Alliance deeply and sincerely appreciates the extraordinary efforts ongoing by your agencies and others to address the *Deepwater Horizon* oil spill. Our industry stands-by to assist in any way it can to mitigate the adverse impacts of this terrible accident.

Nevertheless, the Southern Shrimp Alliance is extremely concerned about the serious effects on marine life of chemical dispersants being used to treat this spill. Recent reports indicate that nearly 170,000 gallons of toxic dispersants have been applied both at the surface and underwater in the direct vicinity of the leak. BP fur-

ther reports that it has plans to increase its use of dispersants in the immediate future.

While such dispersants may be useful in reducing but not eliminating a surface oil slick and the associated damage to marine life and shoreline habitats, their use also creates an entirely new set of environmental hazards that may be more pernicious and even more difficult to mitigate. Removing oil from the surface certainly has its benefits, but it may also promote an "out-of-sight, out-of-mind" perception of the spill's true ongoing and long lasting impacts.

Our first concern is the direct toxicity to vertebrate and invertebrate marine life which may present itself over time throughout the food chain—from plankton—to some of the nation's most valuable fish and shellfish species—to protected marine mammals, sea birds and endangered species of sea turtles. Obviously, we are extremely concerned with the toxic effects on the shrimp resource –both directly and indirectly through their feed. As you know, shrimp are now at their most vulnerable life stages as larvae move from offshore spawning areas to inshore nursery areas and then return offshore. Much of this activity takes place in the water column as well as on the bottom.

In addition, like many US fisheries, the Gulf shrimp fishery operates under a very aggressive and costly federal regulatory regime that protects sensitive species of marine life including those such as sea turtles likely to be exposed to the toxic effects of dispersants now being used in unprecedented amounts. Our fishery has an extraordinary record of sea turtle protection and restoration in the Gulf which could be severely undermined by the massive use of dispersants.

Our second major area of concern lies with the physical effects of dispersants on the oil itself. We understand that the very purpose of dispersants is to cause the spilled oil to disperse into the water column rather than rise to the surface. Again, we recognize this may have the benefit of reducing shoreline habitat impacts and speeding-up the natural degradation of oil.

However, the result that cannot be seen on television is that both toxic dispersants and the oil itself (which can also be toxic to marine life) is dispersed throughout the water column where the eggs and larvae of countless species of marine life as well as the plankton and other small organisms on which such larvae feed are present in very large numbers. As mentioned, this is indeed a critical time for shrimp larvae. It is also a critical time for bluefin tuna spawning and larvae in the Gulf. Along with the Mediterranean, the Gulf of Mexico is one of only two spawning areas in the entire Atlantic Ocean basin for a species now receiving very serious global conservation concern. It further occurs to us that injecting the dispersant at the point of the spill at a depth of 5000 feet will guarantee these adverse impacts are maximized throughout the entire water column which serves a critical habitat for so many species.

We further understand that dispersants cause a certain amount of oil to sink and remain on or near the ocean floor presenting yet another invisible hazard to the benthic ecosystem that cannot be tracked or cleaned-up. Based on our understanding of Gulf currents, oil on or near the bottom may well spread to and literally smother the western Gulf in the opposite direction of the surface currents and winds now carrying the spill more to the east. This may vastly expand the ecological and economic impacts of the spill. Again, releasing huge quantities of dispersants directly at the sea floor would seem to exacerbate these environmental hazards.

Given your Agencies' paramount responsibilities for protecting the marine environment and marine life on behalf of the American people, we ask you to give our concerns your most serious consideration. We can certainly appreciate the pressures and demands on all federal agencies and BP itself to respond as quickly and aggressively as possible to what may become an unprecedented environmental catastrophe, but we must ask you to ensure that those actions will not create an even greater and more long lasting hazard that is even more difficult to monitor or to clean-up.

Thank you for your consideration. We look forward to your response.

John Williams,
Executive Director

Response to questions submitted for the record by John Williams, Executive Director, Southern Shrimp Alliance

Questions from Chairwoman, Congresswoman Madeline Z. Bordallo (D–GU)

1. Given that the annual value of landed product by the shrimp industry is greater than the oil spill liability limit of $75 million dollars, do you think the liability limit should be raised?

Indeed, the annual ex-vessel value of landings of shrimp in the Gulf of Mexico far exceeds the $75 million cap. Over the 10-year period of 1999–2008, the annual ex-vessel value shrimp landings from the Gulf averaged $424 million. Given the unprecedented magnitude of the ongoing *Deepwater Horizon* spill, and the catastrophic impacts on both the shrimp fishery and resource that may last for decades, it is clear the $75 million cap would preclude any possibility of achieving the goal of 'making fishermen whole' as indicated by BP and the Administration.

However, since the hearing, BP and the Administration have agreed to establish a $20 billion fund for these purposes. This may obviate the need for Congress to take on what might be a difficult legal challenge to amend the Oil Pollution Act of 1990 (OPA 90) in order to raise the liability cap retroactively for application to this event. Nevertheless, we believe that there is a very obvious need for the cap to be raised or eliminated for future events given the lessons learned from this spill about the perils of deepwater drilling. It should be noted, however, that even the $20 billion fund may be inadequate to address this spill which, as of this writing, has exceed 150 million gallons. Much of this oil has been dispersed throughout the water column and is likely to inflict very widespread economic impacts for decades to come.

Questions from the Ranking Republican Member, Congressman Henry Brown, Jr. (R–SC)

1. You note that lawyers are descending on Louisiana and telling people that they have to have a lawyer before they submit a claim to BP. What is your reaction to this and how can the Administration or Congress deal with these predatory lawyers?

As explained in my testimony, the circumstances surrounding the spill in the first 60 days or so created widespread fear and confusion among fishermen in the Gulf. Part of this was caused by uncertainty over whether there would be a $75 million cap on BP's liability which was clearly insufficient to provide adequate compensation for fishermen's claims. Another part was caused by the horror stories of the fishermen's experience with the Exxon Valdez spill. Still another part was caused by the reality that even though the goal of OPA 90 may have been to eliminate the need for fishermen to hire a lawyer, the system requires fishermen to present and argue their claims before BP and its claims adjusters and attorneys. If claims to BP remain unresolved after 90 days, fishermen must then argue their case before the Coast Guard to secure compensation through their National Pollution Fund Center. This process is very intimidating and perhaps beyond the capabilities of many fishermen, especially those who may not speak English as their first language.

These fears and the specter of a confusing and protracted battle with BP and the Coast Guard made it easy for unscrupulous lawyers to prey on many fishermen. As Congress intended, in cases such as the *Deepwater Horizon* spill where there is a clear and uncontested responsible party and there are clear and demonstrable impacts on fishermen, OPA 90 must provide fishermen with a very clear, user-friendly system to make claims and receive compensation without the need to hire a lawyer. Unfortunately, there was an unacceptable absence of clear guidance provided to fishermen by the Administration on how to participate in the claims process. The Administration could and should have substantially improved this situation by communicating much more quickly, clearly and effectively to the fishing community how the claims process works and distribute information to fishermen specifically refuting the irresponsible claims of predatory lawyers. The Administration should have served more as an advocate of fishermen in this difficult process.

2. Should the Administration be taking any action to let people know that they do NOT need a lawyer and that government centers are being set up to help people with claims? And should the Administration doing anything to stop these predatory lawyers or prosecute them for making false claims?

In a situation such as this, the US government has the fundamental responsibility to do what is necessary to protect its citizens from harm. Consistent with this responsibility, the Administration should serve in the role of an advocate to protect

the interests of fishermen who have become victims of this spill through no fault of their own. Part of that is to provide and communicate to the fishing community a clear and simple roadmap for dealing with a multitude of impacts including how to file claims and receive compensation. In our view, there was and continues to be a huge void in organized, effective communications between the Administration and the fishing community on virtually all fronts including claims, seafood testing and safety, spill remediation, etc.

Another part of the Administration's responsibility is, of course, to take whatever steps are necessary to protect fishermen from predatory lawyers by publicly distributing information to refute their false claims and aggressively prosecuting those that have broken the law. Instead, to many fishermen it appears that the Administration has been much more interested in down-playing the magnitude and effects of the spill, to the benefit of BP. Again, the Administration has made and continues to make critical decisions affecting the lives and futures of the fishermen in a complete vacuum.

For these reasons, SSA has recommended to the Administration that it formally establish a seafood industry advisory board to develop and provide constructive advice to the various agencies on a range of short and long term response processes and issues relevant to the seafood industry. In addition to providing useful advice to the Administration, this advisory board would also provide a forum through which the Administration can more effectively communicate critical information (such as regarding the claims process and the claims of predatory lawyers). I have attached a copy of my June 22, 2010, letter to NOAA Administrator Lubchenco on this matter. (see Attachment)

Since the hearing, the Administration and BP reached an agreement to establish a $20 billion fund, and the President appointed an independent administrator, Mr. Kenneth Feinberg, to implement the claims process in a fair and expedited manner without the need for fishermen to hire lawyers. We see this as a very encouraging step in the right direction and it would appear to address the problems regarding predatory lawyers. Frankly, however, the jury is still out on how well this new process will work and if the $20 billion fund will be adequate to fully address the economic impacts on our fisheries that may occur for decades into the future. To this final point, it remains unclear whether any statute of limitations for making claims will apply under this new system such as under OPA 90, and this needs to be clarified. Again, the impacts of this spill on the fisheries including fishery closures and on the market for Gulf seafood—and the consequent need for adequate and effective compensation system—may continue for decades and should not be precluded by an arbitrary statute of limitations.

3. Would you support legislation that would cap the amount or percentage of money a lawyer can receive from oil spill claims?

Yes.

4. It has been noted that after Hurricane Katrina, Gulf fishermen lost market share to foreign sources of seafood. You have a lot of experience with trying to regain market share from foreign competitors. What should the Federal government be doing to protect the U.S. seafood industry?

I will address the two primary areas of concern we feel the Federal government should focus on to protect the domestic shrimp producing industry in the context of shrimp imports, 1) enforcement of US trade laws, and 2) the safety of imported shrimp.

Enforcement of Trade Laws

The US imported more than 1.12 billion lbs of shrimp from 47 nations in 2009, the vast majority of which was produced on farms in lesser-developed nations with environmental, food safety, and labor standards far below the US. Imports have accounted for over 90% of shrimp consumption in the US since 2001; 91% in 2008.

Shrimp imports have decimated prices paid to US shrimp fishermen. Average dockside prices for shrimp declined approximately 40% in the Gulf and 30% in the South Atlantic between 2000 and 2006, while, in 2009, dockside prices were the lowest in memory. Shrimp fishing effort and the number of active vessels operating in the US fleet have been reduced sharply.

In 2005, in response to a petition filed by the SSA, the Dept. of Commerce/International Trade Commission determined that six countries were in violation of US law for dumping their shrimp into the US market and ordered that antidumping duties be applied to shrimp imports from those nations. (Brazil, China, Ecuador, India, Thailand and Vietnam).

Shortly after duties were imposed, without prior consultation with the US shrimp industry, the USTR agreed to expedite the government of Ecuador's WTO challenge to the antidumping duties, leading to Ecuadorian shrimp being removed from the antidumping orders in 2007.

In early 2009, in response to erroneous and overreaching WTO decisions, two substantial exporters of Thai shrimp were excluded from the antidumping orders, and the only special program implemented by U.S. Customs and Border Protection (CBP) to ensure the collection of antidumping duties owed, the enhanced continuous bonding program, was eliminated.

In addition, the distribution of collected antidumping duties under the Continued Dumping and Subsidies Offset Act (CDSOA) has been poorly managed by CBP. This has resulted in a vastly disproportionate share of distributions going to a small number of processors and other shrimp purchasers at the expense of shrimp fishermen. While the CDSOA program has been repealed for duties collected on imports entering the United States after October 1, 2007, there is still a significant amount of money that has yet to be distributed to the industry.

Enforcement of shrimp antidumping duties and related trade laws is a top priority for SSA and this is one of the key issues the US government should be focused on to protect the domestic shrimp industry. SSA works closely with CBP, Commerce, and other federal agencies to investigate violations and take enforcement actions including efforts to address the following issues.

1) Lax Enforcement of Trade Laws
   - SSA worked diligently to demonstrate that the industry was materially injured by reason of dumped subject imports, and has continued to defend the orders throughout the administrative reviews. Despite these efforts, the trade relief granted to the US industry was significantly weakened by administrative agencies in purported response to indefensible WTO determinations.
2) Failure of Importers To Pay Duties
   - When importers fail to pay the antidumping duties imposed on shrimp imports, it completely undermines the protection Congress intended to provide domestic producers. Failure to collect duties denies domestic producers a level playing field and now results in a substantial loss of revenue to the US Treasury.
   - CBP developed an enhanced bonding pilot program to enforce the collection of duties for shrimp because failure to pay duties for other commodities has been rampant (>90%).
   - Nevertheless, the WTO subsequently ruled against the CBP enhanced bonding program and CBP has recently decided to abandon it. Even with the enhanced bonding program in place, CBP has reported that over $68 million in antidumping duties on shrimp imports have not been collected. Without it, SSA expects that unpaid duties by shrimp importers will increase sharply and, therefore, deny the US shrimp industry adequate protection from dumping.
   - Importers also avoid paying antidumping duties by manipulating the new shipper review process. These reviews allow a purported new shipper to establish through a single sale that no antidumping duty deposit need be made on the shipper's exports. Because our duty system is retrospective, a single importer can bring in vast quantities of dumped shrimp from the new shipper before dumping duties are imposed. Once duties are imposed, the importer commonly declares bankruptcy, only to pop up again at a later date as a different corporate entity. According to GAO, the discretion to increase the volume of imports a new shipper must make to qualify for a new shipper review rests with Congress, not with Commerce or CBP.
3) Circumvention
   - Importers avoid paying antidumping duties by mislabeling shrimp as being produced in a nation not subject to antidumping duties. Example: Chinese shrimp transshipped through Indonesia and mislabeled as Indonesian origin.
   - Importers also avoid paying antidumping duties by mislabeling shrimp as being in a product form not covered by the antidumping duties. Example: Chinese shrimp mislabeled as "dusted" shrimp.
   - Importers also avoid FDA import restrictions by transshipping through third-party countries to conceal true country of origin. Example: Chinese shrimp subject to FDA import restrictions due to contamination with illegal antibiotics was transshipped/mislabeled as Malaysian.

SSA has recommended a number of Federal initiatives to address the issues outlined above including the following:

- Investigate and enforce US trade and food safety laws to ensure the payment of antidumping duties and to prevent circumvention through transshipments and mislabeling.
- Develop legislation to raise the amount of commercial shipments that a new shipper is required to have in order to precipitate a new shipper review by Commerce.
- Develop legislation to create basic requirements for importers that would afford CBP discretion to deny importer of record status to habitual violators of U.S. law.

Safety of Shrimp Imports

FDA-banned antibiotics and pesticides harmful to human health are widely used in foreign shrimp farms. By treating their farms with veterinary drugs and pesticides foreign shrimp farmers are able to substantially increase the stocking density of shrimp in their ponds while preventing disease outbreaks that would normally occur under such high-density, low sanitary conditions. Artificially increased yields in their ponds translate to artificially-low production costs and export prices—and, ultimately, lower prices paid to US shrimpers at the docks.

Although it inspects only about 1–2 percent of shrimp imports, FDA has found a variety of banned antibiotics and pesticides harmful to human health in shipments of farmed shrimp from all the major farmed shrimp producing nations including China, Thailand, Indonesia, Vietnam, India, etc.

Other major shrimp import markets (EU, Canada and Japan) implement far more stringent imported food safety controls than the US. As those countries succeed at keeping their consumers safe from contaminated shrimp imports, their rejected shrimp is diverted to the US market.

Because the use of illegal antibiotics and pesticides provides foreign shrimp farmers with a substantial competitive advantage over US producers of high quality wild shrimp, there is an enormous economic incentive for those shrimp farmers to use illegal substances and almost no disincentive to ship contaminated shrimp to the US under its lax testing regime.

Shrimp imports exceeded 1.24 billion pounds in 2008, 1.12 billion pounds in 2009, of which more than 80% were raised on farms in nations with environmental, food safety, and labor standards far below the US.

Consequently, it is very likely that large quantities of imported farm raised shrimp contaminated with harmful antibiotics and pesticides are being eaten by US consumers every year. Some of these contaminants are implicated in causing aplastic anemia and others are implicated in causing cancer. The long-term toxicity and bacterial resistance effects of sustained exposure are not fully understood but may present the most serious concern of all.

The failure of the US food safety system to prevent the importation of large quantities of contaminated farm-raised shrimp poses a serious human health risk to US seafood consumers.

The current FDA system for inspecting and preventing the importation of contaminated shrimp is extraordinarily lax and ineffective—especially relative to other major seafood consuming markets including Canada, the EU and Japan.

The US has become the preferred market (dumping ground) for exporters of contaminated shrimp that will not be accepted into other markets.

SSA's objectives for the Federal response to this problem include:

- Require foreign producers/nations to achieve equivalence to US food safety standards
- Substantially increase FDA inspection rates for imported seafood
- Raise integrity of inspection laboratories
- Prevent US consumption of shrimp found to be contaminated—destroy
- Increase consequences (penalties) for violations
- Increase international coordination of enforcement in other major import markets.

Specifically, SSA has submitted legislative proposals to Congress for inclusion in the comprehensive food safety legislation currently under consideration. These include provisions to require and provide funding to FDA for an enhanced seafood testing program that will substantially increase the quantity of shrimp imports FDA tests each year for illegal antibiotics and pesticides. A requirement for FDA to increase its testing from less than 2% to 20% of seafood imports would finally put the US on par with other major importing markets such as the EU, Canada and Japan. SSA's legislative proposals also include provisions to impose monetary penalties

(fines) on importers that import contaminated seafood, and impose licensing requirements for importers.

5. Secretary Locke has declared a fisheries disaster. Have you had experience with fisheries disaster declarations before and if so, did much if any of the funding actually reach fishermen?

SSA has not been directly involved with the distribution of funds under fishery disaster declarations. This has been a function of the individual affected States. It is our strong impression, however, that important improvements to the process for distribution of funds to fishermen should be made. While it may continue to be desirable for federal funds to be distributed by each affected State to the affected fishermen through their own administrative systems, additional and more specific Federal guidance and requirements for the handling of such distributions by the States appears warranted to ensure the purposes of the federal disaster declaration and funding to assist fishermen are actually achieved.

Attachment

Southern Shrimp Alliance

P.O. Box 1577 Tarpon Springs, FL 34688

955 E. MLK Dr. Suite D Tarpon Springs, FL 34689

727–934–5090 Fax 727–934–5362

June 22, 2010

Dr. Jane Lubchenco,
Administrator
National Oceanic and Atmospheric Administration
1401 Constitution Ave., NW
Washington, DC 20230
Dr. Lubchenco:

I understand there is to be an important meeting this week in the Gulf region to include NOAA/NMFS leadership, FDA and the White House regarding the government's fisheries reopening protocol/policy.

This is to respectfully request you to please consider and, if appropriate, discuss at that meeting my recommendation that the federal government establish a seafood industry advisory body as an integral partner in the short and long term responses to the oil spill.

This body should be comprised of top-tier industry leaders and charged with participating in—and providing expert input and advice to—the several ongoing response processes that are relevant to our industry including but not limited to:

1) fishery closure/opening protocols and decisions;
2) oil clean-up procedures and technologies including the health and safety of clean-up personnel;
3) claims procedures for the $20 b escrow account;
4) seafood safety inspection protocols;
5) communications to the public concerning seafood safety; and
6) sustained monitoring and response to potentially very long term impacts on fishery resources and economies that will require compensation and remediation for many years after this event has long faded from public attention.

The Gulf seafood industry, including many thousands of family-owned small businesses in hundreds of fishery-dependent communities, will continue to sustain profound economic and social disruptions which in some cases may prove to be irreversible. It is highly likely to be the most adversely impacted stakeholder in the government's response efforts, yet it has no formal voice in the decision-making processes mentioned above, or a defined role in their implementation. This is a critical omission.

I'm speaking on behalf of the Southern Shrimp Alliance, but I feel confident that other major components of the Gulf seafood industry would concur with the need and desirability for our industry to be your partner in making the government's response as effective as possible.

I would also note that this industry not only holds a vast wealth of knowledge and expertise that would contribute substantially to the quality of response decisions and implementation, it also constitutes a vast resource of manpower that can be used to physically implement some aspects of the response, especially aspects of the seafood safety and clean-up missions.

Finally, the ability to contribute directly to this process would provide a basis for a greater level of confidence in the government's response within these constituencies.

Please seriously consider establishing a Gulf seafood industry advisory body to become the federal government's partner in responding to this historic event. I would be pleased to discuss this with you at your earliest convenience.

My sincere thanks for your consideration—

John Williams, Executive Director
Southern Shrimp Alliance

Ms. BORDALLO. I thank you, Mr. Williams, for your testimony this afternoon, and I believe we have a heightened appreciation for your situation.

Mr. Lambert, I look forward to your testimony, and you may now proceed.

STATEMENT OF CAPTAIN RYAN LAMBERT,
CAJUN FISHING ADVENTURES, LULING, LOUISIANA

Captain LAMBERT. Thank you, Madam Bordallo. My name is Ryan Lambert, and I am a charter fishing guide out of Buras, Louisiana, ground zero for the Horizon oil spill. I am a member of Ducks Unlimited, CCA and sit on the board of directors for the Charter Boat Association.

I wrote a pretty speech, but I am not going to use it. I am going to go personally on ground zero, if you will, and bring it down to laymen's terms. When people ask me what is the impact you have had on the oil spill, the only thing I can tell them is to take everything that you know from school to fundraising, to being a speaker and, in one day, all of that is useless.

They say experience is invaluable. Well, right now it is worthless because when I pull up to the dock I can look at the water level, I can look at the wind direction, where the tide is. I know right where to go to catch what kind of fish. I know where to go for what duck, because I am a passionate duck hunter and duck guide as well. And right now all that is worthless.

So the first thing I thought about was the 11 families when it first happened. You know, I had no idea that I would be impacted. I said those poor guys. They are just making a living, and they lost their lives supporting their families.

But a few days later when it got bigger and bigger and bigger, it started coming in to us and the reporters started showing up. They wanted us to take them to the oil. Well, we took them out, but no one could find the oil. This went on, and then all of a sudden, they found some on Pass a l'Outre where everybody did their photo ops. After 47 days and people were still having trouble—I mean, experienced people that know the water were having trouble finding the oil, I said I am going to take a trip myself.

I threw my old black lab in the boat and I figured I would go to a restoration project about 90 miles away from the spill, because I knew it had a hard beach there and whatever was floating up, I would find. On the way, I saw a couple of oil sheens and then got a little closer. I could see a few pelicans that were just starting to turn a little rusty on the breast.

Upon reaching the beach, everything looked fairly normal. I walked two or three miles down the beach, and I started noticing

clams, more shells than there normally are. Upon looking closer, they were actually fingernail clams, which drum and ducks and everything, that is the start of all life. I said why are there so many?

I got closer to the water, because the water is real murky from the water being high. It is at 13.2. It just crested last week. When I got down to the water there were millions and millions of what they call moose, these tar balls, in the surf. They were just going back and forth and washing back and forth. They had a couple on those photo ops that they see on the beach, but there were millions of them, and they were all encrusted with these shells. These are the things that people don't see, you know.

So three days later I go back on Day 50, and I go to that beach and as far as you can see, for miles and miles, there is oil and millions and millions of tar balls, and all the aquatic grasses that are caught up in that and some various—you know, the pelicans were having a harder time, and they were kind of teetering as they flew.

I thought, why are there no booms here? Why are there no people working, you know? You see 50 people standing on the tent in Grand Isle where the TV cameras are. You know, it is out of sight, out of mind, and that is why the dispersants were used. And the only reason I am seeing all of this is because it is a secluded beach that only someone like myself would go to.

So when I look off to the east I see Chinooks and Blackhawks carrying sandbags back and forth, back and forth, trying to stop the gaps because we didn't take the time to build the restoration projects like the one I was standing on, and now we are vulnerable. Now they are spending millions and millions of dollars trying to fill those breaches with sandbags.

You know, now we are talking about spending $350 million to build the berms when we should have spent it already to protect Louisiana because if we had a solid beach, all this would come on the beach. We would suck it up, and we would go about our business; but now farther down closer to the spill, there are millions of those tar balls. They are not floating. They are underwater because of the dispersants. People can't see them.

The whole marsh is going to be filled with that and every invertebrate, every crustacean, every larvae and fish egg is going to be encrusted on those things, They are all going to die, and we will lose a few year classes because Mother Nature tends to heal herself.

But on the way back, I captured a pelican. You know, I ran it down and I jumped out and I grabbed it and I was going to bring it to the rescue center. I am running short on time. I have a lot to say. That mess was all over its beak, and as they preen to clean themselves, they just spread it, spread it everywhere.

What is going to happen come August, and the oil is still supposed to be leaking then. The migration. The waterfowl will come down. We are talking about 15 million ducks and geese that will be coming through Louisiana, and the very nature of these ducks, the way they act, is a lot of them are dabblers and they will be feeding, and as they have their beak down in that stuff it is going to get all over it. It is so sticky. When they preen, they won't be able to fly.

Then where we are at they are wrapped up in tens of thousands offshore where the slicks are, where the big slicks are, so that is going to be detrimental as well. And then it is a threefold deal because probably 100,000 of them will winter in my area. Fifteen million will pass through and go to Central America, Nicaragua, Honduras. There won't be a food source because that oil is killing the aquatics and the invertebrates, so they won't be able to sustain themselves to get across the Gulf.

If we lose half of the Mississippi flyway, the economic impact will be gross from Alaska to Canada, all through Wisconsin, Minnesota, all through the Mississippi delta. I mean, people won't be able to duck hunt for years, and it will be unbelievable.

So there is very little that we can do, short of opening up the river, to make nature flush itself out and help with that. You know, I tell people, no matter what, I will fish come hell or high water. Well, Katrina put 24 feet of water in my lodge so I have already seen the high water. Now I am afraid of what I am going to deal with now. Thank you for letting me testify and share my thoughts.

[The prepared statement of Captain Lambert follows:]

Statement of Captain Ryan Lambert, Director,
Louisiana Charter Boat Association

I am deeply grateful to the Subcommittee for the opportunity to testify at this hearing, and to explain the impact that the *Deepwater Horizon* oil spill is having on my community, my business and my way of life.

I am a member of Ducks Unlimited and the Coastal Conservation Association, and sit on the Board of Directors for the Louisiana Charter Boat Association, as well as being President of Cajun Fishing Adventures. As a professional fishing and hunting guide with 29 years of experience, I have built one of the most successful fishing lodges in the state of Louisiana. I am licensed by the Coast Guard, and I have been hunting, fishing, trapping and shrimping in South Louisiana all of my life.

As the years have passed, our way of life has been increasingly threatened due to the erosion of our wetlands. These wetlands are a place where our unique culture has existed for generations. They are our home, and we value working in the rich gulf waters.

The people of Louisiana have been stereotyped as being "backwards" or "behind times". The truth is, we are just salt-of-the-earth Americans. Americans that are not afraid to roll up our sleeves and make a living off of the land. When our shrimp season closes or our crabs aren't giving, we adjust to find another way to make our money off the land. We don't run to the unemployment line and we don't seek the help of agencies. Unfortunately, now that our shrimp boats are in dock and our crab traps are on the bank, there aren't any sportsmen wanting to come down to fish or hunt waterfowl with guys like me.

With millions of gallons of oil entering this fragile ecosystem from the oil spill of the *Deepwater Horizon*, Never before has our national treasure, been in more jeopardy than it is now. It is apparent that it is time for us to turn to you for the help we need to save our precious wetlands and our way of life.

For far too long, Louisiana's restoration projects have been held back due to red tape and political bureaucracies. It is time for someone to step to the plate and reconnect the Mississippi River to the marshes it sustains. This disconnect is at the root of our problem. A spotted owl can stop the logging industry. An endangered mouse can halt a housing development. But we lose the size of a football field every 30 minutes as we sit back and let the greatest estuary in North America go by the way side. This estuary supports the vast majority of south Louisiana with its great abundance of resources such as oil, seafood, fishing and hunting. It is an economic engine in itself.

The Mississippi River is one of the most highly engineered in the entire world and provides great benefit to the nation's economy at Louisiana's expense. For years the Corps of Engineers has dredged the river and put the sediment in hopper barges taking it offshore to dump it in the gulf instead of putting it to good use in our wetlands. The reason given was that it is not cost effective to use it in the marsh. How

many millions of dollars do we need now because we did not spend the extra money to use this resource wisely?

Twenty-five years ago, the restoration of a major portion of the Plaquemines Parish shoreline, the Shell Island project, was estimated to cost $35 million. Unfortunately, it was not completed at that time. That same project has again been under study by the Corps of Engineers for over five years. The current estimated cost is $250 million. The time for studies has past.

The Corps is primarily a flood control and navigation agency, and has no mission or procedure to elevate the restoration of south Louisiana to levels of equal importance as its traditional missions. The precedent is no action. We need a new precedent. We need to take extraordinary action, which will involve risk and uncertainty. We need to send the Corps a new mission. A mission that is at least equal to the navigation of the lower Mississippi, a mission of restoration!

As we did after Katrina, we are again watching our military helicopters flying sandbags trying to plug the large gaps in our coastlines. Had we taken control of our river and sediment years ago, we would not have to protect ourselves from the large plumes of oil lurking off the coast. We would not be in the fix we are now in. This is the forth time in recent years we have felt the sting of our failures. Without taking into account the hurricanes and this oil spill, we are losing countless acres of wetlands every day. The time has come to save our national treasure.

Other states refuse to drill off their coast, yet they allow Louisiana to take the hit when something like this oil spill happens. Louisiana has been refused royalties due to the state for drilling in our fragile ecosystem. Now after all the years we have been supplying the country with 30% of domestic oil from the gulf, we will start getting well-deserved royalties in 2016. This is too little too late. This money should be sent to Louisiana immediately. The money should be sent to fund programs such as the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) and used solely for the restoration of our abused coast.

We don't know for sure the long term affects that the dispersants and the millions of gallons of oil are going to have on our marshes. We do fear that after the visible oil is cleared and the news media is gone, we will be left to wait for mother nature to heal herself. We will be left without a way to make a living and our wetland will just wash away.

It seems that many people refuse to see the big picture of what is really happening. While the loss of pelicans and turtles are devastating scenes, the real damage is going on inside the marshes. These marshes serve as the nursery to twenty percent of the nation's commercial seafood. The eggs and larva of shrimp and crabs, the spat from oysters, as well as the young of many of our fish species are being killed by the millions. Without these young and the invertebrates that they feed on, Louisiana, and our way of life, will be changed forever. All life starts at the bottom of the food chain, this is where the most damage will occur when the oil and dispersants cover our waters.

Also when one of the greatest natural spectacles in North America starts in late August, with the migration of our waterfowl and other wetland birds, if the oil is not cleaned up by then, this alone will be truly a national disaster of epic proportions. This migration will send some 15 million waterfowl passing through south Louisiana. A great percentage of them will winter in Louisiana until the spring winds call them back to the north to nest. The wetlands of the Gulf Coast comprise the most important wintering area for waterfowl and many other wetland dependant migratory birds in North America. Perhaps 50% of the ducks in the north migrate through or winter in Gulf Coast wetlands. The spill will devastate these birds, some of which are already threatened. Everyone has seen the photos of pelicans and other shore birds covered in oil. Imagine photos of millions of waterfowl and other beautiful birds, covered in black. My other fear is that the small animals and invertebrates as well as many aquatic grasses will not be present. These are the fuel sources that take many of these birds to Central America to winter. Plaquemines Parish where I make a living contains 14% of America's wetlands. A major percentage of the Mississippi flyway waterfowl winters here. This is ground zero for the *Deepwater Horizon* oil spill. If we lose 50% of these waterfowl, the economic impact will be felt from Alaska and Canada and throughout the central United States for many years.

I sit here preparing my written testimony, having just returned from a visit to one of our completed restoration projects. I think about how optimistic I was this morning before arriving on the beach. I thought maybe BP was right—that it is not coming inshore because after 47 days, I hadn't really seen the giant oil slicks everywhere. Now I have lost the wind from my sails after seeing millions of tar balls rolling in the surf. Not only was every tar ball covered with small dead clams, but just

under the surf are millions of these clams covering the beach. This is just the start of the death that we will be seeing in the future.

By BP putting the dispersants on the oil, it has sunk out of sight of the cameras. The oil is there, millions of gallons of it. It is just starting to make its way to the Louisiana shores. My walk took place ninety miles from the *Deepwater Horizon*. Areas closer to the oil well don't have a beach to protect it from the oil balls coming into the marsh. They are underwater were you can't see them, but they are there. This is just the start of what's to come. The oil will be coming from the depths for years, not floating on the surface but out of sight. It is not to late to rebuild our coast. We need to open up the Mississippi to the marshes and let it do its job the way nature intended it to. There is a happy medium between navigation and restoration. We need to find that place and find it fast. Now is not the time for more studies. It's time to get the river flowing through the natural channels that still exist. Sure there will be shoaling in places, but it doesn't take the whole river to navigate to New Orleans.

I thank the subcommittee for letting me share my thoughts on our great Mississippi delta. I would also like to take this opportunity to invite each and every one of you to come down and let me show you in person just what I am talking about.

Thanks.

Response to questions submitted for the record by Ryan Lambert, Cajun Fishing Adventures

Questions from Chairwoman Madeline Z. Bordallo (D–GU)

1. Can you further describe the cascading impacts of the oil spill from the wetlands to professional fishing and hunting operations, like the one that you own?

Chairwoman Bordallo, the impacts are just as you asked, cascading. At first customers started cancelling their trips due to the media coverage. Then the Wildlife and Fisheries started closing waters around us. After there was not a great deal of oil floating into the bays the water was partly reopened. Customers then did not rebook due to the opening and closing of the water happening to rapidly. I tried to keep my lodge opened for the sake of my employees. A few really good clients would come in at the last minute trying to help us out. Now my guides have left to work for BP in the oil spill because they are paying the boats $1500 per day. As I write you I have three more days for my brother and I to fish before I close my doors. Soon all the water will be closed because as you know the well is still leaking. Only time will how long I will be closed due to the dispersants and the oil being underwater. I see animals at the bottom of the food chain dying 1000 fold since I was in Washington. No one seems to see the small changes because it doesn't make for good news.

Questions from the Ranking Republican Member, Congressman Henry Brown, Jr. (R–SC)

1. Captain Lambert, do you support Governor Bobby Jindal's proposal to build temporary barrier islands to protect Louisiana's wetlands? What are the benefits and any potential liabilities of this approach?

Congressman Brown, I do support Mr. Jindal's proposal only because it will protect us from the oil that is coming in from underwater due to the dispersants. If we have the brumes, the oil will be stopped on the sand to be easily cleaned just like in other states. If we don't have them the oil can enter the marshes where it can't be cleaned. It will kill the very ecosystem that sustains life in Louisiana. I only hope that it isn't to late already. I know that the oil will be coming in for years to come so in the long run the brumes will be a great help. On the other hand, I would rather have used the resources that are being used to do the job right. For years Louisiana has lost miles of shoreline each year. We have studied and tested all of my life. Now it is time to work without bureaucratic roadblocks to bring Louisiana back. These brumes might be a starting place to rebuild after the oil spill is nothing but history.

2. Have you filed any claims against BP? What was the basis of your claim and what has been BP's reaction?

I have filed a claim with BP. They have assigned an adjuster to my claim and we are in the process of getting all of my tax papers together for him. They have

paid money up front and will true up as we go along. I don't know on what they are going to pay as of yet but will find out soon.

3. What role has the media played in building the perception that the Gulf of Mexico and its beaches are covered with oil? How do we correct these misconceptions?

As you know the media makes a living on selling sensationalism. When they came here, they wanted to see the worst places and to hear the folks hating on BP. They couldn't believe that we didn't want to stop drilling here. At first we had to look really hard just to find oil for them to film. When they found a spot they all went there to use the same oil for their stories. This is just the way the industry works and I don't think that there is much we can do about that.

4. Do you support President Obama's proposal for a six-month moratorium on deepwater exploratory drilling in the Gulf of Mexico?

I do not support the moratorium. I have lived next to the oil industry all my life. This is one accident all be it a giant one that has happened. If there are 33 deepwater rigs, send 33 teams out to investigate these rigs to make sure that they have all the safety precautions in place. This should not take 6 months. Louisiana will be in enough trouble without putting another industry out of business. If these rigs leave here they won't be coming back.

5. Please explain your proposal to open up the Mississippi River to the marshes? What is the potential cost and the time to make that project a reality?

There are many of the natural bayous that still exist, these bayous were formed by the river overflowing its banks each spring. I feel that we should build spillways in places in southeast Louisiana where there is open land. Now we have diversions that pipe the water under roads and into the marshes. While these do work I think that the spillways would be more natural and move more water and sediments into the marshes. By doing these spillways mother nature will clean up the oil years faster than we will be able to do ourselves by flushing it out into the gulf again and covering it with sediments. There will be set backs such as Oystermen saying that it will kill their oysters because of the fresh water coming in to fast. What this tells me is that the oysters are where they don't belong. As the marshes have eroded they have moved the oysters closer and closer to the river. They are now where they don't belong and we will have to face the realism of moving them or losing them for the sake of keeping Louisiana. I don't know the cost of these spillways but there are many of them that have been planed and studied like everything else here. There are people at NOAA that can answer this part of the question much better than I. I know that CWPPRA has been the only program that has built restoration projects thus far. It works because there are five different agencies that work together and hold each other accountable for the completion of these projects. We need to give them the monies from the oil revenues and from the oil being captured from the *Deepwater Horizon*.

If you have more question or want to talk more about this please give me a call at 504–559–5111 and I will be happy to talk with everyone interested.

Thanks

Ms. BORDALLO. Thank you very much, Mr. Lambert, for sharing your experience with us. We appreciate it.

We will have questions for the panelists later. We will now turn to Ms. McDonough. Welcome to the Subcommittee, and please begin your testimony.

STATEMENT OF JOANNE McDONOUGH, NATURE TOURISM SPECIALIST, ALABAMA GULF COAST CONVENTION & VISITORS BUREAU, ORANGE BEACH, ALABAMA

Ms. MCDONOUGH. Thank you, Madam Chairman and fellow Committee Members, for the invitation to testify here concerning the importance of nature tourism in the Gulf of Mexico region.

I serve as a nature tourism specialist with the Alabama Gulf Coast Convention & Visitors Bureau and the Mississippi-Alabama Sea Grant Consortium. We work closely with nature tour operators

to educate people about the importance of environmental ethics and stewardship of the Gulf of Mexico natural resources.

Nature tourism may be simply defined as visiting natural landscapes to enjoy scenery and view the wildlife at home and around the world. This industry relies profoundly on healthy ecosystems and biodiversity. Tourism is the world's largest industry and nature tourism its fastest growing sector.

A national survey conducted in 2006 by the U.S. Fish and Wildlife Service revealed that $22 billion was spent on hunting, fishing and wildlife viewing just in the Gulf Coast region. Watching wildlife generated $6 billion. Hundreds of thousands of jobs are sustained mainly by small businesses, whose profits circulate through local coastal communities throughout the Gulf of Mexico.

Alabama and Mississippi include 966 miles of estuarine shoreline with 98 miles of Gulf front beaches. Alabama's sugar white beaches attracted more than four million tourists in 2009, generating more than $3 billion into the coastal communities of Baldwin and Mobile Counties. Nearly $2 billion of that was generated just between Memorial Day and Labor Day.

Before the *Deepwater Horizon* catastrophe, a fleet of vessels in Orange Beach, Alabama, were capable of carrying hundreds of thousands of tourists to the fertile breeding grounds of wild bottlenose dolphin. Thirty-one captains and crew are trained by the Dolphin Smart Program that promotes the sustainable viewing of dolphin in their natural habitat. Today, they are idle at the dock. Phones are silent.

Before oil began coating Louisiana wetlands, in Mississippi kayak paddles were scheduled to dip into the Pascagoula River, the last remaining free-flowing river in our nation. Certified coastal nature guides in Alabama were booking kayak tours through cypress gum swamps, emerging into the Mobile-Tensaw Delta, one of the largest, intact wetland ecosystems in the United States.

Sailing charters were ready to ply the nutrient-rich waters of Mobile Bay, a national estuary, and the second largest, intact river delta system in the Nation. Their phones are ringing, only with cancellations.

The nature of our coast along the Gulf of Mexico is critical to our nation's economy, our natural heritage, our cultural integrity. Our natural assets not only afford destinations for leisure; our Barrier Islands are the first line of defense for storm resilience. Our maritime forests play a vital role in providing clean air. Oyster reefs and seagrass beds provide clean water and safe food. Just as these habitats suffer untold losses due to this catastrophe, so will entire generations of people in Gulf Coast communities.

A toxic tide assaults our shores every day. I carry an urgent plea from tour operators and coastal residents. BP response efforts are slow, inadequate and disorganized. We need jobs. Out of state workers are being hired for jobs the local workforce could perform.

I bring personal stories with me. Captain Chris Nelson echoes their concerns. These are his words. "I have always been a realist, not a pessimist, but when it came to our beautiful natural wildlife, I was an optimist. Today, I cannot claim that. I have lost hope."

With your help, we can make sure wildlife will have clean homes, restore nature tourism, and bring back hope for coastal residents,

like Captain Chris. Thank you, Madam Chairwoman, fellow Committee members, for your efforts in addressing this manmade disaster.

Recommendations are in my written testimony, and I am happy to answer questions.

[The prepared statement of Ms. McDonough follows:]

Statement of Joanne McDonough, Nature Tourism Specialist, Alabama Gulf Coast Convention & Visitors Bureau and the Mississippi-Alabama Sea Grant Consortium

I deeply appreciate your invitation to provide testimony before the Subcommittee concerning the economic impact of Nature Tourism in the Gulf of Mexico region. My name is Joanne McDonough, and let me first say on behalf of the Alabama and Mississippi coastal communities I represent: our heartfelt condolences are extended to the families of those 11 men who died in the *Deepwater Horizon* tragedy. They are foremost in everyone's mind, as well as those whose quality of life and livelihoods are affected by this unprecedented catastrophe spilling untold gallons of oil into the Gulf of Mexico.

Even before this disaster, coastal natural resources have been under constant threat. Sixty percent of the United States river systems drain into the Gulf of Mexico. Gulf wetlands have been under constant assault by unsustainable development, violent weather and sea-level rise.

I serve as a Nature Tourism Specialist with the Alabama Gulf Coast Convention & Visitors Bureau (AGCCVB) and the Mississippi-Alabama Sea Grant Consortium (MASGC). We are dedicated to promoting the sustainable use of our natural resources to benefit the environment, the economy and future generations. We work closely with nature tour operators to support, enhance and sustainably grow the nature tourism industry. In 2007, I began managing a Nature Tourism Initiative that was launched in Baldwin and Mobile counties in 2000, and the Initiative is currently expanding to the coastal counties of Mississippi. I serve as the director of the Certified Coastal Nature Guide Program that was launched in February of 2010 on Alabama's Gulf Coast; my office is located in Gulf Shores, Alabama. Before joining the Nature Tourism Initiative, I was the Chief Operations Officer of Caribiana Sea Skiffs, our family boat building company in Orange Beach, Alabama, and a U.S. Coast Guard licensed Captain conducting nature tours along the bays and bayous of Baldwin County.

Nature tourism, sometimes referred to as eco-tourism, may be simply defined as visiting natural landscapes to enjoy scenery and view wildlife at home and around the world. Some activities include bird watching, marine mammal viewing, kayaking, visiting protected areas, and in some cases specifically promoting conservation of nature. This industry relies profoundly on healthy ecosystems and biodiversity. Tourism is the world's largest industry and Nature Tourism its fastest growing sector.

According to the 2006 National Survey of Wildlife Related-Recreation, conducted every 5 years by the U.S. Fish & Wildlife Service, expenditures for fishing, hunting and wildlife viewing in the Gulf Region topped $22 billion. Wildlife viewing alone contributed over $6 billion. Hundreds of thousands of jobs are sustained mainly by small businesses whose profits circulate through local coastal communities throughout the Gulf of Mexico.

Clearly, America's fascination with Mother Nature has moved beyond mere recreation to become an economic catalyst for Gulf Coast communities and offers enormous opportunities to engage people of all ages in the need for environmental ethics and stewardship of the Gulf of Mexico.

In Alabama and Mississippi, Perdido Bay, Mobile Bay and the Mississippi Sound are important estuaries representing a total surface area of 5,981km^2. Mobile Bay and the Pascagoula River drainage basin in the Mississippi Sound are of special concern to MASGC. The 480 square mile Mobile Bay estuary contains a documented 337 species of fish, more species per area than any other region of North America. Of the 74 major river estuaries in North America, the Pascagoula River is the only one in the United States that remains unaffected by channel fragmentation and flow regulation along its entire length. As a result, the Pascagoula River is a vital center of biodiversity and essential fish habitats for numerous threatened and endangered species.

Alabama and Mississippi include 966 miles of estuarine shoreline with 98 miles of Gulf front beaches. According to the 2009 Economic Impact Reports, Alabama and Mississippi coastal beaches attracted more than 9.5 million tourists who contributed

more than $4 billion to the local economies. While everyone recognizes that natural resources are a primary reason those visitors come, effectively communicating with local businesses about the economic value of healthy ecosystems and educating them about the sustainable use of our natural resources is a challenging task.

In the field, well-planned and managed nature tourism businesses have proven to be one of the most powerful incentives to conserve and protect biodiversity. The Alabama Gulf Coast Convention & Visitors Bureau (AGCCVB) recognized the potential of nature tourism and formed a partnership with the Alabama Department of Conservation and Natural Resources (ADCNR) and the U.S. Fish & Wildlife Service in 2000 to create the Alabama Coastal Birding Trail. Since then, the Convention & Visitors Bureau has been conducting surveys of overnight guests to Baldwin County to measure the growth of the nature tourism industry. The surveys reveal that in 2000, nearly 100,000 visitors participated in wildlife viewing activities. In 2009, nearly 400,000 visitors participated in wildlife related activities.

When I joined the Alabama Nature Tourism Initiative in 2007, we began taking an inventory of nature tour operations in Baldwin and Mobile counties by conducting face-to-face interviews, using AGCCVB Industry Partner membership data and postings by company websites, at that time we determined at least 40 nature tour companies were operating in Baldwin and Mobile counties. On April 20, 2010 at least 64 businesses were identified in both counties, these numbers do not include the charter fishing companies. MASGC began a Mississippi Nature Tourism Initiative in 2009 and preliminary data estimates at least 10 nature tour companies are operating on the Mississippi Gulf Coast; we are in the process of meeting face-to-face with these existing tour operators.

The Convention & Visitors Bureau economic impact report of overnight guests to Baldwin County revealed that in 2009, Alabama's coastal beaches attracted over four million visitors who spent more than $2 billion. $1.7 billion of that was generated between Memorial Day and Labor Day.

Before the *Deepwater Horizon* catastrophe, a fleet of more than 32 vessels in Orange Beach, Alabama, were capable of carrying hundreds of thousands of tourists to the fertile breeding grounds of wild bottlenose dolphin. Thirty one captains and deck hands are trained by the Dolphin SMART program that promotes the sustainable viewing of dolphin in their natural habitat. Today, many captains and their crew are idle at the dock, phones are silent.

Before oil began coating Louisiana wetlands, in Mississippi paddles were scheduled to dip into the cypress-tupelo swamps along the Pascagoula River, the last remaining free flowing river in our nation. Certified Coastal Nature Guides in Alabama were booking kayak tours through cypress-gum swamps emerging into the Mobile-Tensaw Delta, one of the largest intact wetland ecosystems in the United States, second only to the Mississippi River Delta. The Delta itself covers over 200,000 acres of swamps, marshes, and river bottomlands that are among the most impressive in the world, in fact Congress named the Delta a National Natural Landmark. Tidal freshwater marshes occur in the extreme lower portion of the Delta near the mouth of Mobile Bay. Sailing charters were ready to ply the nutrient rich waters of Mobile Bay, a national estuary and the second largest intact river delta system in the nation. Phones are ringing with cancellations.

Marsh meadows framed a perfect picture for bird watchers documenting spring migrations along the Alabama Coastal Birding Trail. Bon Secour National Wildlife Refuge represents the best remaining stopover and staging habitat for Neotropical migratory songbirds during the spring and fall migration along the Alabama coastline. Our barrier islands are formed by crystal-white sand that tumbled from the Appalachian Mountains over eons and are a beachcomber's treasure chest, and the refuge of nesting sea turtles and horseshoe crabs continuing an ancient ritual of the cycle of life. The newly designated National Coastal Scenic Byway encourages new businesses to open their doors along a route that reveals the waters, ways and wildlife of Alabama's Gulf Coast.

The nature of our coasts along the Gulf of Mexico is critical to our nation's economy, our natural heritage, our cultural integrity. Our natural assets not only afford destinations for leisure, our barrier islands are the first line of defense for storm resilience. Our maritime forests play a vital role in providing clean air. Oyster reefs and sea grass beds provide clean water and safe food. Just as these habitats suffer untold losses due to this catastrophe, so will entire generations of people in the Gulf of Mexico.

I carry an urgent plea from tour operators and coastal residents. We need jobs. Out-of-state workers are being hired for BP oil response jobs the local workforce can perform. I bring the personal stories from nature tour operators with me, and Alabama Kayak Adventures' Captain Chris Nelson echoes their concerns, these are his words. "I have always been a realist, not a pessimist, but when it came to our beau-

tiful natural wildlife, I was an optimist. Today I cannot claim that. I have lost hope."

With your help we can make sure wildlife will have clean homes, restore Nature Tourism, and bring back hope for coastal residents like Captain Chris.

Recommendations

Jobs

The most immediate need is jobs. Some tour operators who were hired for the Vessels of Opportunity Program have been deactivated, while out of state vessels are still on the payroll. All BP oil response jobs should be available first and foremost to local residents.

Claims Process

Many coastal residents who lost their livelihoods are frustrated by the claims process when attempting to recover lost revenue. Please exert your influence to insure they are truly compensated for their losses.

Habitats

Dolphin viewing tours are the largest sector of the nature tourism industry in Baldwin and Mobile counties. Perdido Bay and Wolf Bay are nursing, feeding and breeding grounds for Bottlenose Dolphin. In 2009 more than 100 sightings were reported of West Indian manatees in Alabama waters, they are a federally listed endangered species. Local research to answer key questions about what is "home" to these marine mammals is seriously underfunded.

Restoration and the creation of new habitats need funding.

We must protect as much clean habitat as possible, we can't afford more loss. The following programs have been implemented in Alabama. Your support will help promote the sustainable use of our natural resources to benefit the environment, the economy and future generations.

Certified Coastal Nature Guide Program (CNGP) http://gulfshores.com/things-to-do/coastal-nature-guide/

The CNGP is a partnership program developed by the AGGCVB, MASGC, Weeks Bay National Estuarine Research Reserve (WBNERR), and the Alabama Department of Conservation and Natural Resources (ADCNR). The goal of the program is to adopt and promote sustainable wildlife viewing practices that preserve healthy and resilient coasts of the Gulf of Mexico. The purpose for developing this program is to:

- Create a well-trained Nature Tourism staff to educate customers using the services of these businesses.
- Provide local communities with information and techniques to enhance waterfront related economic activities and protect the health of the natural Gulf Coast environment
- Ensure that Gulf Coast communities and industries have healthy economies that include an abundance of recreation and tourism opportunities.

All Coastal Nature Guides encourage responsible viewing of wildlife by following the program's code of ethics and statement of commitment, which are adapted from the United Nations Environment Program, Tour Operators Initiative. Some examples of the statement of commitment include:

(1) I am committed to developing, operating and marketing nature tourism in a sustainable manner that makes a positive contribution to the natural and cultural environment, which generate benefits for coastal communities, and which do not put at risk the future livelihood of local people.

(2) I commit to create awareness and active involvement among my customers towards the natural, social and cultural environment of the places we visit.

(3) I will encourage other nature tour operators to follow the code of ethics.

Some examples of the code of ethics include:

- Promote conservation and wise use of valuable coastal natural resources to all citizens
- Do not feed, pursue or harass wildlife
- Turn off or shield all lights that can be seen from the beach during turtle nesting season
- Leave natural, historic, and cultural objects and artifacts where you find them
- Practice "catch and release" fishing to protect and conserve fisheries

Share the Beach Sea Turtle Volunteer Program

http://www.alabamaseaturtles.com/

Every year from May through October female sea turtles swim the world's oceans, migrating home toward the beaches where they were born, continuing an ancient ritual of reproduction. Of the seven species of sea turtles in the world, three types may be fortunate enough to reach coastal waters and emerge from the Gulf of Mexico to nest on Alabama's Gulf Coast: Loggerhead, Kemp's Ridley and Green, all three are listed as endangered species by the U.S. Fish & Wildlife Service.

For the last eight years, a dedicated force of concerned citizens armed with trash bags, cell phones and GPS devices has been scouting Alabama's sandy shores in an effort to make our local beaches sea turtle friendly. The Share the Beach program brings hundreds of volunteers together, each nesting season, to search along the shoreline for sea turtle nests. In 2009 sixty-four loggerhead (Caretta caretta) nests and two Kemp's Ridley (Lepidochelys kempii) were identified from Dauphin Island (Mobile County) east to Alabama Point (Baldwin County) near the Florida state line. An estimated 4,513 hatchling safely made it into the Gulf of Mexico, with the overall survival of hatchlings (# to water/# of eggs) estimated to be 63.6%.

In April 2010 the Orange Beach Fishing Association reached out to the Nature Tourism Initiative to develop a sustainable fisheries certification program. We have drafted the framework for the CFISH program

Certified Fisher Invested in Sustainable Harvests Program (CFISH)

The mission of the CFISH Program is to work towards healthy, sustainable Gulf of Mexico marine resources and insure that fishing will not negatively impact on marine habitats and other marine species. To be successful, charter fishing experiences should provide quality opportunities to engage the public with natural resources in ways that lead to greater understanding and appreciation, while protecting, preserving and sustaining Gulf of Mexico marine resources.

The founding program sponsors of the program are the MASGC, Auburn University Marine Extension & Research Center (AUMERC), ADCNR/Marine Resources Division, the Orange Beach Fishing Association (OBFA) and the AGCCVB. This vision is shared not only by the program sponsors, but is supported by local partners who assist the program sponsors in the regional growth and implementation of the program.

Continued support and funding for Federal partnership programs

Dolphin SMART Program *http://sanctuaries.noaa.gov/dolphinsmart/*

Dolphin SMART is a partnership program developed by NOAA's Office of National Marine Sanctuaries and NMFS, the Whale and Dolphin Conservation Society, and the Dolphin Ecology project. The purpose of the program is to:

- Minimize the potential of wild dolphin harassment caused by commercial viewing activities
- Reduce expectations of close interaction with wild dolphins in a manner that may cause harassment
- Eliminate advertising that creates expectations of engaging in activities that may cause harassment
- Promote stewardship of local coastal waterways

Dolphin SMART is a unique voluntary recognition program and education program. Program participation is for commercial businesses conducting and booking wild dolphin tours, or any commercial vessel that may opportunistically view wild dolphins. It offers incentives for businesses that follow the program criteria and educate their customers about the importance of minimizing wild dolphin harassment. It also includes an important research component that provides insight about the daily lives of the local, wild dolphin populations. This program is currently being implemented in Florida and Alabama. The ADCNR, Coastal Section is implementing the Alabama program and partners include the MASGC and AGCCVB.

Thank you Madame Chairwoman, Ranking member Brown and fellow committee members for your efforts in addressing this manmade disaster.

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[NOTE: Ms. McDonough's responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. Thank you. Thank you very much, Ms. McDonough, for describing the very concerning state of coastal tourism.

And finally on our third panel, I welcome to the Subcommittee Ms. Rolfes. Please begin.

STATEMENT OF ANNE ROLFES, EXECUTIVE DIRECTOR, LOUISIANA BUCKET BRIGADE, NEW ORLEANS, LOUISIANA

Ms. ROLFES. Thank you. My name is Anne Rolfes, and 10 years ago I founded a nonprofit organization called the Louisiana Bucket Brigade to work with people who live next to oil refineries and chemical plants.

For the past decade I have spent a lot of time on the front porches of people who live right next to the oil industry, as close as I am to you right now. From this vantage point, I have seen all kinds of things, and I am not at all surprised that we have had such a terrible catastrophe. We are only lucky that it hasn't happened more often and sooner than this disaster in the Gulf.

I could walk you into the file room. This is actual data, not opinion. I could walk you into the file room at the Department of Environmental Quality and the EPA and show you permits and variances and accident reports that would make your hair stand on end. It is not just the oil rigs that have a problem; it is the oil industry. That is refineries, its pipelines and other infrastructure.

The dynamic that we are seeing playing out in the Gulf is one that I have seen every week for the last 10 years. The permit applications are not meaningful examinations of the work at hand, but instead they are cut-and-paste quick jobs. And when there is an accident like we have just seen, there is a very predictable series of events that happen—downplay the problem: blame somebody else; minimize the impact on those hardest hit; and resist the Federal Government's attempts at enforcement with every breath of the corporation's body.

If this sounds familiar, it is exactly what is happening in the Gulf right now. And we know the outcome. We know, as with the Exxon Valdez and with many other accidents in Louisiana that never make the headlines, we know that what happens is that maybe after years and decades, a very wealthy oil company finally gives money to the people who it has damaged, but this is always much, much too late.

My question is, since we know what is going to happen here, why can't this time be different? And that is why I am here today.

I was at lunch, and I picked up Roll Call, your newspaper, and there is an ad from BP just like the ones we see in the New Orleans papers. It says that our focus has been on helping fishermen by making payments to replace their lost monthly income.

I know of one payment, so this ad as far as I am concerned is absolutely not true, and the fact that they can put it in the newspaper under your very noses, I think, speaks volumes to the power of the oil industry and the real need for you all to get engaged.

And so to that extent, as far as encouraging Federal and congressional involvement, the following areas are ones in which we desperately need Federal intervention. The first is on wildlife. I think other people more knowledgeable than I have spoken.

The second is health. I think we all heard the stories—I don't know if they made the rounds in D.C.—of workers who were out on boats, cleaning up the oil, and then became ill from the odors. They were told by BP not only could they not wear respirators, but they would absolutely be fired if they wore them. How can this be? Why isn't OSHA out on those boats with monitors?

I have heard subsequently that OSHA said they have been monitoring, and there is no problem. No. What it says is that OSHA is not monitoring effectively because you have scores of cleanup workers who have been made sick.

Where is the Department of Labor? Where is the Department of Justice to step in right now and tell BP that they are not allowed to give directives like that? How is it that an oil company is more powerful than the Federal Government? I don't understand.

In addition to the problems of the cleanup workers, when I was in the airport on the way here, I went through piles of messages from people who were calling my tiny organization asking about exposure. They are sick with respiratory illnesses when they have never been sick before. Again, there is something wrong here when a small, nonprofit agency is seen as more responsive than the Federal Government.

The second or the third area where we need your intervention is with the economy. Our fishing guide here can speak volumes to that, but there has been a lot even from our own Congressmen about the balance that has to be struck between the oil industry and the fishing industry and wildlife.

I am here to tell you that it is absolutely not balanced. It is so far in favor of the oil industry, and I think that these ads in the paper and even our own representatives' statements really prove that point. We agree we need balance. We need to have some sort of ecological and environmental health protections.

Right now what is happening is that the oil companies are externalizing their costs on the backs of Louisiana residents. Certainly the fishermen and the shrimpers and all the indirect people who make their livings off of this industry need to be made whole, and BP should not be allowed to get away with false statements like this.

The final area where we need government intervention is in the area of information control and management. BP is absolutely controlling media access to destroyed places, as well as scientist and

nongovernmental organization access. How is it that they can prevent the documentation, which will in the end prevent their liability?

There are no databases currently that can tell you how many accidents there have been in the Gulf. There are no databases run by the government that can tell you how many accidents the oil industry has had over the long term. This is a basic tool that ought to be used. I mean, why doesn't EPA, for goodness sakes, have a database and NOAA and MMS have a database where anybody can go and look at this information?

There are absolutely things that we can do to correct this problem. I am not a cynical person. I want to believe that since we have seen all of this before, this time can be different. I hope that you all can make it so.

[The prepared statement of Ms. Rolfes follows:]

Statement of Anne Rolfes, Founding Director, Louisiana Bucket Brigade

Introduction

My name is Anne Rolfes and I am the Founding Director of the Louisiana Bucket Brigade, a non profit environmental health and justice organization. Since 1999 I have collaborated with communities impacted by the petrochemical industry. Most of my experience is working with people who live next to Louisiana's 17 oil refineries. I spend my time in the neighborhoods and have a solid understanding of what these neighbors experience and how the oil industry conducts itself in this region.

In April of 2010, 47 people were killed because of this nation's reliance on fossil fuels. Seven workers at Tesoro Corp's refinery in Washington state [1], 29 miners in West Virginia [2] and 11 people on BP's *Deepwater Horizon* rig in the Gulf of Mexico. [3] While the subject of this hearing is the BP Oil Disaster, it is important to recognize the human costs of this country's addiction to fossil fuels. The tragic events of April 2010 should be an inspiration to move toward a future of renewable energy.

The following testimony is in response to the questions posed in the letter from Subcommittee Chair Madeleine Z. Bordallo dated May 28, 2010. I detail a number of problems in this testimony but I believe that these problems can be solved and the response improved.

1) The short and long-term impacts of this oil spill on the local community.

A. BP Exacerbation of Impacts

Both the short and long term impacts of the oil disaster in the Gulf are being exacerbated by BP's conduct in the weeks since the explosion. BP is not just failing to act but is taking steps that make the problems worse both now and in the long term.

All of the information detailed here has been documented since April 20, 2010 during time spent in the impacted coastal communities of Louisiana. In some cases the press has also documented the problem. I encourage Congressmen and women and their staff to go to the Gulf Coast, not as a Congressional entourage with VIP status, but as ordinary citizens looking for information. By being on the ground without fanfare, our representatives can learn the truth.

Many of the residents of the coastal communities are afraid to speak out on these issues for fear of repercussions, including loss of employment from BP. [4] This fear has been voiced repeatedly to me and to my co workers since April 20.

i. Health

Since the disaster began on April 20th the following BP activities have been documented.

a) Clean up workers **are being told by BP that they will be fired if they wear respirators to protect themselves from chemical exposure**. [5] We have heard these stories since May 14, 2010 from fishermen in Barataria, Lafitte, Grand Isle and Venice. Workers have requested respiratory gear because of the exposure happening while they work. Because BP is the employer, these fishermen will not speak out publicly for fear of losing this chance at making money.

BP has made statements detailing the health protective gear it has provided.

"We want to ensure workers' health and safety are protected, so we give them Tyvek suits, nitrile gloves, safety glasses, hard hats when working near overhead hazards, rubber boots, plus hearing protection, insect repellant, sunscreen, lip balm, personal floatation devices and steel-toe boots," Curry said. [6]

This does not mean that all workers are consistently being provided with such equipment.

While BP insists that its air samples have shown no problems, this is at odds with workers' experiences of falling ill after breathing in chemicals. It is also at odds with news reports about hospitalized workers. [7]

b) On Thursday, June 2nd my co workers Anna Hrybyk and Shannon Dosemagan spoke to a nurse who was stationing the medical tent within the BP zone in Grand Isle, Louisiana. This nurse was part of the official parish response that was advertised as the place that workers and others should go to if they experience health problems from the spill. The nurse was incredibly frustrated. She had arrived on the scene to treat medical emergencies, and her equipment included IV's, suture stitching materials and more. She reported that all of this equipment was taken away from her by BP officials and that she was left with only aspirin and band aids. She reported that **BP is running its own Emergency Medical Service and that the sickest people are being taken there and avoiding the parish emergency center**. This is a concern for three reasons: 1/BP has a vested interest in minimizing health concerns; 2/People may not be getting the best care possible and 3/The company that has caused the problem is controlling the medical records and information. The health problems treated by what the nurse called "BP's EMS" may not ever be part of the public record.

c) BP CEO Tony Hayward's remark that sick workers ate tainted food was not an aberrant remark but consistent with **BP's response of minimizing health concerns**. *"I'm sure they were genuinely ill, but whether it was anything to do with dispersants and oil, whether it was food poisoning or some other reason for them being ill," Hayward said.* [8].

ii. Economy

The problems detailed here can be discovered by spending a day in the impacted communities.

There is not a consistent commitment to hire local fishermen whose livelihood is threatened by this spill. While some fishermen have been hired in the clean up efforts, workers are being brought in from New Orleans and elsewhere.

Local businesses are not being used. BP is contracting with service providers—houseboat owners, catering services—outside of the impacted communities. From the beginning government spokespeople spoke of the need to hire locally during the response, but this is not happening.

BP first insisted that **workers sign waivers** in order to get clean up jobs. While the first round of waivers did not hold up in court, it fell to non profit agencies and local lawyers to challenge this practice. These waivers were declared without effect in U.S. District Court on May 2, 2010 by Judge Berrigan. [9]

Individuals are left on their own to negotiate with BP, including negotiations regarding employment and compensation. Local reports indicate that without a degree of individual power or negotiating skills, locals are likely to be ignored or undercompensated. *"If you are powerful or persuasive or are known as a local leader, you will be hired and generously compensated."* [10] **Established, written, transparent hiring and compensation policies must be developed.**

BP made $5,000 grants to fisherman but this amount was deducted from the pay of those hired by BP. [11] Some of the fishermen did not learn this until they received their pay checks.

According to reports from a local non profit organization called the Bayou Interfaith Shared Community Organizing, **some workers are not being paid or are being paid late**.

iii. Information Control

A comment from a resident of Terrebone Parish on June 7, 2010:

"To me that's one of the most frightening things—BP's control. Their brazen control of the clean up, of the disaster. Putting oil on property doesn't give them the right to control the property. How much power do these people have?"

BP is restricting access to shoreline and marsh areas where there is oil or other apparent damage. Air traffic above the spill is also restricted. **Among those pre-**

vented from accessing the sites are the media and scientists working in the public interest.

Private security forces are hired to keep people off of public beaches. While the public does need to be protected, this protection needs to be within reason. Workers on Grand Isle report that the beach closures, including Elmer's Island, appear not to be about health protection but about preventing residents, the media and others from documenting the oil spill. Security forces deny access even for organizations and institutions with trained professionals working on the spill. Going through official process to get BP approval takes days and usually does not result in access.

Some **workers have been required to sign an agreement not to talk to anyone about the impacts that they have witnessed**.[12] When this issue was raised in a town hall meeting with BP, they replied that this is not their fault, that the agreement is the subcontractors' policy. BP has the power to negotiate whatever it wants in its subcontracts; this clause should be removed.

The long term impact of this short term control of information is that BP is preventing full documentation of the disaster's impacts. The response is thus inhibited as well.

B. Health Impacts

The Oil Spill Crisis Map created by Tulane University and the Louisiana Bucket Brigade has received 86 reports of health complaints.[13] Media outlets, community organizations and other witnesses on this panel have documented even more community exposure, worker illness and hospitalization.

C. Direct Economic Impacts

The direct impacts to fisherman, oystermen, shrimpers, crabbers and those who work in the seafood industry have been noted in the media. A story from the Oil Spill Crisis Map details the impacts.

Oyster Shucker from New Orleans as detailed on the Oil Spill Crisis Map (www.oilspill.labucketbrigade.org)

> "I'm New Orleans and I get called in by people who have parties. I show up—I have my metal grated gloves and my oyster knives and I get all set up for parties. At St. Patrick's Day instead of going to the parade I set up and shucked oysters. I made a pretty nice pay day that day. For the next 5–7 years all that shellfish is compromised—it's going to be toxic with dispersant. You can tell people don't eat it but people who are subsisting on it are going to eat it. It's going to affect those communities health wise. Suddenly everybody's going to get cancer, birth defects.
>
> And now, I'm going to be out of work. I've got my gloves for shucking, but I'm going to have to hang them up, so to speak."

D. Indirect Economic Impacts: Taxpayers pay for BP's negligence

While the Oil Pollution Act mandates that BP pay for the clean up, there are additional costs with no system for mandating BP payment. These costs include the burden to the public health care systems in the Gulf Coast as well as the long term impact of individuals' compromised health status. If exposure makes people sick, they may have less earning capacity over the long run. If these people are forced to rely on Supplemental Security Income or long term disability, then the U.S. taxpayers are paying for BP's grievous mistake.

The section below details the Gulf Coast's lack of capacity for indentifying chemical exposure. There are not enough doctors in the region who are trained in chemical exposure and health impacts. If the **government stationed** such **toxicologists along the Gulf Coast**, the program would pay for itself in identifying people made sick and incapacitated because of BP. In this scenario, BP—not the U.S. taxpayer—would then pay for the loss of livelihood.

E. Impacts as reported on the Oil Spill Crisis Map

The Oil Spill Crisis Map (www.oilspill.labucketbrigade.org) is a project of Tulane University's Disaster Resilience Leadership Academy and the Louisiana Bucket Brigade. This web based map facilitates community reporting of the disaster via text messaging, on line reporting or e mails. As of June 8, 2010 there are 616 reports that document livelihoods at risk, health problems, injured marine life and oil sightings by Gulf Coast residents. The members of the committee are urged to review this map to see firsthand what is happening on the ground along the Gulf Coast.

Citizen reports as of June 8, 2010:

Odor Complaints: 181

Health Complaints from Exposure: 86

Oil on Marine Wildlife: 63

Oil on Birds: 47
Oil on Other Wildlife: 49
Oil on Shore: 130
Oil on Water: 111

2) The need for prolonged commitment by the Federal government, the States, and the responsible party to mitigate damages.

A. Current problems that prevent effective mitigation

Please note that these problems are detailed as a first step to effective government involvement. This is not an attempt to provide simply a laundry list of complaints; instead, this is an analysis of the problems that prevent effective mitigation. If these problems are addressed then we have a real chance at effective disaster response.

i. Oil Pollution Act

BP's pattern of minimizing the problems and preventing documentation are noted above. According to federal government officials (including EPA Administrator Lisa Jackson [14]), the Oil Pollution Act (OPA) stipulates that if BP is to pay for the clean up then it has to also administer the response. This is a clear conflict of interest and is preventing a proper response.

We encourage two responses to the confines of OPA: 1/Government intervention to the fullest extent allowable under the law. Is the government using all of its powers within the context of OPA? A review should be conducted. 2/Change the law. Special legislation should be enacted now, to immediately apply the lessons we are learning on the ground. One of the biggest lesson is that BP has too much control.

ii. Louisiana's lack of capacity

The Louisiana health care system does not have the capacity to diagnose and treat people with chemical exposure. We do not have the capacity to clean our shores and marshes, provide alternative employment for the people thrown out of work, or conduct or adequate water, soil and air sampling.

iii. Ineffective federal and state agencies

The situations detailed above demonstrate the government's ineffectiveness in controlling BP. Additional problems with the response are as follows and must be addressed before the government can effectively mitigate damages.

Based on 11 years of experience with the **Louisiana Department of Environmental Quality** (LDEQ), we have **no confidence that the agency is capable** of taking any steps to protect people or the environment. This agency should be invested with as little responsibility as possible. The good news is that the EPA—not LDEQ—seems to be managing the situation. This should continue.

There should be a robust federal presence on the ground preventing the local communities from being taken advantage of by BP. While various agencies like the EPA and NOAA have been visible, they have not been successful in stopping the worst harms of BP. Agency challenges are as follows.

- OSHA—Workers are prevented from wearing protective gear and air quality information is absent.
- EPA—BP continued to use Corexit even after the EPA asked them to change to a less toxic alternative [15] Air quality is deemed safe despite community members' experiences to the contrary.
- NOAA—BP has consistently underestimated both the amount of oil leaking [16] from the well and the area impacted by the spill. [17]
- Law enforcement/federal investigators—BP is overstepping its boundaries in preventing the media and the public from documenting the damages; people on the local level are being cheated by BP via poor health protections and employment issues as detailed above.

iv. History of Accidents in the Oil Industry in the Gulf and in Louisiana

The oil industry in Louisiana has a terrible problem with accidents off shore and on shore. **BP is responsible for this disaster, but federal and state agencies clearly failed in their oversight.** Prolonged government commitment is needed but that commitment has got to be effective.

> *"Workers plunged dozens of feet through open unmarked holes. Welding sparked flash fires. Overloaded cranes dropped heavy loads that smashed equipment and pinned workers. Oil and drilling mud fouled Gulf waters. Compressors exploded. Wells blew out."* [18]

Despite the egregious state of oil rigs, in the five years before the explosion of the Deep Water Horizon, 400 investigations of rigs resulted in only 16 fines. [19] The problem on shore with refineries is just as bad.

According to refinery reports to the state, ten of the largest refineries in the state averaged ten accidents a week from 2005–2008.[20] Despite these facts—facts reported by the refineries themselves—there has been no comprehensive action taken by the LDEQ or EPA to stop these accidents. Both agencies know about the accidents as the data has been communicated repeatedly to the LDEQ and all levels of the EPA. While we are told by the EPA to go through a process and be patient, the accidents continue and people's lives are at risk. We don't want another tragic disaster to take place.

Many of these refinery accidents include preventable accidents that are violations of the Clean Air Act. Proof of the poor state of operations is found in the results of two citizen enforcement cases brought by local residents against Murphy Oil and ExxonMobil's Chalmette Refining. In both cases the refineries were on the losing end of motions for summary judgment. This excerpt from the citizens suit against ExxonMobil's Chalmette Refining details a troublesome dynamic in the industry.

> "Plaintiffs have alleged, and the documented violations indicate, that Chalmette repeatedly violates the Clean Air Act and that, unless some action is taken to prevent the illegal conduct, there is a real threat that such violations will continue to occur."[21]

Citizens suits like this one happened because refinery neighbors had to take enforcement into our own hands; federal and state enforcement was and is not happening. The situation is truly desperate. Accidents in the industry are ongoing but the agencies are not enforcing the law. We have been shouting about this problem for years.

These failures do not mean that there is no role for government. Instead, they point out the need for a government that is more active on the ground protecting citizens. Being active means being with people in their communities and conducting investigations. In regard to the oil spill, government officials should not be locked away in a command center or stuck in meetings.

B. Government Steps that should be Taken to Mitigate Damages

Intervening vigorously on the ground to stop the abuses that are taking place is the best way to mitigate the damages, especially in the short term. Additional steps, as follows, should be taken to prevent future accidents.

A many of these steps involve more vigorous federal oversight, the agencies involved—including the EPA and OSHA—should eliminate unproductive staff positions and ramp up its investigation and enforcement division. Fines collected via these activities might help to offset the costs of additional enforcement.

i. Examine the entire oil industry

The preceding section has detailed the problems within the oil industry as a whole. Proper mitigation includes looking at the entire industry.

ii. Information management: create a database of accidents for all sectors of the oil industry

Our expertise at the Louisiana Bucket Brigade is with refinery accidents. Our Refinery Efficiency Initiative is our program to encourage accident reduction at all 17 refineries in the state. Refinery accidents are a serious problem; according to refineries' own reports, from 2005–2008, ten of Louisiana's largest refineries averaged ten accidents a week and released significant amounts of pollution: 15.6 million pounds of air pollution and 21.8 million gallons of water pollution.

We know these numbers because we have created a database based on information from the refinery reports to the Louisiana Department of Environmental Quality (LDEQ). The LDEQ also maintains a database, but this database presents reports one at a time. Absent our database, the **state and federal agencies have no mechanism for comprehensively viewing refinery accidents.** This is a surprising situation given that we are a small non profit with far fewer resources than the government.

The situation—lack of information in one place—may be the same for oil rig accidents in the Gulf. Creating publicly accessible databases of information would allow all parties—oil companies, regulators and the public—to understand accident trends over the long term. This understanding is key to prevention.

iii. Conduct a robust review of the oil industry plans for the worst case scenario and mandate that the planning is really for the worst case

In my experience with refineries, the worst case scenario planning usually involves an assumption that the worst case scenario will not happen, and the planning is for a lower level problem. This should be changed.

iv. Pass the Pallone bill to eliminate the liability cap for oil spills

As long as there is a cap there is an incentive to take risks—to drill and to spill.

v. Use of best available technology in all phases of the oil industry, including clean up and accident prevention

This accident has illustrated the oil industry's emphasis on drilling technology at the expense of safety technology. Rules regarding use of best available technology need to be tightened and enforced throughout the industry.

3) The sufficiency of community outreach to disseminate information to and *receive information from the public about the environmental impacts of this oil spill.*

A. Community outreach has historically been poor

During Hurricane Katrina a million gallons of oil were spilled by Murphy Oil into a residential neighborhood. EPA distributed fliers to those returning to the neighborhood, but the fliers gave no information about the oil; instead the fliers focused on the danger of household cleaning products that might have spilled and failed to mention the oil. This is the level of incompetence that we have historically dealt with.

This EPA is much better and has taken time to meet with community members and NGO's. There remain problems, however, with the veracity of EPA's information and with a meaningful follow up to community suggestions. For example, the EPA air monitoring web site states that

> "EPA's air monitoring conducted through June 6, 2010, has found that air quality levels for ozone and particulates are normal on the Gulf coastline for this time of year." [22]

There are a number of problems with this statement:

- EPA is not conducting robust hot spot monitoring
- EPA is extrapolating to an entire region based on limited data
- There is no baseline for this time of year so a comparison is impossible

We have communicated these concerns to EPA but nothing has changed. The air sampling that has been conducted by EPA is better than in past years but is still not right. Rapid Response Teams to respond to odor complaints by citizens should be established. Engaging citizens to sample should also take place. And OSHA needs to monitor vigorously; air monitors should be put on the boats with the clean up workers. Both of these agencies as well as BP are reporting that air quality is fine. This does nothing to convince residents who fall sick from odors. Instead, the gap between their experience and the sampling results builds distrust in the government and in BP.

B. Locally based organizations can help with outreach

After ten years of working in communities impacted by the oil industry, we have learned that the best way to solve for these problems is to engage the **local communities as equal partners**. There has to be tracking to make sure that there is no retribution for those community members who dare to speak critically of the oil industry. They cannot be viewed as less knowledgeable than the oil industry or regulators. The people who live with the impacts of the industry have a special expertise whether they are refinery neighbors or fishermen out of work. They are well positioned to offer solutions.

There are organizations working on the ground in the Gulf Coast that have community connections. These include Bayou Interfaith Shared Community Organizing, Mobile Baykeepers, the STEPS Coalition and the various shrimpers and fishers associations. Locally based organizations—those with a constituency of impacted people—should be the vehicles for information dissemination. If the government or needs these organizations to effectively communicate with the public and with those impacted, then these organizations should be paid for their time.

Thank you for the opportunity to testify. I believe that as terrible as this crisis is, it represents an opportunity to get the response right and show that government is competent. Why can't this time, too, bring forth a Greatest Generation that responds to this disaster in the right way and uses it as a catalyst for a change to renewable energy? But time is of the essence. There is still time to improve on the response and change our fossil fuel future, but we must act quickly. I will help in any way I can.

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[NOTE: Ms. Rolfes' responses to questions were not received by the time this hearing went to print.]

Ms. BORDALLO. Thank you very much for your testimony. I want to say that everything that has been said this afternoon on this Panel 3 has been very valuable to our Committee.

One question I am just going to ask before I start with my questions, and I would like to welcome the Ranking Member, Mr. Cassidy, back. I know he has questions as well.

You know, I keep thinking about the Hurricane Katrina and how disorganized that was following the hurricane. I remember watching on TV. I think some National Guard General jumped up on a truck and said, "I am in charge."

Now, the incident commander in this case is supposed to be someone from the Coast Guard. Is that correct?

Ms. ROLFES. Yes.

Ms. MCDONOUGH. Thad Allen.

Captain LAMBERT. Yes, Thad Allen.

Ms. BORDALLO. All right. Is everybody aware of that?

Captain LAMBERT. Yes, ma'am.

Ms. BORDALLO. All right. Are they really indeed in charge? They are? They step right up to the plate? They are the ones you go to when you see all this? Because several of you in your testimonies prior to this panel have said things are disorganized.

Ms. ROLFES. I think BP is in charge, and when I have spoken with people from the government, including the EPA administrator herself, I was expressing the opinion that sure, BP needs to pay, but why should they be administering all the response.

And what I was told was that the Oil Pollution Act says that if BP is going to pay, then they have to run things also. I don't know if that is true or not, but in my estimation I think the response is certainly better than Katrina. I don't think there is any question about that, but in my opinion BP is absolutely running the show.

Ms. BORDALLO. Well, in any disaster, any incident, somebody has got to be the top gun. If they assign the Coast Guard, then they are the people that you have to go to and then they. in turn, can direct you in other directions, but someone has to be on the top directing. Several of you here said that things are disorganized, even to this day.

Ms. ROLFES. That is true.

Ms. BORDALLO. So that is something maybe the Committee will have to look into that.

Now I have questions for Mr. Williams. As a member of the Congressional Asian Pacific American Caucus, I am deeply concerned about the impacts of this oil spill on Vietnamese Americans, many of whom participate in the shrimp industry in the Gulf. Do you think outreach to these communities about the Vessels of Opportunity Program and the claims process has been adequate?

Mr. WILLIAMS. I don't know if I would call it adequate, but I know that there has been some outreach to these communities through our organization. We have several of the Vietnamese American communities as members in our organization, and we certainly reach out to these folks as we do with everyone.

I don't know as far as a government outreach. I couldn't speak to that, but I think they have been informed to a degree.

Ms. BORDALLO. One of our colleagues was here this morning, and he was concerned about this and so I thought I would ask that of you so we have it on the record.

Now, BP has repeatedly stated that it will pay all legitimate claims, yet it has never expounded on what is and is not a legitimate claim. How does this lack of certainty impact those in the shrimp industry?

Mr. WILLIAMS. It causes a lot of confusion with the Oil Pollution Act and the opportunity to file a lawsuit through a class action. It causes a lot of confusion. The members and members of the industry, they don't know what to do.

But when BP is making statements that they will pay all legitimate acts or legitimate claims, but they don't define what a legitimate claim is. I think it causes a lot of confusion, and I think it is going to cause confusion because they won't go further than we will pay all legitimate claims.

What do you consider a legitimate claim? Once again, they will say, "We pay all legitimate claims." It is causing confusion right now amongst the industry.

Ms. BORDALLO. Well, the full Committee on Natural Resources has had a hearing where the BP executives were here, and they stated over and over again that they were going to pay this and pay that, and now I am hearing that there have only been some token checks issued for $5,000 to the fishery industry and they want to know. Have those claims been issued, I mean these papers to——

Mr. WILLIAMS. I am not sure if all or any claims have been paid in full. I think the $5,000 is sort of a down payment on your claim.

Ms. BORDALLO. It is a token payment. Yes.

Mr. WILLIAMS. Yes, until it is resolved at a later date.

Ms. BORDALLO. Well, that is not a lot of money, $5,000——

Mr. WILLIAMS. No, it is not.

Ms. BORDALLO [continuing]. In a situation like this. Some of these fishery companies have several employees. Am I correct on that?

Captain LAMBERT. Yes. Twenty-two families work out of my lodge alone.

Ms. BORDALLO. That is right.

Captain LAMBERT. And the legitimate claim, the Oil Pollution Act, says that they are liable to pay net profit. So net profit is far from what your real expenses, fixed expenses, are.

And, also, what they are waiting for and why, in my opinion, they are stalling is that every one of the shrimpers and fishermen that work in the spill, whatever they make goes to help mitigate the loss of BP. So if they owe me $1 million and I work all year long cleaning up oil and I make $900,000, they only owe me $100,000. Why should they be able to mitigate their losses and use us as free labor?

Ms. BORDALLO. That is right. Also now you don't know then if any claim documents have been issued to any of these people?

Captain LAMBERT. What they have done, the first time you go in you file your claim. They give you a $5,000 check on the spot. Then shortly thereafter, like myself, they will put me in a big claims file, and they called the house this week and said we want a profit and loss statement every 15 days.

Now, I don't do that for myself, and I am sure not going to make my CPA do it for them. I do quarterlies. All they are trying to do is, if the news media is staying at my lodge, they want to use that money to mitigate their loss.

Ms. BORDALLO. I see.

Captain LAMBERT. They took and put me out of the very thing I do for a living, and if I go to WalMart and I am a checker and I make $50,000 that comes off of what they owe me. That is ridiculous.

Ms. BORDALLO. All right. So setting aside the $5,000 token payment, has there been any claims paid?

Captain LAMBERT. Not so much as claims right now. There is another $5,000 in the mail, and it comes with——

Ms. BORDALLO. Yes. That is two. I understand there were two.

Captain LAMBERT. Yes. It hasn't got there yet, but it is in the mail.

Ms. BORDALLO. I see. But no claims payments to your knowledge have been made?

Captain LAMBERT. I think there was one offer of 60 percent of his gross I think they offered one guy.

Ms. BORDALLO. I see. Well, this is something we will have to investigate.

I have a question then for Mr. Lambert. Yes. On Tuesday, BP announced that it would donate the net revenue from recovered oil from the well to create a new wildlife fund. For what restoration activities should this fund be used?

Captain LAMBERT. I think all the money should go to CRPA and restore our coastline and open up the natural channels of the river and bring it back to where it was when I first started guiding between the levee and the Gulf of Mexico, 6.3 miles. That was solid grasslands and solid estuary.

Now there is not one blade of grass in that 6.3 miles. When I leave the dock, I could close my eyes, turn loose of the steering wheel and I won't hit anything. It is four foot deep. We need to restore Louisiana, and Mother Nature will take care of the wildlife herself.

Ms. BORDALLO. Ms. McDonough, has there been adequate training for tour operators to participate in the Vessels of Opportunity Program?

Ms. MCDONOUGH. Yes, there has, and some of the tour operators have been in the Vessel of Opportunity Program, but when I left recently, they deactivated.

Ms. BORDALLO. Deactivated?

Ms. MCDONOUGH. Deactivated. And what I am hearing from them is that they are now circulating vessels, but there are still vessels in our waters that are not local, and they are waiting in line and being deactivated.

Ms. BORDALLO. All right. One more question, and then we will turn it over to the Ranking member. How can data collected by your organization be better integrated to guide oil spill response and recovery activities? This is for Ms. Rolfes.

Ms. ROLFES. There is no central—we have gathered oil spill data about refinery problems and oil spills and explosions. It is all from the record, from the records from refineries to the states and to the EPA. So certainly what we have is public information that is on our website.

I think the issue is where is that amalgamation of data on oil spills? I mean, it wouldn't take an agency very long to just put together a database with all of the inspection information, as well as all of the spill information. It is just a matter of a few people sitting down and entering it into spreadsheets and then having a database that can be searchable.

Without this kind of database, nobody—not a congressperson, not a citizen, not even the oil companies—can understand their comprehensive accident history. When we released our database, we actually had Exxon Mobil ask a local reporter what we found, and all we did was put their own data together. I mean, they just don't

have a comprehensive understanding, and if they did it might help with prevention.

Ms. BORDALLO. Someone mentioned there was nobody from OSHA around.

Ms. ROLFES. Yes. That was me. Yes, when these workers were sick. It is unbelievable. I mean, the workers, and I am sure you probably have friends who were made sick on these vessels when they are cleaning up. They are told they would be fired, and yet the answer from OSHA is that everything is normal.

Well, they are not out on the boats monitoring where they ought to be. Every boat that goes out with cleanup workers ought to have monitoring on it. To me that is just common sense.

Ms. BORDALLO. All right. Thank you. And now I recognize Mr. Cassidy.

Mr. CASSIDY. Mr. Williams, I came in late, and I may have missed it as I scanned your testimony, but when we spoke yesterday, you had kind of a novel way of getting shrimpers back out in the Gulf shrimping. Do you want to explain that? Do you recall that?

Mr. WILLIAMS. No. I am sorry. I didn't hear you.

Mr. CASSIDY. I don't have my glasses on, so if it looks like I am peering out into the distance I am.

Mr. WILLIAMS. OK.

Mr. CASSIDY. It was about shrimpers perhaps getting a guarantee of a certain amount of money to return to shrimping. It will be a flat guarantee.

If they go out and they don't get anything, their costs are met, but ideally they will go back out there and find something in the areas that are not closed off. Am I getting that right, or am I totally confused?

Mr. WILLIAMS. Maybe I am confused. I don't recall that.

Mr. CASSIDY. No problem.

Mr. WILLIAMS. OK.

Mr. CASSIDY. Now, ma'am, as with regard to paddle trips in the Pascagoula, there is not oil in the Pascagoula River, so is it this perception that is causing the paddling to be canceled?

Ms. MCDONOUGH. Yes, sir. Yes. You know, coastal Mississippi and the whole Gulf appears awash, you know. And there are still some areas that tour operators could be getting their summer clients down, but there is a perception that it is everywhere. You know, unfortunately——

Mr. CASSIDY. So part of what we have to do, because Mr. Voisin who spoke about oysters earlier, spoke about how much of his oysters are still good, but there is a perception that they are not good.

I suspect Mr. Lambert could take me someplace I can still catch my limit of speckled trout.

Captain LAMBERT. Yes. Actually I have 10 boats running today, but that is the first trip in two weeks due to the fact that 99 percent of our trips are canceled.

And the only reason this trip is they have been coming with me for years and they said we are coming even if you have to get some pigs and a band. We are coming. It was just support was all it was.

Mr. CASSIDY. But you are able to take them to someplace where they can catch fish that you can actually eat?

Captain LAMBERT. I have 10 percent of my waters still open, and we are just utilizing what we have. I won't shut down until they shut me down.

Mr. CASSIDY. OK. So as much as anything, what we need to come out of here is an understanding that, although there is a terrible problem, for many people with viable businesses the Gulf is open and they can take their paddle trips in the Pascagoula and they can eat the shrimp, trusting that the FDA, the USDA, et cetera, are inspecting those and making sure they are safe.

And so we want to avoid a manmade economic disaster on top of the manmade economic disaster. Does that make sense?

Mr. WILLIAMS. Well, the problem is that when they close the waters, they will say at 6:00 tomorrow morning this area is closed, and I only have one area left. If they do that when people are eating dinner, I say "Fellas, we just got closed. You all can't fish tomorrow."

You know, there are too much logistics on getting there and getting the people together in order to make it happen, so they just cancel.

Mr. CASSIDY. Yes. OK. So it is the uncertainty of it as much as anything.

Ms. Rolfes, what I am told by the EPA folks is that the benzines, the aromatic amino acids, are quickly evaporated when they hit the water, that there is an air quality issue in the immediate area where the stuff is bubbling up, but certainly by the time it gets to the beach, the volatile organic chemicals have dissipated and what is left, for example, the weathered tar ball—I specifically asked about that—is basically inert, with nothing left that could harm you except dermatitis and irritation of the skin.

They don't recommend bathing in it, but at the same time they say no special equipment is required to scoop up. So is your concern with the beach activity or is your concern with the folks actually going out testing near the explosion site?

Ms. ROLFES. It is with both. Certainly the cleanup workers are a concern, but there are other activities that do impact air quality. For example, when there have been burn-offs on the ocean, as there were early in the spill, the impacts were felt. I think probably in Buras you all could probably smell things.

And people continue to smell what they believe to be oil and gas. Although the hope certainly is that it would volatize and that it wouldn't affect people, I think that actual experience is proving to be quite different from that.

The problem is that what we ought to do is just have air monitoring to figure this out one way or the other, right, but the monitoring—it is not dissimilar to the dispersant issue. There is a lot that we don't know. There is a lot that we don't know about the exposure to these chemicals low level over the long term.

But more than that, the EPA is not monitoring in the right places. They are not doing hot spot monitoring at the moment when people smell it. They do have probably the most comprehensive air sampling program that we have ever seen in this part of the world, and I applaud them for that effort, but we need to have good monitors in Buras when people are smelling the bad things.

Because what happens is people are exposed. They smell oil because they are burning it or for some other reason, and then EPA and OSHA come out and say there is no problem. What that does is it just breeds distrust and sadness about our government. It doesn't make me change my opinion that I was just exposed.

And I think that there is a way to do the sampling right. We are trying to work with EPA to do that, but there is no question in my mind that people are absolutely being exposed onshore. I mean, again I could give you a sack of phone numbers.

Mr. CASSIDY. But is there any data? I presume you mentioned that DEQ and EPA——

Ms. ROLFES. Yes.

Mr. CASSIDY [continuing]. Do have monitors out there. What do their monitors show?

Ms. ROLFES. Some of their monitors do show fairly significant amounts of benzine in the air, which is a Class A carcinogen, so there is an amount of data that is showing that there is a problem.

There is other data that is being collected absolutely in the wrong places, and the problem is that the EPA then uses this data to extrapolate to an entire region. So, for example, they would have an air monitor at the Washington Monument, and then use that data to say that the air in this room is fine. Well, all that monitor tell you is that the air at the Washington Monument is fine. You can't extrapolate it.

Mr. CASSIDY. So is the EPA incompetent?

Ms. ROLFES. I don't think they are incompetent. I think they are working hard. I think that they need a new model for air monitoring, and doing something new is always scary.

Mr. CASSIDY. Now let me ask you, because it seems so apparent to you.

Ms. ROLFES. Yes.

Mr. CASSIDY. But why is it so unapparent to them?

Ms. ROLFES. Because I think it is a new model. You know, I have spent time with the administrator. I think they are not very comfortable, for example, giving Mr. Lambert an air monitor for his house, but they should be because he could be a partner on the ground to take a sample.

I mean, he is a smart man. He knows how to use equipment. It is just a new model that they would be uncomfortable with.

Mr. CASSIDY. I yield back.

Ms. BORDALLO. I thank the gentleman from Louisiana. And now I would like to recognize the gentleman from Florida, Mr. Bilirakis. Is that close enough?

Mr. BILIRAKIS. Thank you, Madam Chair. I really appreciate it. And thank you for allowing me to be on the panel. Thank you, Mr. Cassidy. I really appreciate it very much.

I am proud to represent portions of Florida's Gulf Coast. I realize the economic and societal benefits of both recreational and commercial fishing. This industry generates $11 billion in Florida and $50 billion nationwide. I have grave concerns about the implications of the *Deepwater Horizon* oil spill on this dynamic industry.

While our top focus must remain on stopping the flow of oil into the Gulf of Mexico, we must also begin looking at the long-term im-

pacts that this disaster will have on the ecosystems and our economy and discuss solutions.

Mr. Williams, welcome and thank you so much for your leadership at the Southern Shrimp Alliance. I am proud to say that we are both from Tarpon Springs, Florida. I know you are here to relay the fear, concerns, hopes and wishes of local shrimpers who have helped provide billions of dollars a year in revenue for Florida.

You shared with me prior to today's hearing a real concern you have about BP's use of toxic dispersants. I know that you sent a letter to NOAA and the EPA and have been trying to get an answer from them about the implications of the long-term impacts that dispersants will have on the shrimping industry.

I questioned NOAA earlier today regarding that very issue. However, I received an unsatisfactory response, really no answer. It is alarming to me that the government agencies tasked with protecting our natural resources in fact are clueless to the effects of toxins that they preapproved.

Because one of the primary concerns is seafood safety, I am hoping that you might be able to offer some insight regarding the use of dispersants. I know you can only speculate because the government is not sharing information, but do you think fish species and seafood safety would be in less peril had dispersants not been used? The rest of the panel also is welcome to comment.

Mr. WILLIAMS. I certainly do. Certainly I am not a scientist, but we sent our letter early on, May 5, and that was prior to their incredible amount of dispersants being used. I think since then they have used another million gallons of this dispersant.

We sent a letter voicing our concerns that if you are going to use something that you have no science on, no data, you shouldn't try to mitigate one disaster by creating another one, and that is exactly what they did. They told us early on that oil would not reach the shores. It did. Now they are telling us dispersants are not that toxic. They can be used. They are not.

We have Federal agencies reluctant to call it whatever they want to call it, plumes of oil down there. The fact is it is there. It has been proven. The data is there to prove it, but they are still reluctant to admit that this is a problem. It is a problem. It will be a problem not only for decades, but we feel generations.

I don't know how you go about cleaning it up, but the dispersants have been used. They continue to be used, which they shouldn't. At one point EPA advised BP to use a less toxic dispersant. BP just basically refused and said no, that we are going to continue using this. This is the most effective. It was preapproved by EPA so we can use it.

But, yes. To your question, I believe we have created a disaster that we will not be able to address for many, many years, possibly generations, by the use of these dispersants.

Mr. BILIRAKIS. Anyone else like to comment?

Captain LAMBERT. Why would they use the dispersants in the first place, if not to hide the fact that the oil is here and it is coming? If we could clean it off the surface, why not let it come to the surface?

No one knows for sure the long-term effects because they haven't gave us the percentage of the compounds that are in it, but it is biotechnology that eats oil. There are so many high tech and private sector things that they can do, and no one is using anything. The whole thing is out of sight, out of mind, from the tar balls coming in under the water to the dispersants hiding the oil. The whole thing is a slight of hand show.

Mr. BILIRAKIS. Thank you very much. As a followup, your previous answer suggests that you have been frustrated in trying to have a good dialogue with the government officials, whether it is NOAA, EPA, the Coast Guard or the Department of the Interior.

Do you believe, and this is for the entire panel. Do you believe there is a deliberate effort to shut you and the entire fishing industry out of the conversation? I know they are not encouraging you.

Captain LAMBERT. I don't believe, because I testified in Galliano when Secretary Salazar and Napolitano were in, and Secretary Salazar actually got up and made BP come to the Louisiana Charter Boat Association and negotiate.

On the first negotiation, Senator Landrieu came to it at a restaurant, and she told BP. She said you know, the law states that you have to pay net profit, but net profit is the law. I am not in the mood for net profit. That is not making these people whole. You need to come and negotiate and find a better way.

Mr. BILIRAKIS. Anyone else?

Captain LAMBERT. So we didn't support it.

Mr. WILLIAMS. Yes. I don't know if I would go so far to say it is a deliberate attempt to shut us out, but the fact is they have shut us out. For whatever reason I don't know, but they have shut our industry out. They have not responded to us.

They are missing a great opportunity to allow industry to have input on all these actions and decisions, and to date they have not allowed us to do that.

Mr. BILIRAKIS. Give me some ideas on how the Federal Government can partner with the local fishing industries.

Mr. WILLIAMS. Well, as far as seafood safety and testing, we have basically an unlimited resource out there. The boots are on the ground, if you will.

If they would just come to us, form a coalition or a task force, if you will, to involve the industry because these folks—it is pretty obvious that they cannot do this alone. We are probably the best environmental stewards of our resource that there is out there. We have to make a living off that resource, and we know it better than anyone.

You just can't make the decision without involving us because we can do this as far as seafood testing, cleanup. We have thousands of boats that can be involved in the cleanup process. There are a few hundred now, but there can be more. Keep us involved.

But when we are working on the cleanup at least provide us with the adequate safety gear that we need to keep these folks from getting sick. I have horrific stories of folks that are getting sick on these boats. Members, our organization members, directors are on these boats. They are getting sick.

Innovative gear technology. You know, there is a move underway now from the industry to try to come up with a trial that could pos-

sibly work to clean this subsea oil out or subsurface oil out of the Gulf. We are working on that. That is what we do as an industry.

We were involved from day one with the turtle excluder devices. That came from industry. You have to involve us to make sure that this works. Don't just sit back and have three agencies make decisions that impact us, when they could use us as a resource and these decisions will be better and a lot quicker.

Mr. BILIRAKIS. Anyone else? Any suggestions from the rest of the panel?

Captain LAMBERT. Yes. What we have done in Louisiana is equivalent to someone coming to you and saying let us levee off the Everglades to where no freshwater can get to it and just let it starve to death.

So the biggest thing to fix this is to bring nature back to itself but, in the interim, while we are losing year class after year class until the dispersants and the oil are gone, we could have hatcheries like the CCA gentleman, David, had mentioned, to have hatcheries to put those year classes in so when the attrition takes the older fish and the breeders that we don't miss a few years where there are no fish. Oysters, shrimp, everything, crabs. They could do all of it.

Ms. ROLFES. And it is a common dynamic when there is a problem—well, not just when there is a problem, but with the oil industry that it is the regulators like NOAA or EPA or whoever it is and industry talking. It makes sense that they talk because they are supposed to be regulating them.

I think they get out of the habit of including the people who are the most impacted. I see it. I can tell you, I see it every day in the work that I do. And so from my point of view, you all could play a real service just every single time saying, "Where are the shrimpers? Where are the fishermen?"

Because out of habit they will not—out of habit and maybe something more sinister, but they will shut the people most affected out. I can tell you that is a pattern, and there needs to be a real strong movement to make sure they are included.

Mr. BILIRAKIS. Very good. Thank you very much for your testimony, all of you. I appreciate it. I yield back.

Ms. BORDALLO. I thank the gentleman, and I think this pretty much brings our hearing to a close. I just have one quick question here before we wind up.

We mentioned all the people that should be there, and are not there, and those that are there. National Guard. Have you seen them?

Captain LAMBERT. Yes. There is a lot of Coast Guard personnel there, and they are working very, very hard to bring the sandbags in.

When you say the helicopters are bringing them, you have 18-wheelers bringing them in and you have guys filling them. I mean, they are working very hard in 96 degree weather with 100 percent humidity. They are doing a good job.

Ms. BORDALLO. What states are these National Guards from?

Captain LAMBERT. All over.

Ms. BORDALLO. All the Gulf states?

Captain LAMBERT. Mostly Louisiana National Guard at this point, but——

Ms. BORDALLO. All right.

Captain LAMBERT [continuing]. There are some of them up from different—some of the higher ups.

Ms. BORDALLO. Very good. Because I know they played an important role in Hurricane Katrina as well.

Captain LAMBERT. They did indeed.

Ms. BORDALLO. Well, I thank the third panel for your long stay here up on the Hill all morning and most of the afternoon and all of the witnesses for their participation in the hearing today.

Members of the Subcommittee may have some additional questions for you, and we will ask that you respond to these in writing. In addition, the hearing record will be held open for 10 days for anyone who would like to submit additional information for the record.

If there is no further business before the Subcommittee, the Chairwoman thanks the Members for their participation here this morning and also the Members of the Subcommittee who have participated in the hearing. The Subcommittee now stands adjourned.

[Whereupon, at 3:29 p.m., the Subcommittee was adjourned.]

[Additional material submitted for the record follows:]

Email submitted for the record by Michael Broussard, Corsair Charters

From: Michael Broussard [corsaircharters@gmail.com]
Sent: Tuesday, June 01, 2010 1:41 PM
To: Joanne McDonough
Re: Oil spill effects

Hi Joanne,

I hope this finds you happy and well but as you well know it is a bleak time we are facing now. So far my bookings are down 90% and I can't help thinking how terrible it must be for our animal friends, whom I love dearly, to die smothered in crude oil. I can't predict the future but I do believe my career of 46 years is over and life as we knew it is also. Economics ended my commercial fishing days. I thought I would finish my life as a charter operation but I do not at this time think that is going to happen. Seems as though I made a poor career choice but it has been one hellava ride. Probably wont be able to sell my boats and my property will be worth a fraction of what I paid for it but I'm sure we will all proceed bravely.

Thanks for your help and I hope to see you soon,

Mike

Michael Broussard
Corsair Charters

Letter submitted for the record by Captain Laurel Fleming, Daphne, Alabama

June 6, 2010

Joanne McDonough
Nature Tourism Specialist
Gulf Shores Convention & Visitors Bureau
Gulf Shores, Alabama 36542

Dear Joanne,

In April 2005, I relocated to Gulf Shores, Alabama, to fulfill my dream of living on the gulf coast. By weaving both my horticulture background and sailing experience, I've made a niche for myself in this coastal community.

Baldwin County thrives on tourism. The income I contribute to our household is derived 100% from the tourist trade. However, since the *Deepwater Horizon* incident, our tourism numbers have dropped dramatically. We have few guests to sustain our real properties, and few tourists to participate in our ecological tours and sailing charters.

My friend and coworker, Captain Chris Nelson, and I joined forces and chartered Alabama Kayak Adventures. We provide guests the opportunity to discover and experience our lightly traveled coastal waterways via kayak. Many never know these estuaries, creeks, and bays exist. We educate them in the importance of our estuaries and explain how both humans and nature depend on these areas for everything from water filtration to seafood reproduction. They experience our wildlife in its natural habitat and discover flora and fauna not found on the beach. More often than not, what they see, hear, and experience are once-in-a-lifetime opportunities.

Alabama Kayak Adventures also serves fisherman with inshore and near-coastal fishing tours. Most people who come here expect to fish for saltwater species in the bays and near the beaches, not bass in freshwater rivers. Now our waters are closed to fishing. Our business is being destroyed.

Chris and I have poured our hearts and souls into this business only to have it crumble following the oil spill incident. The money and time we've invested into equipment, marketing, and education may never be recouped. We both earned our USCG Maritime Captain's licenses and Coastal Nature Guide certifications for the purpose of providing these memories to our Gulf Coast visitors.

As a deckhand aboard Cetacean Cruises sailing charters, we have suffered major income losses, and I depend on gratuities. We have gone from daily cruises to one or two cruises a week, and the number of passengers has dwindled to minimal. On these cruises we view and educate passengers about a favorite natural resource, the wild bottlenose dolphin. These creatures are oftentimes the highlight of the evening. Also within our sights is a Bald Eagle's nest. These magnificent raptors are returning to our area, and our guests are able to view this symbol of freedom in the wild, not behind the bars of a cage. Today few tourists are booking these cruises. Who wants to vacation in a spoiled environment?

Our livelihoods are dying along with the estuaries and sea life of the region. The residents of the Alabama Gulf Coast are fighters. We will survive, but how? If we can't use the natural resources we so desperately depend upon, what are we to do? For some, this community and way of life is all they know. God help us all.

Respectfully,

Captain Laurel Fleming
Daphne, Alabama

Email submitted for the record by Lynn Irving, Dauphin Island Kayaks

From: DauphinIslKayaks@aol.com [mailto:DauphinIslKayaks@aol.com]

Sent: Friday, May 28, 2010 10:56 AM **To:** Joanne McDonough

Subject: Re: I am going to Washington, DC to testify

Hi Joanne,

Things are like a ghost town. I am down about $3000. now from this time last year. I have gotten $1000. so far. We had just bought another jeep 4 days before the spill. My mortgage went up to $1408. from $800. because of ins. I had made almost $6000. in Jun and July from last year. The monies we made in mar. and apr. we spent replacing and updating supplies. My house cleaning will not really help or Mike's cooking job 3 days a week..at a seafood rest, so the trickle effect is starting. My accountant was supposed to finish my '08 and '09 taxes but she is loosing her mind and cannot handle the stress anymore. Her income came from the big fish co's in Bayou. She is 63 and is in a state to find a job. There really aren't any in Mobile.

I have had a few rentals, $400. since apr. 19th. They want to help us in our time of need and pray that it will not hit us..but we know better with that plume coming into mobile bay. It is killing me and I am sad about the animals especially that little dauphin we saw on our dauphin boat tour. I am soooo sick to my stomach and I feel panicky. I may loose my house which I only owe $44000.and my jeeps. I depend on my eco tourism income to get through the winter. My house is not in sellable condition and I guess it won't really matter. I went to my shrink yesterday, he is worried about me. I went through loosing my husband, my dad, my 21 yr old cat, my restaurant and roof to Ivan and fighting cancer, all from '01—'04. Been strug-

gling since Ivan and Katrina to keep my biz going. '08 was finally the light at the end of the tunnel. I guess this proves we should not count of anything.

There are so many people that may lose everything and the environment will never be the same.

I love you Joanne and I know you are heart sick also, and thank you for every thing you have done for me and soooo many. Give my regards to Washington and tell them that BP needs to pay for our homes so we can move to another area where there are jobs.

Again.. Thank You..

Lynn

Memorandum submitted for the record by Melissa Johnson, Paul Nettles, Cynthia Ramseur, and Leah Bray, Owners, South Coast Paddling Company

MEMORANDUM

To: Subcommittee on Insular Affairs, Oceans and Wildlife. Via Joanne McDonough, Nature Tourism Specialist

From: South Coast Paddling Company

Re: June 10, testimony regarding BP drilling disaster in Gulf of Mexico and its impact on nature tourism in coastal Mississippi.

As of last evening, 25% of the Gulf of Mexico is closed to fishing. Patches of oil and debris from the original blow-out of *Deepwater Horizon* have been coming onto Mississippi barrier islands and western shores for about two weeks. Oil has been gushing at an unknown daily rate, somewhere between 210,000 gallons and one million gallons per day, since April 20. It is a calamity, an economic and environmental disaster of unprecedented magnitude. No one knows what the impacts will be on our fragile coastal ecosystems. We are all stunned and afraid – and most of us had yet to recover from Hurricanes Katrina and Rita in 2005. Now we must face an ever-growing disaster with lesser known negative impacts to our environment, our communities, our livelihoods, our homes and families.

The fear and uncertainty have had a direct impact on South Coast Paddling Company's kayak touring business. Within days after the drilling rig blow-out, we started receiving cancellations of reservations. Local residents who might use our kayak touring services are not booking reservations. Visitors are not coming to the Gulf coast.

We fear that the start-up financing spent over the last year will not yield the anticipated business over the summer, leaving us with very little optimism for the future.

We set out with a solid plan to build a business based on a need in this community. In good faith and with the unqualified approval of our lender we took out a loan. We made all the right contacts and got more than adequate media coverage for events held to promote ourselves, the paddling community, and our city. The early spring bloomed with a promise of reaping the benefits and sharing our gorgeous waterways with others. On a day in late April a blowout at the *Deepwater Horizon* wiped out all our efforts in a matter of days.

We do not blame ourselves: we blame our government's ineptness at regulating a polluting and dangerous industry and we blame BP executives for their greed and disregard for human life and natural resources.

This month, during the season when we should have been running trips all week long and banking for the slower winter, we will not be able to pay our employees, our rent, our bank note. We have applied to BP's damages and claims department and while they sound helpful, and the amount of money they have they distributed as of May 31st is $39.4 million to 30, 619 claimants. According to these figures put out by BP in the *Deepwater Horizon* Joint Information Center updates each claimant so far has averaged about $1200.

The early anxiety over how quickly they will get this stopped is giving way to a deep seated dread of how the disaster on our coast will affect every living creature here—the very web of existence. As worried as I am for my business, there is a far greater tragedy unfolding unseen here. As a human being I have options; I may be bankrupted, but I can devise a fresh plan and make a new start. My heart aches for my fellow inhabitants: for the least terns, black skimmers, dolphins, and turtles. They have no choices, they have been created to live and feed a certain way. Whether they are oiled or whether their food sources slowly dwindle, they are helpless to change their fates.

In closing, there are two intertwined tragedies occurring: the one that involves the environment and the one to the people who live here. None of our lives will be the same. BP and fellow companies have been allowed through government neglect to create a perfect storm of unprecedented magnitude and small companies like us, the tidal marshes, and the vast Gulf with its hidden beauties will pay the price.

We are asking that all speed be made to end the current calamity quickly. We further ask that no efforts be spared in keeping this sort of disaster from happening to others. For the people of the coast please exert your influence to insure that we are *truly* compensated for our losses. For this place and its non human denizens: pray, and try to prevent even more harm from occurring.

Sincerely,

Melissa Johnson, Paul Nettles, Cynthia Ramseur, Leah Bray
Owners, South Coast Paddling Company
2335 Government Street, Ocean Springs, MS 39564
228–872–2030 www.southcoastpaddling.com

Letter submitted for the record by Capt. Bill Mitchell, Orange Beach, Alabama

Bill—The Dolphin Cruise Captain

I chose to live in this area 13 years ago because it was wild and beautiful. I bought waterfront property with the hope of starting a dolphin and nature cruise business and paying off the loans in 15 years. For seven years I have worked year round many times 12–14 hours a day to build my dream and be in a position to retire in the beautiful place I love.

Now the wildlife I take people to see is in danger and the customers I depend on to pay my bills aren't coming. Even the property I have may be worth much less or undesirable to live on. What did I do wrong to deserve this? How do you make me and my dream whole? How many years will things be worse and how long will BP work to restore what we have lost?

So far I have received nothing. My boats have not been allowed to work in the vessels of opportunity program while boats from unaffected areas of the country have flooded in to work. My claim requests have been met with requests for volumes of financial information. I have given BP everything they requested to document my business and its losses including daily income records for years, tax documents for city, county, state and federal agencies, vessel information, as well as very detailed personal information. I have been treated like a criminal when they are the ones stealing my livelihood. I got my claim number a month ago and have not seen a penny, only promises of a $5,000 advance? All the people who work for me are suffering but I can't get any help!

How is BP making me whole as they promised? What has the government done to make sure we get help? I can't wait for the years of litigation that are coming. Does anyone hear me? I have a small business on the beautiful coast of Alabama, will it last?

Capt. Bill Mitchell
Orange Beach, Al

Letter submitted for the record by Captain J. Christopher Nelson, Alabama Kayak Adventures, Inc.

Dear Joanne,

I have lived here on the Gulf Coast for about seven years. I am an outdoors man and decided to open up a business that would allow me to spend more time with the salt waters that I had grown to love. I proceeded to acquire my USCG Captains License. After obtaining that license, I began to build Alabama Kayak Adventures, Inc. I had a goal to create a business that would provide people an opportunity to observe nature, enjoy beautiful scenery, and relax with a slow paced experience. It also would allow me the pleasure of spending time on the water and to make a career from the resource that I love. I have worked closely with you and other experts in our Convention & Visitors Bureau, as well as with the Mississippi-Alabama Sea Grant organization and many other well respected groups to learn as much as I can about our eco system. I even obtained my Coastal Guide Certification.

A little over a month ago, when the *Deepwater Horizon* incident was reported, I began to slowly realize that my future on the water may never happen. After only

a few short months in business, there will be no way for me to provide for my family with a tourism based business. Baldwin County, Alabama, has a tourism-based economy. There are no significant quantity of products manufactured here. We make memories in people's lives, we provide a place: THAT is our product. Today the state fishing pier was closed at 6:00 pm and a swim advisory was posted advising against swimming on our beach. This was a result of the recent oil contamination on our beach. Our community will slowly dwindle. The sea turtles will not make it to the beach this summer, The tarpon will not migrate here this July. Heaven help the 11 or 12 summer-resident manatee that are now migrating from south Florida. The tourists will not be here for the 4th of July holiday. Why come to a beach community that has no beach? The snow birds will not come in the winter; after all, the beach will not be fit for even a midday stroll.

I am not a tree hugger, nor have I ever been opposed to drilling in our Gulf waters. I have complained just like the next guy about the price of my fuel at the pump, but never really even considered an alternative. I only expected that each person working with the petroleum industry in the Gulf of Mexico treat it as if it were their own back yard. Apparently that was not the case. Today my community is in distress. It is unlikely that we will recover from this for many years. I will not receive a dime from BP, yet they have taken my career as well as the careers of many of my friends. I have always been a realist, not a pessimist, but when it came to our beautiful natural wildlife, I was an optimist. Today I cannot claim that. I have lost hope. The US Government, BP, and this disaster has taken away my spirit.

Sincerely,

Captain J. Christopher Nelson
Alabama Kayak Adventures, Inc.

Letter submitted for the record by Sherrie Reas, Skipper "J" Dolphin and Nature Cruises

I took the boat today from The Wharf out to Tacky Jacks. I looked around at the birds fishing in Mobile Bay and I realize what I was seeing could soon be a thing of the past. If the oil gets in our bays, the birds I watched today will probably die. The sad part is there is not much I can do to stop it. Going out and looking at booms everyday and reporting problems with them is the only thing I can do at this time. I know that this oil will effect every person in this area in one way or another and I am saddened at all the hurt it will cause. The animals can't run and they can't hide and we can't protect them from this. I am at a loss as is everyone who lives in this area.

My business is suffering now and will continue to suffer until this mess is cleaned up and all our animals are thriving again. We can't take people out to see oil, they want to see nature.

Thank you for all your help and concern in all this mess. I will be thinking of you on the 8th.

Sherrie Reas
Skipper "J" Dolphin and Nature Cruises

Letter submitted for the record by Homer Singleton, Volunteer Water Quality Testing

I don't know exactly how feasible the webcam idea is but what brought it to mind is that dolphins have been seen in weather or beach cams from time to time. With a little input from the dolphin watch people choosing strategic locations shouldn't be a problem and with minimal training a volunteer could screen the footage so that the pro's only have to screen useful segments. webcams tolerant of our conditions may be expensive but I suspect they are quite economical compared to putting salaried people our there to collect the information. The alternative is where we are now, which is we just don't have the information.

The issue of adequate labs is a major issue. The specimens I collected two weeks ago are frozen and stored with specimens from earlier that week, from the week before and from the month before. I think a considerable number from earlier in the year or last year have been sent in but the current ones are sitting in the freezer until the budget permits.

Part of our understanding of Wolf Bay was being improved through nutrient studies as part of the phytoplankton monitoring network (read Harmful Algae Bloom monitoring for the more familiar tag). It's ended for lack of funds. That's particularly disconcerting since a study (Auburn University) of the watershed (tributaries)

is in progress. The correlation of data from the two projects would have been far more helpful that either is alone.

Right now there's an emphasis on computerization and modeling. The problem is that it is useful only on large scale applications. So when when we come down to practical applications (Corps of Engineers permitting for example) the large scale "data" is just not useful at that level. Wolf Bay Watershed is 12 miles by 10 miles.

Some of what was our more valuable assets is the salt marsh about 3 miles long and 3/4 mile deep along the south western bank of the bay.

It used to furnish enough shrimp to support a lively little recreational shrimping action daily during the season. Now we seldom see two boats shrimping, let alone the dozens that once did. Why? Nobody knows because we don't have the data. Volunteer efforts have tried to make inroads in the void but there just isn't enough support. A considerable portion of the monitors I've trained don't monitor today because they can't get the equipment and chemicals necessary. We have funding available for education, not enough but we have some. Unfortunately there is virtually no funding for the "educated" to do what needs to be done with the education. There's a huge deficiency in follow up, follow through or what ever you what to call it. We can babble on about science interminably, but it's meaningless without data.

What that means in the face of the looming threat is that we probably will not be able to quantify the full nature and extent of the damage and loss. We just don't have the data. But the worse aspect comes when we try restoration. There are just too many gaps in our knowledge to be able to put marsh back.

The oil may blow ashore here. If it does we will pay dearly for our failure to learn what we could have learned. The real crime and tragedy, however, would occur with the next spill if we do not learn from this experience so that we institute and fund the study necessary to know how to respond.

There is the need for precautions and better containment and recovery at the drill site if we continue to drill. But there is an equal, if not greater, need to know our shores well enough to care for them. There have been many spills since drilling began in the Gulf of Mexico, not so bad as this, but none have been good that I have heard about. To hope that there won't be another bad one would be like playing russian roulette, not the smartest thing I ever saw.

By the way, I hope the dolphin watch folks are keeping logs of the individuals and pods they are sighting. That will be important if our population is impacted.

Homer Singleton
Volunteer water quality testing

Letter submitted for the record by Capt. Kathy Wilkinson, Eco-Tours of South Mississippi, LLC

Hi, Joanne.

I'm glad they've asked you to testify—I'm sure you'll do a great job. I think my concerns are the same as everyone's as far as wildlife goes... There is no way to express the worry I have for the estuary should the oil penetrate the mouth of the river. It makes me physically ill to think about the possible effects of the oil.

I began my business, Eco-Tours of South Mississippi, in the spring of 2006. The business was growing slowly, but steadily over the past four years. The economic downturn of 2008 was a bump in the road, but we were enjoying a slight resurgence in the past 6 months. I was looking at my best spring ever—March was my best March so far, and April was shaping up to be the best April. That is, until the oil spill. The first week or so, people were simply sizing up the spill. I was extremely frustrated by the reaction of both BP and our government. By the end of the first week and a half of the spill, my phone had all but stopped ringing. This time of year, we normally receive multiple phone calls each day that result in quite a few bookings. I'm still doing some tours, but the volume I was expecting this spring has not materialized.

So... that's that... I'm worried about the future of the Gulf; the future of the estuary; the future of my business, and just hope the oil gusher in the Gulf of Mexico doesn't change life as we know it here on the coast.

Good luck. Let me know how it goes.

All the best,

Capt. Kathy Wilkinson
ECO–TOURS OF SOUTH MISSISSIPPI, LLC
228–297–8687
www.ecotoursofsouthmississippi.com

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