TESTIMONY OF
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OVERSIGHT HEARING ON
OUR NATURAL RESOURCES AT RISK: THE SHORT AND LONG TERM IMPACTS OF THE DEEPWATER HORIZON OIL SPILL

BEFORE THE
SUBCOMMITTEE ON INSULAR AFFAIRS, OCEANS AND WILDLIFE
COMMITTEE ON NATURAL RESOURCES, U.S. HOUSE OF REPRESENTATIVES

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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 hail from all five Gulf states.

Since April 22, 2010 when the Deepwater Horizon sank into the Gulf, we have repurposed 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 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 were shocked by what we observed. Despite claims made by BP at the time, that dozens of boats had been mobilized, we saw two boats on site, neither of which were skimmers. Two boats. Three days after the rig sank, and an enormous amount of sheen and mousse had 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. On top of the insult of the oil, is the vast science experiment of an unprecedented amount (currently over 1 million gallons) of toxic dispersant applied both to the surface, and injected undersea. 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 most at risk of BP's crude.

1007 birds have been collected so far, 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.

2 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 breath air at the surface, the highly volatile nature of this oil can have significant impacts on these animals, including respiratory inflammation, pneumonia and death.

The Mississippi Canyon area is the primary feeding are 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, showing that they are not overly aware of their surroundings, 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 humans caused mortality of members of the Gulf sperm whale pod exceeds 3 recovery of this species will be negatively impacted. The impacts of the oil on sperm whales may be difficult to determine, as sperm whale carcasses are unlikely to be found due to their off-shore 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 negative impacts 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.

(This paragraph is confusing) Are you saying that the chemicals are likely to bioaccumulate and this will be a problem because we get so much sun?) If, as feared, bioaccumulation occurs in Gulf species the continued exposure to the sun by some species would be problematic as sunlight has been found to lead to longer-term impacts which differ from the initial effects of PAH toxicity. For example, Corals are known to bioaccumulate spilled oil quickly because they are not adept at filtering the toxins out – is there a link to the sun issue?

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 the no amount of dispersants will be sufficient to prevent landfall in light of the magnitude of the amount of oil that keeps flowing into the Gulf. A growing concern is that the bacteria

that eat oil also metabolizes 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 continue application of dispersants is tanamount to the 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 the Gulf may not be known for decades..

One take-away lesson of this disaster is that the Gulf coast is environmentally rich, yet also exceptionally fragile ecosystem. As we hold BP to account 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 Gulfs states.

We also cannot forget the coastal resources that are being impacted. For example, he 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 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. 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 Lousiana'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.