

**United States Senate
Committee on Environment and Public Works
Subcommittee on Wildlife and Water**

Written Testimony of Stanley Senner, Ocean Conservancy

**“Assessing Natural Resource Damages
Following the BP *Deepwater Horizon* Disaster”**

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Chairman Cardin, Ranking Member Crapo, and Members of the Subcommittee, thank you for the invitation to participate in today’s hearing. My name is Stan Senner, and I am Director of Conservation Sciences for Ocean Conservancy, a national marine conservation organization that has promoted healthy and diverse ocean ecosystems since its founding in 1972. Ocean Conservancy is supported by more than 500,000 members and volunteers, and our headquarters is in Washington, DC. I am currently based in Portland, Oregon.

I have worked on natural resources conservation issues for more than 35 years; much of that time was in Alaska. Most relevant to the Subcommittee and today’s hearing, I worked on the *Exxon Valdez* oil spill for nearly seven years, including two-and-one-half years as the State of Alaska’s Restoration Program Manager following the spill and then more than four years as Science Coordinator for the *Exxon Valdez* Oil Spill Trustee Council, which was the state-federal body set up to administer the \$900 million civil settlement among Exxon, the State of Alaska, and the Federal Government. Much farther back, I had the privilege of working for three years as a Professional Staff Member for the U.S. House of Representatives Committee on Merchant Marine and Fisheries. I have a M.S. degree in biology from the University of Alaska at Fairbanks.

In his Oval Office address to the nation on June 15, the President made a commitment to a long-term restoration plan for the Gulf of Mexico: one which not only restores the beauty and bounty of the Gulf Coast, but also addresses decades of environmental degradation in the region. That is a vitally important commitment, and one which will require a sustained investment of time, expertise, and treasure over many years. It will mean restoring the Gulf of Mexico ecosystem and communities from the harm caused by the BP *Deepwater Horizon* disaster. But it also will require enhancement of the ecosystem’s long-

term health and biodiversity through improved management and conservation of fish, wildlife and their habitats.

With two offices and multiple staff members in Gulf Coast states, Ocean Conservancy has worked for more than two decades in the Gulf of Mexico to rebuild depleted fish populations. Since the BP *Deepwater Horizon* explosion and blowout, we have marshaled and reallocated staff and other resources to respond to this disaster. We believe that in response to the BP *Deepwater Horizon* tragedy, the nation must chart a different course in the Gulf of Mexico, a course that will benefit the people who live, work, and play in the region and who enjoy its bounty, such as Gulf shrimp, throughout the country.

With reference to the topic of today's hearing, our objectives are to 1) understand the impacts of this disaster on people, fish and wildlife, and the environment, 2) ensure that the governments and others carry out a vigorous and rigorous natural resources damage assessment (NRDA) and other studies necessary to fully document injury and recovery from this event, and 3) ensure that the subsequent restoration program is not only fully compensatory, but that it more broadly and systemically restores the health and productivity of the Gulf of Mexico ecosystem. The Gulf ecosystem supports rich and productive commercial and recreational fisheries, millions of migratory birds, and a wide array of sea turtles and marine mammals, some of which are threatened or endangered.

A thoughtful, comprehensive and fully funded damage assessment is central to understanding the harm, identifying appropriate restoration alternatives, and claiming the funds necessary to restore injured natural resources and lost services following the BP *Deepwater Horizon* disaster. It could also serve as the cornerstone to any broader efforts, such as the President has called for. Sustained Congressional oversight is vital to this process, and we believe that today's hearing on the NRDA is timely as we take stock of what is in place, how it is being conducted, and where it is going.

Under the regulations adopted pursuant to the Oil Pollution Act of 1990 (OPA), the aim of the NRDA process is to develop and present a claim to the responsible parties for the costs of restoration and lost uses. The NRDA is supposed to determine the cost of restoring, replacing, rehabilitating or acquiring the equivalent of the natural resources injured, and services lost, as a result of the spill. The goal is supposed to be restoration to pre-spill conditions—or at least to

the conditions that would have existed had there not been a spill event. Although the aim is restoration, the process rests on an assessment of damages.

At present, we understand that the BP *Deepwater Horizon* damage assessment is still largely in the “pre-assessment” phase of the NRDA process. During this phase, the governments, in cooperation with the responsible parties, are working to determine whether damage to publicly owned “trust” natural resources, such as water, fish and wildlife, and their habitats, has occurred. In this phase, lots of samples are taken and surveys conducted, documenting the presence or absence of oil, gathering and tallying carcasses of birds, turtles, and other wildlife, and recording, at least at a qualitative level, the extent of damage to marshes and other habitats. One of the responsible parties, BP, is represented on all the NRDA teams in the field. The resulting data are shared among the governments and BP, though my understanding is that the data will be analyzed separately. For the governments’ part, if sufficient harm to trust resources is detected, they will elect to move forward with the “injury quantification” phase of the NRDA process.

In the injury quantification phase, more rigorous work is undertaken to document the nature, extent, and significance of the harm, including the loss of services provided by injured natural resources, such as recreation, fisheries, and hunting. Restoration alternatives will be identified and vetted. With public input, a restoration plan is developed and a claim for the necessary funds is presented to the responsible parties. At that point, the responsible parties can carry out the restoration program, provide the funds so that the governments can implement the restoration plan, or challenge the claims.

We appreciate how very difficult it is to design and field a damage assessment during the initial, often chaotic emergency response to a spill, and we know that NRDA teams in the Interior and Commerce departments, as well as in resource agencies in the affected states, are working very hard to do just that. We know that personnel from the U.S. Fish and Wildlife Service and National Oceanic Atmospheric Administration (NOAA) have been pulled in from around the country, and they have been putting in extremely long hours to design and launch the necessary preliminary assessment work, even while the oil has continued to leak and the story of the BP *Deepwater Horizon* unfolds.

Before diving into the specifics, I would offer the general observation that the NRDA process under OPA works best in relatively small, contained situations, such as a ruptured pipeline resulting in the release of a few thousands of gallons of oil into tens of acres of salt marsh. In such cases, the NRDA process is rather

straightforward and even standardized, with heavy reliance on models to quantify injury and lost uses, and the public's interests in the natural resources of that salt marsh are protected. With mega-disasters, such as the *Exxon Valdez* and the BP *Deepwater Horizon*, everything is vastly more complicated, and the standardized approaches may or may not serve the public interest. Of course, the *Exxon Valdez* preceded the NRDA regulations adopted under OPA, and the damage assessment, civil settlement, and restoration program were carried out on an unprecedented scale and there was no road map. In the case of the BP *Deepwater Horizon*, we don't yet have sufficient information to evaluate whether the current NRDA is on the right track. However, given the massive quantities of oil released deep under water and dispersants used under water and on the surface, the huge area affected, and the complexity of the ecosystem and the services it provides, this damage assessment and what follows will also break new ground. Ocean Conservancy has a particular concern about the quantification of injury in the Gulf of Mexico marine environment, where so much of this story is unfolding under water and out of sight, and the development of restoration alternatives for that environment.

Based on my own *Exxon Valdez* experience, and that of other Ocean Conservancy staff and our scientific advisors, including my colleague Dr. Robert Spies, who is participating in this hearing today, we offer the following perspectives, concerns, and suggestions in regard to the status and process of the BP *Deepwater Horizon* damage assessment:

1. Ensure that NRDA studies are integrated, ecological, and long-term in approach.

Under OPA, the purpose of a NRDA process is restoration, not just assessment of damages. While the focus on restoration is admirably forward looking, we strongly recommend that NRDA studies—and other studies being carried out by government agencies, the responsible parties, and academic and other institutions—be designed to document the full extent of injuries and recovery from those injuries. In other words, we must ensure that we know the “whole story” of environmental impact and recovery from the oil released into the Gulf of Mexico, no matter whether that takes 5, 10, or 25 years. This approach requires studies that are comprehensive in scope, integrated in design, ecological in approach, designed to detect indirect, chronic, and cumulative effects, and carried out long enough to detect injuries that are delayed or long-term in nature.

With the *Exxon Valdez*, we never anticipated that partially weathered—and still toxic—oil would linger on Prince William Sound beaches more than 20 years after the spill. We did not know ahead of time, for example, that there would be reduced ocean survival of salmon coming from eggs that had been exposed to concentrations of hydrocarbons of less than one part per billion. And we did not know, for example, that chronic exposure to certain long-lived fractions of oil (the PAHs: polycyclic aromatic hydrocarbons) would compromise the fitness of adult female harlequin ducks and reduce their overwintering survival in oiled parts of Prince William Sound for six to nine years after the spill (even a small reduction in survival rates makes a huge difference in the trajectory of a population over time). We never would have learned of these impacts if we had designed studies that were limited to the most obvious and short-term of injuries.

The *Exxon Valdez* event was the best studied oil spill in U.S. history, so why is it so important now to tell the whole story of the BP *Deepwater Horizon* disaster? First, we will not be able to seek fully compensatory restoration from the responsible parties unless we thoroughly and patiently explore potential injuries. Second, following the *Exxon Valdez* spill, we repeatedly heard from the public—whether it was from a fisherman in Cordova or an armchair naturalist in Miami—that they wanted to know what harm was caused by the spill and when recovery was achieved. For the public, obtaining this information is in and of itself a form of restoration. Third, the *Exxon Valdez* spill took place in an environment that is very different from the Gulf of Mexico, and the releases of oil are themselves very different. The water in Alaska is cold, there is less sunlight, and wind, wave, and microbial action, and the oil was released on the water surface and quickly made contact with shorelines. The Gulf of Mexico is warm, and there is lots of sunlight, and wind, wave, and microbial action. In addition, the oil was released deep under water and far from shore. Hence, we should learn everything we can about impacts to and recovery of the Gulf of Mexico ecosystem following the BP *Deepwater Horizon* disaster and use this knowledge to help us better assess the risks of offshore drilling and improve our responses to future oil spills.

It is possible that the BP *Deepwater Horizon* NRDA will be short-circuited by a civil settlement, such as was negotiated in 1991, about two-and-one-half years after the *Exxon Valdez* oil spill. Regardless of whether a settlement is reached or restoration claims are fully pursued through a NRDA process, there must be provision made and resources available to fully pursue and document long-term injury and to seek additional restoration funds, if necessary. The *Exxon Valdez*

settlement explicitly included a “reopener” clause for this purpose, though I would not recommend use of the *Exxon Valdez* language verbatim, which I think is too restrictive. In 2006, the Federal Government and State of Alaska invoked the *Exxon Valdez* reopener clause and submitted an additional claim of \$92 million; four years later there has been no substantive action on this claim.

2. Ensure that external peer review is incorporated into the NRDA process as early as possible.

It is essential that impact studies, whether part of a NRDA process or not, are carried out as rigorously as possible to ensure the quality and credibility of the results. And, of course, it is possible—if not likely—that the damage assessment studies and their results will end up as subjects for argument in court.

As the NRDA process moves from pre-assessment studies to more sophisticated and longer-running injury quantification studies, we strongly encourage the federal and state trustees to empanel a team of outside experts to look at individual studies and, most importantly, at the overall suite of NRDA studies. Review by outside experts—people who themselves are not carrying out projects or competing for project funding—will help improve the quality of individual studies, facilitate cooperation and integration among agencies and across the whole suite of studies, and identify gaps which perhaps are not so evident to people who are immersed daily in carrying out the program.

External peer review was an integral part of the *Exxon Valdez* science program, and it contributed immeasurably to the value of that program. With the *Exxon Valdez*, we used a panel of “core” peer reviewers who looked at the science program as a whole, plus special reviewers, who had the specific expertise needed to review some of the more highly technical study designs. Besides promoting integration and synergy among studies and agencies, systematic external peer review along these lines can facilitate a tighter, leaner program by flagging studies that may not be contributing effectively to what should be a rigorous, adaptive science program.

3. Ensure that federal and state governments are as transparent as possible—as quickly as possible—with the public in regard to what studies are being conducted and what is being learned.

In my visits to the Gulf Coast and in calls from the news media, I am repeatedly asked what the federal and state governments are doing in the way of impact

studies and what they are learning. The information gathered and analyzed through NRDA studies is a critical part of the response to the BP *Deepwater Horizon* disaster and should be highly visible. The people from whom we are hearing understand that it is too early to know what the injuries are beyond the oiling of habitats and immediate, acute mortality, but they want to know what the governments are studying.

There has been progress made in this regard, and we acknowledge and appreciate that recently we are seeing some of the pre-assessment study plans posted on the internet. Nonetheless, there is a widely perceived dearth of information on the part of the scientific and conservation communities, and the public more broadly. In the long run, the fear of the unknown only contributes to the stress brought on by this disaster. Hence, we strongly encourage the federal and state trustees to lay out clear plans for public communications about and stakeholder engagement in the NRDA process, make study plans available as quickly as possible, and provide briefings on the content and results of the program.

The federal and state governments maintained strict confidentiality about the *Exxon Valdez* damage assessment studies and what was being learned about impacts for the two-and-one-half years prior to the civil settlement with Exxon. And to this day we still only know the results from the Exxon studies that the corporation has chosen to disclose. While the rationale for secrecy on the part of the governments and Exxon is matter for debate, I can tell you that it left a legacy of bitterness that lingers today, just like the oil does on some beaches in Prince William Sound. Going forward, beyond the BP *Deepwater Horizon*, it would seem more than sensible to clearly define agency policies and protocols in regard to public communications for NRDA cases, and there is much that can be learned from the *Exxon Valdez* experience.

4) Ensure that there are sufficient resources for federal agencies to carry out the necessary NRDA studies.

Pursuant to the current statutory and regulatory scheme, much of the funding for the NRDA pre-assessment work comes from BP as the primary responsible party. Many people have expressed concerns about whether the participation of a responsible party may somehow influence the scope and nature of NRDA studies, and we believe those concerns are legitimate, especially given the scale and potential financial liability of the BP *Deepwater Horizon*. There also are concerns about whether trustee agencies are unduly constrained by funding.

Timing is everything in designing and executing an effective damage assessment for an event on the scale and complexity of the BP *Deepwater Horizon* disaster. The necessary studies must be implemented quickly, with sufficient sampling intensity to detect change, and they must be done properly from the outset. Delays in the approval of funding for NRDA work, whether due to the necessity of obtaining BP's approval, agency fiscal policies, or limitations in access to funds from the Oil Spill Liability Trust Fund, may compromise time-sensitive studies. Documenting impacts is all about detecting change. Having insufficient funds to fully implement timely field studies only makes it more difficult to detect change, which may then lead to erroneous conclusions about lack of injury, when indeed there was injury but we failed to detect it. And if that is the case, injured natural resources won't be restored and the public interest won't be served.

Beyond the BP *Deepwater Horizon* disaster *per se*, we encourage the Subcommittee to explore more fully the readiness of federal trust agencies to respond with the science necessary to document harm to publicly-owned natural resources. My understanding is that the budgets for damage assessment and restoration activities in agencies like NOAA, for example, are steadily shrinking, and we question whether federal trustee agencies have the capacity, either "in house" or in cooperation with universities and other institutions, to conduct research on damage assessment and restoration techniques and to plan in advance. We are aware that the federal trustee agencies are drawing on personnel from offices throughout the country. What does this do to their capacity to continue work on other NRDA cases and restoration projects already underway, to say nothing of responding to new disasters, such as a large spill in a remote place like Arctic Alaska?

5) Ensure that there are funds to fully restore injured natural resources and lost services following the BP *Deepwater Horizon* disaster in the context of a larger program aimed at restoring and enhancing the long-term health and productivity of the Gulf of Mexico ecosystem.

Ecosystems are dynamic and injuries from one environmental insult, such as the oil from the BP *Deepwater Horizon* blowout, tend to be cumulative and interact with injuries from other insults and with natural variation. Hence, it can be very hard to tease out the effects from any one event or insult, especially as the time from the original insult grows longer. For this reason, it can be hard to focus on the restoration of just one resource from just one event, especially if underlying causes of degradation and lost productivity are not addressed. This is why it

makes sense and indeed seems entirely appropriate to look at restoration of the Gulf of Mexico ecosystem as something that must be broader than the oil spill impacts per se.

As noted earlier, Ocean Conservancy supports the goal articulated by President Obama in his June 15, 2010, speech from the Oval Office:

Beyond compensating the people of the Gulf in the short-term, it's also clear we need a long-term plan to restore the unique beauty and bounty of this region. The oil spill represents just the latest blow to a place that has already suffered multiple economic disasters and decades of environmental degradation that has led to disappearing wetlands and habitats. And the region still hasn't recovered from Hurricanes Katrina and Rita. That's why we must make a commitment to the Gulf Coast that goes beyond responding to the crisis of the moment.

Conclusion

In the wake of the BP *Deepwater Horizon* disaster, the nation has an obligation to chart a different course in the Gulf of Mexico. We need to:

- fully and aggressively document impacts from this release of oil and the time required until recovery is achieved;
- seek funds for a restoration program that fully compensates for the harm caused by the oil;
- seek funds to restore and enhance the larger Gulf of Mexico ecosystem after decades of degradation; and
- improve safety, environmental protections, marine spatial planning, and spill responses associated with development of energy resources on the outer continental shelf.

Specifically in regard to the NRDA, we need a BP *Deepwater Horizon* NRDA that is comprehensive in scope, integrated in design, ecological in approach, designed to detect indirect, chronic, and cumulative effects, and carried out long enough to detect injuries that are delayed or long-term in nature. We need rigorous external peer review, especially at the programmatic level, and we need greater public transparency. Providing information to the public is part of healing and restoration, and there should be clear guidelines and strategies in place for how

to do so. Now is too soon—and there is not yet enough information available—to say whether the present course of the NRDA following the BP Deepwater Horizon disaster is sufficient for the task. The scope and complexity of the event are daunting and have stretched depleted agency resources. Finally, we encourage the Subcommittee to consider whether natural resources trustee agencies have the resources needed to respond to this event and simultaneously to other NRDA cases in various stages of progress, much less to additional events that inevitably will occur. Being prepared for oil spills and other events that require damage assessments is part of the cost of doing business when it comes to the development, production, and transportation of energy and other resources.