

Understanding Restoration Planning and Procedures

As part of the recovery effort following the *Deepwater Horizon* oil disaster, the government agencies tasked with restoring the Gulf's natural resources through the Natural Resource Damage Assessment (NRDA) process are required to produce a series of restoration planning documents. These range from individual project proposals to full restoration plans that include multiple projects and discuss environmental consequences and alternatives. The public has opportunities to provide feedback on restoration planning documents, but deciphering them is challenging if you are not already familiar with the policy and practice of natural resource restoration.

This guide discusses restoration goals and techniques, introduces the components of restoration plans and project proposals, and provides tips for understanding and evaluating them. It focuses on restoration under NRDA, then briefly addresses other restoration processes at the end.



CONTENTS:

When is Restoration Required?	1
What is "Restoration"?	2
What is a "Restoration Plan"?	4
How to Read a Restoration Plan.	6
How to Read a Project Proposal	8
Beyond NRDA: Other <i>Deepwater Horizon</i> Restoration Processes.	11

When is Restoration Required?

Under the federal Oil Pollution Act, the companies responsible for the *Deepwater Horizon* disaster (called the "**responsible parties**") must pay the costs of restoring injured natural resources.

A **Natural Resource Damage Assessment (NRDA)** is the legal process that the federal and state governments use to:

1. **assess the injuries to natural resources caused by an oil spill,**
2. **determine the compensation owed to restore the resources and/or ecosystem services, and**
3. **develop and implement a restoration plan.**

NRDA is the responsibility of "**trustees**" – federal, state, and tribal officials who act on behalf of the public where natural resources are injured.

Natural Resources

Natural resources include things like birds, fish, plants, and habitats under the responsibility of a federal, state, or local government, a tribe, or a foreign government. Natural resources provide **ecosystem services** [Daily 1997].

Ecosystem Services

Ecosystem services are the benefits provided to humans by the world's ecosystems.

For example:

- Purifying air and water
- Providing food
- Mitigating storms and floods
- Providing recreational opportunities

Ecosystem services can be translated into dollar amounts by assessing, for example, the amount you pay for a fishing license or the costs saved from storm protection provided by coastal wetlands.

What is “Restoration”?

Restoration

In the context of NRDA, restoration is intended to make the public and the environment whole after an injury to natural resources. It involves both **primary** and **compensatory** actions, from repairing or replacing resources to covering interim losses.

■ **Primary Restoration** returns injured resources to the condition they would have been in before the oil spill—a condition referred to as the “**baseline**.”

■ **Compensatory Restoration** compensates the public for **interim losses**, which are losses due to not having access to the injured resource or the service it provides. Losses are measured from the date of injury to the date resources are returned to baseline condition. The restoration must provide resources or services of similar quality and value to those lost.



Early Restoration

NRDAs can take years to complete, due to the complexity of identifying injuries and determining restoration methods and costs. However, some injuries and restoration methods are known early on. **Early restoration agreements** provide frameworks for trustees and responsible parties to get started on mutually agreed-upon restoration projects before the entire NRDA is completed. The *Deepwater Horizon Early Restoration Framework Agreement* signed by BP and the *Deepwater Horizon* Trustees set aside **\$1 billion** for early restoration projects. The Framework Agreement includes criteria for choosing projects, as well as methods for determining how the funding BP provides at this stage will be offset against its ultimate financial liability (*see p. 10 for more on this offset*).

Examples of Injured Resource	Examples of Potential Restoration Actions
Shore birds	<ul style="list-style-type: none">• Nest site enhancement• Minimizing vehicular access to bird habitat• Public education and outreach
Wetland habitat	<ul style="list-style-type: none">• Wetland revegetation• Purchase of marsh property• Fish stocking
Human use (Recreational boating)	<ul style="list-style-type: none">• Allowing natural recovery• Constructing a boat ramp



Box 1 Understanding Gulf Restoration Techniques

There are a number of different strategies for restoring coastal and offshore habitats. This section reviews basic restoration techniques for four major coastal Gulf habitats—**marshes, beaches and barrier islands, shellfish reefs,** and **seagrass beds**—and highlights issues to consider when evaluating restoration project proposals.

It is important to note that ecosystem restoration is not an exact science, and the selection of restoration techniques is always dependent on local conditions and on the goals of a particular restoration project. In addition, only a subset of common Gulf habitats and restoration techniques are listed here; other important habitat types include coral reefs, mangroves, and deepwater habitats, among others.

Marshes

Coastal marsh restoration usually involves a combination of **vegetation planting, water-level manipulation,** and **sediment management.**

Keep in Mind

Gulf marshes were primarily damaged by oil at the marsh edge, but this area is also at the highest risk of inundation and die-off from sea-level rise. Rather than just restoring marsh edges, marsh restoration projects should consider the future effects of sea-level rise by creating opportunities for marshes to migrate upslope.

Beaches and Barrier Islands

Common beach restoration techniques include **beach nourishment** via replacement of eroded sediment, and **shoreline stabilization and protection** via the installation of breakwaters or other shoreline structures.

Keep in Mind

Beach nourishment is a short-term solution and can have negative impacts on beach-dependent species. Shoreline stabilization through the use of hard structures like seawalls and breakwaters can also have undesirable ecological effects.

Shellfish Reefs

Shellfish reef restoration techniques include **building new reefs** with shell material, limestone rock, oyster mats or other materials, and **seeding existing reefs** with shellfish larvae.

Keep in Mind

Site selection is a key aspect of shellfish reef restoration. Reefs are most likely to recover if restoration occurs in areas that are known to have suitable conditions for reef growth and survival.

Seagrass Beds

Seagrass restoration generally involves some degree of **sediment fill** and **vegetation planting.** Initial seagrass growth can be encouraged by **planting fast-growing species** to stabilize sediment.

Keep in Mind

Seagrass restoration initiatives should include efforts to maintain healthy seagrass beds once developed, such as the establishment of boat corridors to prevent propeller damage.

For More Information...

Numerous restoration guides and resources have been compiled by government and non-government organizations. Below is a small cross-section of these resources.

Marshes

- *An Introduction and User's Guide to Wetland Restoration, Creation, and Enhancement* (NOAA, EPA, ACoE, FWS & NRCS)
<http://1.usa.gov/13V3uYF>

Beaches and Barrier Islands

- *Overview of Beach Nourishment Programs* (NOAA)
<http://1.usa.gov/I9kMEH>
- *Erosion Control Structures* (NOAA)
<http://1.usa.gov/139OLmn>
- *Oyster Reefs as Natural Breakwaters* (PLoS ONE)
<http://bit.ly/1b7vSKf>

Shellfish Reefs

- *Design & Monitoring of Shellfish Restoration Projects* (TNC)
<http://bit.ly/10RJYK3>

Seagrass Beds

- *Seagrass Restoration Techniques* (NOAA)
<http://1.usa.gov/18ehKyv>
- *Guidelines for Seagrass Restoration* (NOAA)
<http://1.usa.gov/1b7zpbg>

What is a “Restoration Plan”?

A restoration plan describes the restoration projects that will be implemented to compensate the public for injuries to natural resources caused by the oil spill.

Deepwater Horizon restoration projects must address injuries to one or more Gulf resources that were impacted by the incident. The resources currently being assessed by the Trustees are:

- Deepwater communities
- Water column and invertebrates
- Marine fish
- Marine mammals
- Sea turtles
- Nearshore sediment and associated resources
- Submerged aquatic vegetation
- Oysters
- Shallow corals
- Shorelines
- Birds
- Terrestrial species
- Human use (of natural resources)

Project Selection & Plan Development

NRDA restoration projects are generally selected through a multi-step process.

(1) Solicitation: any member of the public may submit a restoration project proposal to the *Deepwater Horizon* Trustees. BP may also submit project proposals to the Trustees.

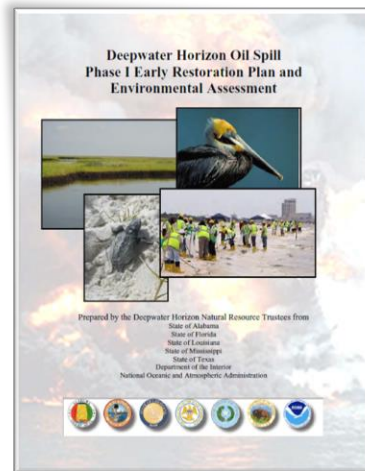
(2) Screening: the trustees screen hundreds of project proposals to identify projects that meet their selection criteria, and narrow down the proposals to a small group.

(3) Negotiation: *for early restoration projects only*, BP and the *Deepwater Horizon* Trustees must agree on the amount of funding and the offsets for each project.

(4) Public Review: the trustees create a draft restoration plan, and submit it to the public for review and comment. Members of the public will have a set amount of time to submit comments.

(5) Final Selection: after considering the public’s comments, the trustees select final restoration projects and then publish a final restoration plan.

The *Deepwater Horizon* Trustees will release multiple phases of restoration plans, as well as **environmental impact assessments**.



On April 18, 2012, the Deepwater Horizon Trustees released their first early restoration plan, the Phase I Early Restoration Plan and Environmental Assessment, which lays out 8 projects. The Phase II Early Restoration Plan and Environmental Review was released eight months later on December 21, 2012. The Draft Programmatic and Phase III Early Restoration Plan and Draft Early Restoration Programmatic Environmental Impact Statement was released for public comment on December 6, 2013.



Box 2 Environmental Impact Assessments

Gulf restoration projects could have dramatic environmental impacts. Therefore, under the National Environmental Policy Act (NEPA), the trustees are required to prepare an **environmental impact assessment** (either an Environmental Assessment or a full Environmental Impact Statement) of the proposed restoration activities. The purpose of this assessment is to analyze the consequences of proposed projects, evaluate possible alternatives, and disclose information to the public. The preparation process involves holding public hearings and soliciting comments from the public.

The *Deepwater Horizon* Trustees must analyze the environmental consequences of restoration projects unless a project falls under a “**categorical exclusion**” and is exempted from review.

Phase I Early Restoration Plan Example

Where habitat restoration will result in only minor changes to the project site, a project may be **categorically excluded** from environmental review. For example, the “Alabama Dune Restoration Project” involves only planting and installing fences and signs, which the Trustees determined fell into a categorical exclusion and so did not complete an environmental assessment for it.

An environmental impact analysis will:

- 1) **describe the project’s purpose and need,**
- 2) **analyze the direct, indirect, and cumulative environmental impacts of the project’s construction and operation,**
- 3) **compare the project’s impacts to the alternative of taking no action, and**
- 4) **summarize how the project’s beneficial impacts compare to its adverse impacts.**

If multiple projects are connected (e.g., one action will trigger another action), they can be analyzed together under the same environmental analysis. Otherwise, each restoration project must be evaluated independently.

Why is an environmental impact assessment part of a restoration plan?

Since the trustees have to prepare restoration plans **and** environmental impact assessments, the plans and assessments are often combined. Combining them can be efficient because both documents require the trustees to evaluate restoration project alternatives and select a preferred alternative.

What resources are analyzed?

The *Deepwater Horizon* Trustees must examine restoration projects’ impacts on numerous resources:

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Geology, soils, sediments
- Land use
- Noise
- Socioeconomics, environmental justice
- Public access, recreation
- Utilities, public services
- Water resources

Phase I Early Restoration Plan Example

For the “Mississippi Artificial Reef Habitat” project, the Trustees identified the following environmental impacts, among others:

- **Air Quality:** use of heavy equipment could temporarily create air pollution, but best management practices would be employed to prevent air pollutants.
- **Biological Resources:** project would improve the marine ecosystem for fish.
- **Noise:** heavy equipment and barges could emit noise that impacts wildlife and humans.
- **Socioeconomics:** improved marine habitat would provide positive economic impacts to local citizens.
- **Cumulative Impacts:** the project is consistent with the key, long-term coastal planning documents for the Mississippi Sound.

In summary, the Trustees found that the ecological benefits of the project far outweighed any temporary adverse impacts.

How to Read a Restoration Plan

Restoration plans generally will follow the framework below. These examples, from the [Phase I Early Restoration Plan and Environmental Assessment](#), help explain basic plan concepts.

(1) Executive Summary

Plans will open with an **Executive Summary** that briefly summarizes the restoration planning process in a few pages. The Executive Summary may include a list of projects included in the plan and basic facts about each project.

Tip

Read the **Executive Summary** first for a big-picture overview of the plan. Note the different types of restoration projects included in the plan and where they will be implemented.

(2) Table of Contents

The **Table of Contents** will provide an outline of what information is contained in the plan.

Tip

Restoration plans are often quite long, so skimming the **Table of Contents** can help you identify where to find specific pieces of information.

(3) Background and/or Setting

Plans will include a **Background** and/or **Setting** chapter explaining why the trustees are engaged in restoration and which resources they hope to restore. These sections may describe the oil release, outline the laws involved in the restoration process, and provide an overview of injured resources in the Gulf of Mexico.

Mandatory Contents

The Oil Pollution Act regulations require that a NRDA restoration plan contain the following elements:

- Summary of injury assessment procedures
- Description of injuries
- Restoration goals and objectives
- Alternatives considered
- Preferred alternative(s)
- Responsible parties' past and proposed future involvement in the assessment
- Monitoring plan

The plan's introductory sections are designed to give context for the restoration plan and to outline the trustees' legal authority to conduct restoration planning. These sections may also provide useful information about the public comment process leading up to plan development.

Tip

If this is your first time reading a restoration plan, you may wish to read the **background sections**. Otherwise, you can often skim these sections.



(4) Alternatives

The **Alternatives** section is very important because it describes each restoration project in detail. There are always at least two alternatives:

(1) taking no action, or (2) implementing the restoration project. The trustees are required to compare the effects of implementing the restoration projects they propose against the alternative of doing nothing. Examining the “**No Action**” alternative is a required part of the environmental impact assessment process.

For early restoration plans only, the Alternatives section will also include the *Deepwater Horizon* Trustees’ “**Offsets Estimation Methodology**.” (Offsets are described in greater detail on p. 10.)

Tip

Read the detailed descriptions of proposed restoration projects in the **Alternatives** section. Typically, the projects are organized by state location.

(5) Environmental Consequences

The trustees are required to evaluate the environmental impacts of a restoration project. Typically, each project will be analyzed separately by an environmental assessment.

For early restoration plans only, the plan will include an **Environmental Consequences** chapter analyzing the direct, indirect, and cumulative impacts of all the proposed projects on different categories of resources versus the alternative of taking no action.

Tip

Read this section closely, because this is where the trustees disclose the positive and negative impacts of each project. Pay attention to the subsection under each project labeled “Summary”—it’s an outline of the trustees’ findings and justifications for selecting particular projects.

(6) Public Comment

If the plan is final, the trustees will include a **Public Comment** chapter. This chapter summarizes the public comments that the trustees received on the draft restoration plan, and the trustees’ responses to those comments.

Tip

This can be a useful section for determining next steps, as it will show you which concerns other people had—which may be the same or different from yours.

(7) Literature Cited, Appendixes

At the very end, the plan may include a list of any documents referenced, called **Literature Cited**, and additional information in **Appendixes**.

Tip

There is usually no need to examine the **Literature Cited** or **Appendixes** unless you are looking for more information (or a specific piece of information referred to in the plan).

Interested in other restoration plans?

You may find it helpful to look at other restoration plans. As noted previously, sometimes a restoration plan is combined with the environmental impact assessment; sometimes they are prepared separately.

- *North Cape* oil spill: [Restoration Plan and Environmental Assessment \(1999\)](#)
- *Cosco Busan* oil spill: [Restoration Plan and Environmental Assessment \(2012\)](#)
- *Exxon Valdez* oil spill: [Restoration Plan \(1994\)](#); [Environmental Impact Statement \(1994\)](#)



How to Read a Project Proposal

When you read a specific project proposal in a restoration plan's *Alternatives* chapter, be sure to pay attention to the following information in each subsection.

1) Project Title

What is the project called, and what type of restoration is involved?

2) Cost

What is the total cost of the project? Has any other source already committed funds to the project?

Phase I Early Restoration Plan Example

Projects ranged in cost from **\$645,000** for dune restoration in Florida to **\$15.6 million** for an oyster cultch project in Louisiana.

3) Background and Project Description

While reading this subsection, you may want to pay attention to the following items:

- Note the proposed location (parish, county, state) and size of the project. There may be a map.
- Who will undertake the project?

Phase I Early Restoration Plan Example

The "Louisiana Oyster Cultch Project" is managed by the Louisiana Department of Wildlife and Fisheries. The "Mississippi Artificial Reef Habitat" is implemented by the Trustees in coordination with the Mississippi Department of Marine Resources, but the project monitoring will be undertaken by the University of Southern Mississippi Gulf Coast Research Laboratory.

- What are the project's goals and expected outcomes?
- Which injured resource(s) would be benefited by the project? Which type of habitat would be benefited by the project (e.g., marine, wetlands, beach)?

Note whether the project is already in progress, and whether it has received other necessary permits and approvals.



4) Selection Criteria

While reading this subsection, you should pay attention to the following items:

- Who suggested the project?

Phase I Early Restoration Plan Example

The "Mississippi Oyster Cultch Restoration" project was suggested during public scoping meetings and submitted to the Trustees via their online project idea submission form.

- Is there a clear relationship between the project and an injured resource?
- What is the projected lifespan of the project? How long will the restoration value exist?
- Is the project described as technically feasible? Has this type of project been attempted before with success?
- How do the trustees describe the project's probability of success? Is the project's success dependent on any assumptions?
- How does the project proposal match up against the trustees' mandatory and discretionary project selection criteria?
- How did the trustees estimate the project's cost? Is the project described as "cost-effective"?

Box 3 Project Selection Criteria

The *Deepwater Horizon* Trustees must consider a series of project selection criteria when deciding which projects to fund. Some of the criteria the Trustees will use are mandatory, while others are discretionary.

Oil Pollution Act Regulations (Mandatory Criteria)

By federal law, the trustees must consider:

- Project cost
- Nexus between the project and an injury to resources or services
- Project's likelihood of success
- Whether project may lead to collateral injury
- How many resources or services will benefit
- Project's effect on public health and safety

If project alternatives are otherwise equal, the trustees must select the less expensive project.

Early Restoration Framework Agreement (Mandatory Criteria)

For early restoration projects only, the *Deepwater Horizon* Trustees and BP agreed that projects must:

- Contribute to making the environment and the public whole
- Address one or more specific injuries associated with the oil release
- Seek to restore resources or services of the same type and quality and of comparable value to those injured
- Be consistent with the anticipated long-term NRDA restoration needs and restoration plan
- Be feasible and cost-effective

Discretionary Criteria

In addition to the mandatory criteria, the *Deepwater Horizon* Trustees have stated that they will also consider:

- Weighing how quickly the project can produce environmental benefits
- Selecting a diverse set of projects to benefit an array of injured resources
- Focusing on projects in which the Trustees have experience and confidence
- Giving preference to projects that can be quickly implemented

5) Performance Criteria, Monitoring, and Maintenance

■ **Performance criteria** describe the standards the trustees will use to determine whether the project is successful at achieving its goals, or whether corrective action is required. The trustees may also note the primary threats to project success.

Phase I Early Restoration Plan Example

The performance of the "Marsh Island Marsh Creation" project will be assessed by measuring the growth and development of native marsh plants in the project area, and evaluating those measurements against predetermined standards for a "normal" marsh.

■ **Project monitoring** is essential from start to finish. Monitoring allows the trustees to determine whether restoration projects are effective and economical, and helps keep projects on track. Monitoring also provides data that can improve future restoration projects. Monitoring is often used to evaluate performance.

Phase I Early Restoration Plan Example

As part of the "Florida Dune Restoration Project," officials will visit the project site on a weekly basis for 3-5 years to monitor installed dune plants. Plants that do not survive within 90 days after planting will be replaced.

■ **Maintenance** may be required over time to ensure long-term project success. If so, the project proposal should include a maintenance plan.

Phase I Early Restoration Plan Example

In the "Mississippi Oyster Cultch Restoration" project proposal, the Trustees note that weather events and harvesting could lead to loss of cultch material. Accordingly, the maintenance plan for the project includes remote sensing of cultch coverage, and replacement of cultch material as necessary.

6) Offsets

In early restoration plans only, the *Deepwater Horizon* Trustees and BP must agree on the amount of offsets (called “**NRD Offsets**”) that BP will receive for each proposed project. NRD Offsets are the restoration benefits that an early restoration project is expected to provide over its lifespan. The NRD Offsets will be subtracted from BP’s ultimate NRD liability for the *Deepwater Horizon* incident.

Because it is difficult to predict how successful a project will be, and because quantification methods are by their nature imprecise, offsets are estimates. It is important to note, however, that BP will receive the agreed-upon offsets even if a project does not achieve its expected benefits.

An early restoration plan should discuss the “Offsets Estimation Methodology” for projects, which is a description of the primary methods the trustees used to estimate offsets.

Tip

In the case of early restoration projects, identify whether a project’s offset is valued in habitats, resources, dollars, or another unit.



Phase I Early Restoration Plan Example

The Trustees used three methods to calculate offsets for Phase I early restoration projects:

- **Habitat Equivalency Analysis** – values projects in terms of habitat units (e.g., dunes).
- **Resource Equivalency Analysis** – values projects in terms of resource units (e.g., birds).
- **Monetization** – values projects in dollars.



Beyond NRDA: Other *Deepwater Horizon* Restoration Processes

In addition to the formal NRDA process, restoration projects will also be funded under processes created by the Resources and Ecosystem Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States (RESTORE) Act and criminal plea agreements.

The procedures for proposing, approving, and implementing restoration projects under these new processes are still being developed. However, project selection criteria specific to each process have already been established.

Under the RESTORE Act

The RESTORE Act diverts 80% of the Clean Water Act civil and administrative penalties levied as a result of the oil release to Gulf restoration and recovery as follows.

Gulf Coast Ecosystem Restoration Council

Just under one-third of RESTORE funds (30% plus half of the interest) will go to a Gulf-wide Restoration Council to support a science-based plan to restore and protect natural resources. The Council must prioritize:

- Projects that make the greatest contribution to restoring and protecting Gulf Coast natural resources
- Large-scale projects and programs that are expected to substantially contribute to restoring and protecting natural resources
- Projects contained in existing Gulf Coast State comprehensive plans for restoring and protecting natural resources
- Projects that restore long-term resiliency of the natural resources most impacted by the spill



Equal-Share and Impact-Based State Allocations

Almost two-thirds of RESTORE funds will be split among the five Gulf states: 35% of the funds will go to the states (in equal shares) without Council oversight and 30% of the funds plus half of the interest will go to the states (based on impacts) with Council oversight. These state-allocated funds can only be used for:

- Restoration and protection of natural resources
- Mitigation of damage to natural resources
- Implementation of a federally approved marine or coastal management plan
- Workforce development and job creation
- Improving state parks affected by the oil release
- Infrastructure projects benefitting the economy or ecological resources
- Flood protection and infrastructure
- Planning assistance
- Promotion of tourism
- Promotion of Gulf seafood consumption
- Administrative costs (not more than 3%)

The equal-share funds must be used for projects and programs designed to restore and protect Gulf Coast resources, selected based on meaningful and broad-based public input, and based on best available science.

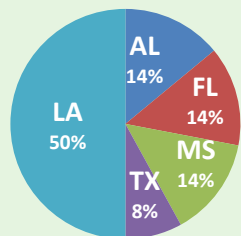
The impact-based funds must be used to implement a funding plan that is “consistent with” the goals and objectives of the Council’s comprehensive plan. Not more than 25% of these funds can be used for infrastructure unless certain criteria are met.

Under the Criminal Plea Agreements

The U.S. Department of Justice has settled potential criminal charges stemming from the *Deepwater Horizon* oil release with Transocean and BP. These criminal plea agreements channel funds through, among other places, two non-profit organizations:

National Fish and Wildlife Foundation (NFWF)

NFWF is a non-profit organization created by Congress in 1984 “to protect and restore fish and wildlife and their habitats.” The plea agreements provide over \$2.5 billion total to NFWF to conduct natural resource restoration in each of the Gulf states (see chart).



These funds must be used “to remedy harm to resources where there has been injury to, or destruction of, loss of, or loss of use of those resources” from *Deepwater Horizon*. In Louisiana, funds must be used

to create or restore barrier islands or implement river diversion projects on the Mississippi and/or Atchafalaya Rivers, to restore, create, and protect coastal habitat.

NFWF must consult with state and federal resource agencies in selecting projects. In addition, NFWF’s website indicates that further criteria may call for projects that:

- Advance priorities in natural resource management plans
- Are cost-effective and maximize environmental benefits
- Are science-based
- Produce measurable and meaningful conservation outcomes

Sources:

DEEPWATER HORIZON NATURAL RESOURCE TRUSTEES, DEEPWATER BP OIL SPILL: PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT PUBLIC SCOPING COMMENT SUMMARY (Sept. 2011), available at http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/2011/09/PEISCommentSummary_FINAL_web.pdf.

DEEPWATER HORIZON NATURAL RESOURCE TRUSTEES, DEEPWATER HORIZON OIL SPILL PHASE I EARLY RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT (2012), available at <http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/Final-ERP-EA-041812.pdf>.

DEEPWATER HORIZON NATURAL RESOURCE TRUSTEES, DEEPWATER HORIZON OIL SPILL PHASE II EARLY RESTORATION PLAN AND ENVIRONMENTAL REVIEW (2012), available at <http://www.doi.gov/deepwaterhorizon/upload/Phase-II-ERP-ER-12-21-12.pdf>.

National Academy of Sciences (NAS)

The NAS is a private non-profit institution, which was created by Congress in 1863 “to provide independent advice to the government on matters related to science and technology.” The plea agreements provide the NAS with \$500 million in funding to establish a program to focus on human health and environmental protection in the Gulf of Mexico and on the U.S. Outer Continental Shelf.

While NAS has not laid out specific criteria for selecting projects, the agreement states that the program must:

- Seek to advance scientific and technical understanding with the objective of enhancing the safety of offshore oil drilling and hydrocarbon production and transportation in the Gulf and on the U.S. Outer Continental Shelf
- Include assessment and evaluation of strategies and technologies with the objective of enhancing protection of human health and environmental resources
- Be conducted based on scientific merit and integrity, with emphasis on freedom of inquiry and independent nonpartisan advice and recommendations
- Carry out studies, projects and other activities in the public interest that would not otherwise be adequately funded or supported by private industry

DEEPWATER HORIZON NATURAL RESOURCE TRUSTEES, EARLY RESTORATION PROJECT SELECTION CRITERIA (Jan. 2012), available at http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/Spring2012_TCToolkit_EarlyCriteria_FINAL.pdf.

DEEPWATER HORIZON NATURAL RESOURCE TRUSTEES, “SUGGEST A RESTORATION PROJECT,” <http://www.gulfspillrestoration.noaa.gov/restoration/give-us-your-ideas/suggest-a-restoration-project/>.

DEEPWATER HORIZON NATURAL RESOURCE TRUSTEES, PUBLIC SCOPING FOR PREPARATION OF A PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR THE DEEPWATER HORIZON BP OIL SPILL (Apr. 2011), available at <http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/2011/04/Public-DWH-PEIS-Scoping-Review-Document1.pdf>.

GRETCHEN C. DAILY, NATURE’S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS (1997).

NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION, “NOAA GULF SPILL RESTORATION,” <http://www.gulfspillrestoration.noaa.gov/restoration/what-is-restoration-scoping/>.