WRITTEN STATEMENT OF
BILL LEHR, PH.D
SENIOR SCIENTIST
OFFICE OF RESPONSE AND RESTORATIONNATIONAL OCEAN SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

HEARING ON
THE BP OIL SPILL: ACCOUNTING FOR THE SPILLED OIL AND ENSURING THE SAFETY OF SEAFOOD FROM THE GULF

BEFORE THE
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES

August 19, 2010

Thank you, Chairman Markey and Members of the Subcommittee, for the opportunity to testify on the Department of Commerce National Oceanic and Atmospheric Administration's (NOAA) role in the BP Deepwater Horizon oil spill response. My name is Bill Lehr and I am a Senior Scientist with the Emergency Response Division of the Office of Response and Restoration within NOAA's National Ocean Service. 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 the BP Deepwater Horizon Oil Spill.

NOAA's mission is to understand and predict changes in the Earth's environment. NOAA also conserves and manages coastal and marine resources to meet our Nation's economic, social, and environmental needs. As a natural resource trustee, NOAA is one of the federal agencies responsible for protecting, assessing, and restoring the public's coastal natural resources when they are harmed by oil spills. As such, the entire agency continues to be deeply concerned about the immediate and long-term environmental, economic, and social impacts to the Gulf Coast and the Nation from this spill. NOAA has worked since the first day of this spill to reduce impacts on the Gulf Coast and will continue to do so until the oil is cleaned up, natural resource injuries are assessed, and restoration is complete.

My testimony today will discuss NOAA's role in the Administration's Deepwater Horizon response including NOAA's role in the use of dispersants as a countermeasure to mitigate the impacts of the spill; NOAA's role in the development of the BP Deepwater Horizon Oil Budget Report; and NOAA's role in testing and ensuring seafood safety.

NOAA'S ROLES DURING OIL SPILLS

NOAA has three critical roles mandated by the Oil Pollution Act of 1990 (OPA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP):

1. During the emergency response, NOAA serves as a conduit for scientific information to the Federal On-Scene Coordinator (FOSC). For example, 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 Natural Resource Damage Assessment (NRDA) jointly 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, and swimming, with the goal of implementing restoration projects to address these losses.
3. Finally, NOAA represents the Department of Commerce in spill response preparedness and decision-making activities through the National Response Team and the Regional Response Teams (RRT).

Response

For a coastal oil spill, the U.S. Coast Guard (USCG) is the FOSC and has the primary responsibility for managing 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 environment. Currently, NOAA has deployed all of its Scientific Support Coordinators from throughout the country to work on the BP Deepwater Horizon oil spill. Although this left a vulnerability in other regions, priority had to be assigned to responding to the BP Deepwater Horizon spill.

With over thirty 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 nautical 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 was called upon for scientific support 200 times in 2009.

Natural Resource Damage Assessment

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 to recover damages on behalf of the public for injuries to trust resources resulting from an oil spill. Regulations promulgated by NOAA under the Oil Pollution Act ask for compensation in the form of restoration of the injured resources, and appropriate compensation is determined through the NRDA process. Since the enactment of OPA, NOAA, together with other federal, state, and tribal co-trustees, has recovered approximately $500 million for restoration of natural resources injured by releases of oil or hazardous substances, as well as injuries to national marine sanctuary resources, including vessel groundings.

National and Regional Response Teams

The National Oil and Hazardous Substances Pollution Contingency Plan, more commonly called the NCP, is the federal government's blueprint for responding to both oil spills and hazardous substance releases. A key purpose of the NCP 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 Regional Response Teams (RRT), which develop policies on dispersant use, best clean-up practices and communications, and ensures access to science-related resources, data, and expertise during responses to oil spills.

NOAA'S ROLE IN THE DEEPWATER HORIZON RESPONSE

NOAA's scientific experts have been assisting with the response from the first day of the BP Deepwater Horizon oil spill, both on-scene and through our headquarters and regional offices. NOAA's support has included 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 dispersant applications. 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 scientists are in the spill area taking water and seafood samples, and NOAA has put fisheries closures in place to maintain consumer confidence in the safety of consuming seafood from the Gulf of Mexico region. In addition, NOAA experts are providing expertise and assistance regarding sea turtles, marine mammals, and other protected resources such as corals.

At the onset of this oil spill, NOAA quickly mobilized staff from its Damage Assessment Remediation and Restoration Program to begin coordinating with federal and state co-trustees and responsible parties to collect a variety of data that are critical to help inform the NRDA. NOAA is coordinating the NRDA effort with the Department of the Interior (another federal co-trustee), as well as co-trustees in five states and representatives for at least one responsible party, BP. NOAA and the co-trustees are currently gathering data on resources such as fish, shellfish, birds, and turtles, and mammals; their supporting habitats such as wetlands, beaches, and corals; and human uses of affected resources, such as fishing 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.

THE USE OF DISPERSANTS

The BP Deepwater Horizon oil spill is a stark reminder that large oil spills still occur, and that we must rebuild and maintain our response capacity. When an oil spill occurs, there are no good outcomes. Once oil has spilled, responders use a variety of oil spill countermeasures to reduce the adverse effects of spilled oil on the environment. The goal of the Unified Command is to minimize the environmental damage and speed recovery of injured resources. The overall response strategy is to maximize recovery and removal of the oil being released while minimizing any collateral damage that might be caused by the response itself. This philosophy involves making difficult decisions, often seeking the best way forward among imperfect options. Dispersants served as an important tool to reduce the impacts of oil on sensitive wetlands, beaches and marshes.

For the BP Deepwater Horizon oil spill, the Unified Command's response posture has been to fight the spill offshore and reduce the amount of oil that comes ashore, using a variety of countermeasures including subsurface recovery, booming, skimming, burning, and chemical dispersants. No single response method is 100 percent effective, and each has its own "window of opportunity" determined by the density and state of the oil and weather and sea state conditions. Changing environmental conditions require the Unified Command to consider all available response options and select the best that can be used at the time. Given the enormous volume and geographic extent of the spill, the response has been remarkably successful in reducing shoreline impacts.

Spill response often involves a series of environmental trade-offs. The overall goal is to use the response tools and techniques that will minimize the overall environmental damage from the oil. The use of dispersants is an environmental trade-off between impacts within the water column, on the sea surface (birds, mammals, and turtles in slicks) and on the shore. Dispersants do not remove the oil from the environment, but applying chemical dispersants does speed up biodegradation of the oil. When a decision is made to use dispersants, the decision maker is acting to reduce the amount of oil on the surface where it may affect birds, mammals, and turtles, and to reduce impacts to the coastline, in exchange for increasing the amount of oil in the water column off shore. While the effects of dispersants on some water column biota have been studied, the effects of dispersants and dispersed oil below the surface on wildlife such as diving birds, marine mammals, and sea turtles are not as well known as they are in fish.

Dispersants were only used where oil was present and were applied at the water surface and at the wellhead on the seafloor. A total of 1.8 million gallons of dispersants were used. For comparison, that is one one-hundredth of the volume of oil that leaked into the Gulf of Mexico, which itself consists of approximately 640 quadrillion gallons of seawater. Dispersants are designed to dilute and biodegrade quickly. Water sampling in the Gulf of Mexico by NOAA is showing evidence of biodegradation in the 2,195 water samples collected in the deep waters of the Gulf. These samples were analyzed for components of dispersants and only one of the 2195 samples taken to date showed a dispersant component, propylene glycol, above the detectable limit. Furthermore, this dispersant concentration is well below the level of concern for human health. This one sample was taken close to the wellhead on June 3, well-over two months ago. Subsequent to this date, over a thousand samples have been taken and none have detected dispersants. Dispersants were last applied in the Gulf of Mexico on July 19th.

NOAA does not have a regulatory role in approving dispersant products, but NOAA has three main roles in respect to dispersant use: as a trustee agency on the RRT, NOAA must approve any preauthorization for the use of dispersants in that region; again, as a trustee agency on the RRT, NOAA must be consulted with by the FOSC on any incident-specific use of dispersants within the region; and NOAA participates in monitoring for the efficacy of dispersants via the Special Monitoring of Applied Response Technologies (SMART) program. NOAA's Scientific Support Team is designated as a special team in the NCP and provides a broad array of scientific services to the response, including recommendations to the FOSC on the appropriate use of dispersants. NOAA is also a member of the SMART program, an interagency, cooperatively designed program to monitor the efficacy of dispersant and *in situ* burning operations. SMART relies on small, highly mobile teams that collect real-time data using portable, rugged, and easy-to-use

instruments during dispersant and *in situ* burning operations. Data are channeled to the Unified Command to help address critical questions. NOAA also uses SMART data to inform 24, 48 and 72 hour oil fate and trajectory models as dispersants can affect the behavior of the spilled oil.

Under section 311 of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) is required to prepare and maintain a schedule of dispersants and other mitigating devices and substances that may be used in carrying out the NCP. The NCP requires RRTs, in which NOAA participates, and Area Committees to plan in the advance of spills for the use or non-use of dispersants, to ensure that the tradeoff decisions between water column and surface/shoreline impacts are deliberated. As the FOSC for this spill response, the U.S. Coast Guard is responsible for authorizing the use of the specific dispersant used from the NCP Product Schedule where the use is pre-authorized. If the use of the dispersant is not preauthorized, the FOSC must receive the concurrence of the EPA representative to the RRT and consult with the DOC and DOI NRTs when practicable. Because of the unprecedented nature of the dispersant operations, the monitoring and constraints on application volumes and methodologies are being closely managed. In particular, EPA has specified effectiveness and impact monitoring plans, application parameters, and action thresholds. Any changes to specific Deepwater Horizon dispersant plans require the concurrence of EPA and other RRT decision agencies, including NOAA, under the NCP.

The Gulf coast is home to coastal wetlands and marshes that are biologically productive and ecologically important to nesting waterfowl, sea turtles, fisheries, and essential fish habitat. The Gulf of Mexico region's ecological communities are essential to sustaining local economies, recreational experiences, and overall quality of life. Although it may not be readily apparent, use of dispersants offshore and in deep water, reduced the amount of oil reaching the shoreline, reducing the amount of shoreline cleanup that will be required, and helping to reduce recovery time of injured nearshore resources. Without the use of dispersants, the shoreline impacts along the Gulf coast from the BP Deepwater Horizon oil spill would have been greater.

OIL BUDGET REPORT

On August 4, 2010, NOAA and other Federal agencies released a report titled the "BP Deepwater Horizon Oil Budget: What Happened to the Oil?" The National Incident Command (NIC) assembled a number of interagency expert scientific teams to estimate the quantity of BP Deepwater Horizon oil that has been released from the well and the fate of that oil. The expertise of government scientists serving on these teams is complemented by nongovernmental and governmental specialists that reviewed the calculations and conclusions. One team, led by Energy Secretary Steven Chu and United States Geological Survey (USGS) Director Marcia McNutt, estimated the flow rates and the total volume of oil released from the BP Deepwater Horizon well. On August 2, 2010, they estimated that a total of 4.9 million barrels of oil, with an uncertainty of plus or minus 10%, had been released into the Gulf of Mexico. A second interagency team, led by the U.S. Geological Survey and NOAA developed a tool called the Oil Budget Calculator to estimate the disposition of the oil. The calculator uses the 4.9 million barrel estimate as its input and uses both direct measurements and the best currently available scientific estimates. The interagency scientific report builds upon the calculator and summarizes what can

be said about the disposition of the oil to date. Over 25 government and independent scientists contributed to or reviewed the calculator and its calculation methods.

It is estimated that burning, skimming, and direct recovery from the wellhead removed one quarter (25%) of the oil released from the wellhead. One quarter (25%) of the total oil naturally evaporated or dissolved, and just less than one quarter (24%) was dispersed (either naturally or as a result of operations) as microscopic droplets into Gulf waters. The residual amount — just over one quarter (26%) — is either on or just below the surface as light sheen and weathered tar balls, has washed ashore, or is buried in sand and sediments. Oil in the residual and dispersed categories is in the process of being degraded. These estimates will continue to be refined as additional information becomes available.

It should be noted that even 26%, the estimated residual amount of oil remaining from the BP Deepwater Horizon oil spill is still a substantial amount of oil (over 1 million barrels or 42 million gallons); nearly 4 times the total amount that was released during the EXXON VALDEZ spill. This is not a trivial amount and will require a significant effort on the part of the Responsible Party and the Federal government to monitor the fate and effects of this residual oil and to recover whatever is available to be recovered.

Explanation of Report Findings

Unified Command Response Efforts:
Response efforts were successful in addressing 33% of the spilled oil. This includes oil that was captured directly from the wellhead by the riser pipe insertion tube and top hat systems (17%), burning (5%), skimming (3%) and chemical dispersion (8%). Direct capture, burning and skimming remove the oil from the water, while chemically dispersed oil remains in the water until it is biodegraded, as discussed below.

Dispersion:
Based on estimates, 16% of the oil dispersed naturally into the water column and 8% was dispersed by the application of chemical dispersants on and below the surface. Natural dispersion occurs as a result of the oil coming out of the riser pipe at high speed into the water column, which caused some of the oil to spray off in small droplets. For the purpose of this analysis, 'dispersed oil' is defined as droplets that are less than 100 microns — about the diameter of a human hair. Oil droplets that are this small are neutrally buoyant and thus remain in the water column where they then begin to biodegrade. Chemical dispersion also breaks the oil up into small droplets to keep it from coming ashore in large surface slicks and makes it more readily available for biodegradation. Chemical dispersants were applied at the surface and below the surface; therefore, the chemically dispersed oil ended up both deep in the water column and just below the surface. Dispersion increases the likelihood that the oil will be biodegraded, both in the water column and at the surface.

The naturally dispersed oil and some of the oil that was chemically dispersed remained well-below the surface in diffuse clouds where it began to dissipate further and biodegrade. Previous analyses have shown evidence of diffuse clouds of dispersed oil between 3,300 and 4,300 feet in very low concentrations (parts per million or less), moving in the direction of known ocean

currents and decreasing with distance from the wellhead. (citation: Federal Joint Analysis Group Report 1 and 2, http://ecowatch.ncddc.noaa.gov/JAG/reports.html). Oil that was chemically dispersed at the surface moved into the top 20 feet of the water column where it mixed with surrounding waters and began to biodegrade.

Evaporation and Dissolution:
It is estimated that 25% of the oil volume quickly and naturally evaporated or dissolved into the water column. The evaporation and dissolution rate estimate is based on scientific research and observations conducted during the Deepwater Horizon event.

Dissolution is different from dispersion. Dissolution is the process by which individual hydrocarbon molecules from the oil separate and dissolve into the water just as sugar can be dissolved in water. Dispersion is the process by which larger volumes of oil are broken down into smaller droplets of oil.

Residual:
After accounting for the categories that can be measured directly or estimated (i.e., recovery operations, dispersion, and evaporation and dissolution), an estimated 26% is unaccounted for. This figure is a combination of categories all of which are difficult to measure or estimate. It includes oil still on or just below the surface in the form of light sheen or tar balls, oil that has washed ashore or been collected from the shore, and some that is buried in sand and sediments and may resurface through time. This oil has also begun to degrade through natural processes.

Biodegradation:
Both dispersed oil in the water column and oil on the surface of the water biodegrade naturally. While there is more analysis to be done to quantify the rate of biodegradation in the Gulf, early observations and preliminary research results from a number of scientists indicate that the oil from the BP Deepwater Horizon spill is biodegrading quickly. Scientists from NOAA, EPA, DOE and academia are working to calculate more precise estimates of this rate. It is well known that bacteria that break down the dispersed and weathered surface oil are abundant in the Gulf of Mexico in large part because of the warm water, the favorable nutrient and oxygen levels, and the fact that oil regularly enters the Gulf of Mexico through natural seeps.

The oil budget calculator is intended to present the best information available on the fate of spilled oil at this time. Some of the components were measured, and some of them were estimated. Each element of the budget has some level of uncertainty associated with it, although it is difficult to characterize this uncertainty due to the nature of the estimations. The output is intended primarily to help inform the response on the fate of the oil, and secondarily to help the public understand the fate of the oil. These estimates will continue to be refined as additional information becomes available. A comprehensive technical report on the oil budget will be released by the NIC in the coming weeks.

Continued monitoring and research:
As NOAA Administrator, Dr. Lubchenco, has stated, “It is important to remember that dilute does not mean benign.” NOAA and our federal and research partners will continue to quantify and track oil that remains in the system to understand its fate and impacts. Additional research

efforts are currently being planned to further understand the fate, transport, and impact of the oil and response efforts. The federal government will continue to report activities, results, and data to the public on a regular basis. Updates and information can be found at www.restorethegulf.gov, and data from the response and monitoring can be found at www.geoplatform.gov.

NOAA'S ROLE IN ENSURING SEAFOOD SAFETY

To ensure the safety of fishermen and consumers, NOAA prohibited commercial and recreational fishing in certain areas of the Gulf of Mexico because of the BP Deepwater Horizon oil spill. The closures have been primarily a precautionary measure to ensure public health, safety, and consumer confidence in Gulf seafood. To identify areas where closures were needed, NOAA used a combination of computer modeling and daily overflights. Computer models produced trajectory maps of where the oil was likely to be in 24, 48, and 72-hour time frames based upon weather, satellite imagery, ocean buoy data, and ocean currents. This trajectory was ground-truthed by daily overflights to verify the actual extent of the oil. The data were reviewed each morning by NOAA to determine whether modifications were necessary for the closure boundaries. The areas closed to fishing in the Gulf included a five nautical mile buffer zone around the known location of oil. This was a precautionary measure to further ensure seafood products being caught are not contaminated because fish move in an out of the closure areas. NOAA has taken a conservative approach on closures in order to ensure public health and safety.

Now that the wellhead is capped and new oil is no longer flowing into the Gulf from the spill site, NOAA scientists are in the spill area taking seafood samples to determine which areas are safe for fishing. An area is only re-opened to fishing if visible oil is no longer present in the area and only after the seafood passes rigorous sensory and chemical testing. To date, every seafood sample from reopened waters or outside the closed area has passed sensory and chemical testing for contamination of oil and dispersant. No unsafe levels of contamination in seafood have been found.

NOAA has begun to reopen portions of the closed areas, but only after being assured that fish products within the closed area meet the Food and Drug Administration standards for public health and wholesomeness. NOAA has re-opened a total of more than 31,000 square miles of Federal waters in the Gulf of Mexico after conducting sensory and chemical analysis of fish in these areas. On July 22, NOAA re-opened 26,388 square miles of water to commercial and recreational fishing and another 5,144 square miles on August 10, 2010. The current fishery closed area in the Gulf of Mexico totals 52,395 square miles or approximately 22% of the Gulf of Mexico Exclusive Economic Zone; this is down from 84,101 square miles and approximately 37% of the Federal waters of the Gulf EEZ, which was the size of the closed area at its peak on July 12, 2010. NOAA is confident that commercial and recreational fishing activities can safely occur in the areas that were re-opened or never closed and that the fish harvested from the open areas are safe to consume.

NOAA's overall sampling strategy for Federal waters is based on oil density data over time within the fisheries closed area. The entire Federal closed area will eventually undergo the process for sampling and testing in accordance with the re-opening protocol. Our overall

strategy for sampling focuses first on areas least oiled and that are now not oiled as the top candidates for re-opening. The heaviest oiled areas are nearest the wellhead toward the center of the closed area. The heavily oiled areas will be more densely sampled than the more lightly oiled areas toward the outside of the closed area. NOAA assigned smaller areas in a grid-like pattern across the closed area and sampling stations within the grids. Samples are collected within the grids at sampling stations using a methodical, scientific approach beginning with the outermost grids working inward. The target species collected at each station are determined in advance as representative of the fish and shrimp species targeted by commercial and recreational fishers in the area.

To test the samples once collected, NOAA, in conjunction with the Food and Drug Administration (FDA), EPA, and the Gulf States agreed to a re-opening protocol that contains several criteria that must be met before fishing can occur in waters that were previously closed to fishing. These criteria include:

1. Low threat of exposure – Threat of exposure will be based on past observations and the status of the spill and conditions.

2. Evaluation of oil movement – Confirmation that the closure area is free of sheen on the surface by visual observation and/or aerial reconnaissance, or the presence of oil in the water column through visual observation or water testing.

3. Assessment of seafood contamination by sensory testing – Determination that the seafood is free from contamination through tissue collection and sensory testing. All specimens must pass sensory testing.

4. Assessment of seafood contamination by chemical analyses – Chemical analyses are performed on samples that pass sensory assessment to confirm that polycyclic aromatic hydrocarbon (PAH) concentrations are below the applicable FDA levels of concern for human health.

Sensory testing is performed by a team of NOAA and FDA expert assessors assembled from around the country at the NOAA National Seafood Inspection Laboratory in Pascagoula, Mississippi. Sensory testing is a proven technique and conducted in a carefully controlled state-of-the-art facility. Once a sample collected by NOAA from Federal waters passes sensory testing, the sample is sent to undergo chemical testing at NOAA's Northwest Fisheries Science Center in Seattle, Washington. At the lab, a team of chemists prepare and analyze the samples to detect the level of PAH compounds from the BP Deepwater Horizon oil spill in the tissue of a single fish or a group of fish collected at one location. The results are compared to the levels of PAH compounds of significant public health concern specified in the re-opening protocol. Similarly, samples collected in State waters undergo chemical analysis, this analysis is performed by FDA chemists at FDA laboratories and state laboratories that are part of the Food Emergency Response Network (FERN). The decision to distribute the workload in this way with NOAA conducting chemical analysis of Federal waters samples and FDA for State waters samples is indicative of the strong partnership between Federal and State agencies.

To further ensure that fishermen and consumers can have confidence in seafood from open Gulf waters, NOAA and FDA have expanded the sensory testing procedures. Sensory experts are trained to detect a combination of oil and dispersant, dispersant alone, and to note anything that is generally abnormal. Even though we do not expect dispersants to be present where oil is not, the expanded training for sensory analysts to detect dispersant alone is to increase surveillance and confidence in the process.

In addition, current modeling data on the individual components of the dispersants indicate that the dispersant used in the BP Deepwater Horizon oil spill may degrade rapidly and is unlikely to build up, or bioaccumulate, in the flesh of the fish. This is primarily based upon the assessment of their physical properties, which indicate dispersant compounds do not penetrate the gills or bodies of the fish, and therefore will not be concentrated in the edible tissues of seafood. Out of an abundance of caution, and in order to gather additional information, further research on the effects of dispersant use on seafood safety is ongoing.

CONCLUSION

As the response to this oil spill continues, the Unified Command will continually reevaluate our response strategies, actions, and planning. NOAA will continue to provide scientific support to the Unified Command. At this point, our attention is focused on evaluating fisheries for reopening, shoreline cleanup, and monitoring for subsurface oil, both nearshore and in deep water. NOAA also continues to work with our federal and state co-trustees on the NRDA, and to promote long-term regional restoration efforts. 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. Thank you for allowing me to testify on NOAA's response efforts. I am happy to answer any questions you may have.