

U.S. DEPARTMENT OF THE INTERIOR

SECOND INTERIM PARTIAL CLAIM FOR ASSESSMENT AND RESTORATION PLANNING COSTS
20 APRIL 2010 *DEEPWATER HORIZON* (MC 252) INCIDENT

TIME PERIOD: JANUARY – DECEMBER 2013



Submitted By:

Cynthia K. Dohner
Regional Director, FWS Southeast Region
Authorized Official for the Department of the Interior
1875 Century Blvd.
Atlanta, GA 30345

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Appendix A

EXECUTIVE SUMMARY

On April 20, 2010, an explosion and fire on the *Deepwater Horizon* mobile offshore drilling unit resulted in 11 worker fatalities and discharges of oil and other substances from the rig and seabed wellhead into the Gulf of Mexico. Pursuant to section 1006 of the Oil Pollution Act (“OPA”), 33 U.S.C. §§ 2701 *et seq.*, and Executive Order 13626, federal, state, and federally recognized tribes are Trustees for natural resources and are authorized to act on behalf of the public to: (1) assess natural resource injuries resulting from a discharge of oil or the substantial threat of a discharge and response activities; and (2) develop and implement a plan(s) for restoration of such injured resources.

This document identifies 25 assessment and restoration planning procedures, including studies, which agencies within the U.S. Department of the Interior (“Department” or “DOI”) plan to implement in 2013 to inform natural resource damage injury determination, injury quantification, and restoration selection activities associated with the *Deepwater Horizon* Oil Spill (“Oil Spill”). This document is a supplement to the Department’s Interim, Partial Claim dated July 1, 2011, which identified Assessment procedures that may be performed in 2011 and 2012. The collection of activities identified in this Second Interim Partial Claim (“Claim” or “Second Claim”) reflect consideration of the factors identified in 15 C.F.R. § 990.27 (use of assessment procedures), § 990.51 (injury determination) and § 990.52 (injury quantification). The assessment activities also reflect consideration of data and analyses conducted during the preassessment phase of the Natural Resource Damage Assessment (“NRDA”). Restoration planning activities identified reflect consideration of the factors identified in 15 C.F.R. § 990.53 (developing restoration alternatives), § 990.54 (evaluation of alternatives), and § 990.55 (developing restoration plans). The Department will also be further developing and maintaining a document management system to support the Trustees’ efforts to develop an Administrative Record. In addition, the Department will be evaluating injury assessment and restoration planning and implementation records for inclusion into the Administrative Record(s) (§ 990.61). Scientific information to support injury determination and quantification, although incomplete, is sufficient for the Trustees to proceed with restoration planning. The Department’s assessment and restoration planning activities in this Claim are a subset of the NRDA activities conducted by all Trustees. Department activities in this Claim document focus on impacted natural resources the Department directly manages – including endangered species, migratory birds, and DOI-managed lands and facilities. The Department expressly reserves its ability to supplement the assessment and restoration planning procedures identified herein.

This Second Claim covers the Department’s assessment and restoration planning activities and estimated costs for 2013 that are unique from activities already paid for by BP or the U.S. Coast Guard. The document is organized to provide a description of the Department’s proposed activities by resource category or major topic area. The Department’s, Coordination, Oversight, Implementation and Analysis costs include labor costs of all the staff employed by the Department that are required to prepare a comprehensive injury

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assessment and restoration planning. The Department requests a total of \$58,251,284 to complete NRDA activities during the budgeted period. (See Exhibit 3)

Exhibit 1 provides summary cost information for estimated contractor costs for assessment and restoration planning procedures included in this Claim, including proposed field studies, laboratory and data analysis, and data management which totals \$27,948,818. Exhibit 2 provides estimated costs for coordination, oversight, implementation and analysis activities for DOI personnel in 2013. These costs total \$22,704,473. In addition, as shown in Exhibit 3, the Department also seeks \$7,597,994 in contingency funds, estimated at 15% of the sum of assessment and restoration planning costs. Contingency funds are intended to cover the risk that actual costs are higher than expected, and only will be made available upon documentation of higher than expected costs.

In total, the Department is seeking a sum certain of \$58,251,284 for injury assessment and restoration planning activities specified in this document.

Data collection and analysis is ongoing, and may result in the identification of additional NRDA activities by the Department and/or its co-Trustees or, alternatively, the decision may be made to not pursue an activity identified in this Claim. The need for any additional studies and assessment activities and their relationship to existing data collection efforts and analyses and data management will be clearly identified in any future assessment claims. This Second Claim is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

Exhibit 1 – Injury Assessment and Restoration Planning Procedures

Total	\$27,948,818
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Exhibit 2 – Costs for DOI, Coordination, Oversight, Implementation and Analysis

Total	\$22,704,473
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Exhibit 3 – Contingency Funds and Total

	IPC Cost	15% of IPC Cost (contingency)	Total IPC
NRDA Procedure Costs	\$27,948,818	\$4,192,323	\$32,141,140
DOI Coordination/ Oversight Costs	\$22,704,473	\$3,405,671	\$26,110,144
Grand Total	\$50,653,291	\$7,597,994	\$58,251,284

1. ADMINISTRATIVE INFORMATION

1.1. Claimant Eligibility and Coordination with Co-Trustees

The following governmental entities are designated natural resource Trustees under OPA and Executive Order 13626 and are currently acting as Trustees for this Incident¹:

the U.S. Department of the Interior, as represented by the National Park Service (“NPS”), the Fish and Wildlife Service (“FWS”), and Bureau of Land Management (“BLM”);

the National Oceanic and Atmospheric Administration (“NOAA”), on behalf of the United States Department of Commerce;

the Environmental Protection Agency (“EPA”)

the US Department of Agriculture (“USDA”)

the United States Department of Defense (“DOD”);

the State of Louisiana’s Coastal Protection and Restoration Authority, Oil Spill Coordinator’s Office, Department of Environmental Quality, Department of Wildlife and Fisheries and Department of Natural Resources;

the State of Mississippi’s Department of Environmental Quality;

the State of Alabama’s Department of Conservation and Natural Resources and Geological Survey of Alabama;

the State of Florida’s Department of Environmental Protection; and Florida Fish and wildlife Conservation Commission;

the State of Texas’ Parks and Wildlife Department, General Land Office, and Commission on Environmental Quality (collectively, the “Trustees”).

In addition to acting as Trustees for this Incident under OPA, the States of Louisiana, Mississippi, Alabama, Florida and Texas are also acting pursuant to their applicable state laws and authorities, including the Louisiana Oil Spill Prevention and Response Act of 1991,

¹ In this Claim, the *Deepwater Horizon*/MC252 Oil Spill is referred to as “Oil Spill” or “Incident” which may include, as applicable, all Incident(s) related to the events of the explosion, fire and subsequent discharges of oil and other substances from the rig and wellhead on the seabed into the Gulf of Mexico.

La. R.S. 30:2451 *et seq.*, and accompanying regulations, La. Admin. Code 43: 101 *et seq.*; the Texas Oil Spill Prevention and Response Act, Tex. Nat. Res. Code, Chapter 40, Section 376.011 *et seq.*, Fla. Statutes, and Section 403.161, Fla. Statutes; the Mississippi Air and Water Pollution Control Law, Miss. Code Ann. §§ 49-17-1 through 19-17-43; and Alabama Code §§ 9-2-1 *et seq.*, and 9-4-1 *et seq.*

Several technical working groups (“TWGs”) exist, each comprised of Trustee representatives and led by the Trustees to guide and coordinate data collection and analysis for the NRDA. As appropriate, these TWGs coordinate with and consider input from BP Exploration and Production, Inc. on TWG activities. The procedures identified in this Claim are planned to be implemented and/or overseen by DOI personnel, were developed in coordination with the Department’s co-Trustees, and include TWG review.

1.2. Responsible Party Information

The Responsible Parties (“RPs”) identified for this Incident thus far are BP Exploration and Production, Inc. (“BP”); Transocean Holdings Inc. (“Transocean”); Triton Asset Leasing GmbH (“Triton”); Transocean Offshore Deepwater Drilling Inc. (“Transocean Offshore”); Transocean Deepwater Inc. (“Transocean Deepwater”); Anadarko Petroleum (“Anadarko”); Anadarko E&P Company LP (“Anadarko E&P”); and MOEX Offshore 2007 LLC (“MOEX”). Pursuant to 15 C.F.R. § 990.14(c), concurrent with the publication of the Notice to Conduct Restoration Planning, the Trustees invited the RPs identified above to participate in an NRDA. The Trustees have coordinated with BP, the only RP who accepted this invitation to actively participate in the NRDA process.

1.3. Determination of Jurisdiction

For reasons identified in the Notice of Intent to Conduct Restoration Planning for this Incident, the Trustees determined they have jurisdiction to pursue restoration under OPA. 75 Fed. Reg. 60800 (Oct. 1, 2010).

1.4. Time Limitations on Claims

This Claim for funding of reasonably necessary assessment and restoration planning procedures to inform Incident-specific injury determination and quantification analyses is presented in writing to the Director, National Pollution Funds Center (NPFC) within time limits specified in 33 C.F.R. § 136.1010 (i.e., within three years from the date of completion of the natural resources damages assessment). The natural resources damage assessment for this Incident is ongoing and has not been completed.

1.5. Legal Action

On December 15, 2010, the United States filed its complaint against the RPs in the Eastern District of Louisiana (Civil Case no. 2:10-cv-04536). At this time, the trial schedule does not include natural resource damages quantification in the first two phases of litigation.

1.6. Claim Presentation

This Interim, Partial Claim for Assessment and Restoration Planning Costs has been presented for a sum certain, in accordance with OPA to all of the identified RPs by letters dated October 4, 2012.

2. ASSESSMENT: OVERVIEW OF APPROACH

OPA regulations provide that NRDA procedures be tailored to the circumstances of the incident and the information needed to determine appropriate restoration. With respect to standards for assessment procedures, the regulations provide that (15 C.F.R. § 990.27(a)):

- (1) the procedure(s) must be capable of providing assessment information of use in determining the type and scale of restoration appropriate for a particular injury;
- (2) the additional cost of a more complex procedure must be reasonably related to the expected increase in the quantity and/or quality of relevant information provided by the more complex procedure; and
- (3) the procedure must be reliable and valid for the particular incident.

OPA regulations identify several categories of assessment procedures available to Trustees, including but not limited to: procedures conducted in the field or laboratory; model-based procedures; and/or literature-based procedures (15 C.F.R. § 990.27(b)). If a range of assessment procedures providing the same type and quality of information is available, the most cost-effective procedure must be used (15 C.F.R. § 990.17(c)). Finally, assessment procedures must contribute to injury determination (i.e., by establishing the spatial and temporal magnitude of exposure to oil, the pathways of exposure, and/or the presence of injury, as described in 15 C.F.R. § 990.51) and/or injury quantification (i.e., quantifying the degree, spatial and temporal extent of injury to natural resources and the associated reduction in services caused by the injury, as described in 15 C.F.R. § 990.52).

Through TWG and internal review processes, the Department has determined the assessment procedures identified in this document meet these requirements, and are integrated with (and not duplicative of) other NRDA data collection and analysis activities. In addition to coordinating with co-Trustees, the Department has coordinated these assessment procedures and the content of this Claim with NOAA's 2013 Claim (*NOAA Second Interim, Partial Claim for Assessment and Restoration Planning Costs September 19, 2012*) to further ensure consistency and the complementary nature of the assessment and restoration planning activities. Modifications to the identified assessment procedures may be made because of the participation of BP in the NRDA pursuant to 15 C.F.R. § 990.14. A description of each assessment activity's purpose and related implementation information is provided in subsequent sections of this document, and in many cases, in the related work

plans. (A list of proposed assessment and restoration planning activities is included in Appendix A).

The Department regularly posts final NRDA work plans and study-related data on the Internet. For the official record of Trustee NRDA investigations, visit the *Deepwater Horizon* Oil Spill NRDA Administrative Record. As of September 30, 2012, the site contains links to more than 130 NRDA work plans. Many of these work plans provide detailed technical methods and implementation information, and are incorporated by reference into this Claim.

NRDA work plans and study-related data

<http://www.gulfspillrestoration.noaa.gov/oil-spill/gulf-spill-data/>

NRDA Administrative Record

<http://www.doi.gov/deepwaterhoizon/adminrecord/index.cfm>

As described in NOAA's 2013 Interim, Partial Claim document, almost all of the assessment workplans to date were focused intentionally on the data collection phase after the Oil Spill. Therefore, the assessment plans do not address Trustee activities focused on data compilation, synthesis, analysis, interpretation, reporting, and restoration planning. Many of our activities in this Claim are focused on the analysis and interpretation of scientific data necessary to quantify injuries from the Oil Spill, complete NRDA analyses, and plan for restoration. Some data collection including field work is still proposed as a continuation of assessment of potential injuries identified in the first days of the Oil Spill or to reduce uncertainties in the injury determination.

2.1. Overview of How DOI Estimated Assessment Costs for Each Activity

The Department is planning to complete many NRDA assessment analyses by the end of 2013 (including injury quantification and draft technical and interpretive reporting). To this end, the activities identified herein either continue the assessment begun in the first year of the spill or are designed to reduce uncertainties in injury determination and quantification. The scale and cost of each activity was carefully considered, and represents a balance between the need for cost-effective assessment efforts and the unprecedented geographic scale and complexity of this Oil Spill, in light of input provided by DOI's co-Trustees and the data available to date. Data management, scientific documentation, and legal review of analyses are included as part of this Claim. Also included in the cost estimates is the level of effort expected for the anticipated amount of co-Trustee and RP coordination, laboratory and other data analysis schedules, and the number of anticipated work products, including finalization of large environmental and chemical datasets. Some of the proposed assessment activities may extend into 2014, depending on a variety of factors, such as the seasonality of the data collection efforts, laboratory space limitations, and Trustee review of data and interpretive reports.

The Budget Summary for Assessment and Restoration Planning Activities (Exhibit 1) reflects contractor costs only, consistent with current Department practice in this case. Departmental personnel and travel costs affiliated with a particular procedure, where Departmental employees themselves are implementing the procedure as well as general coordination, oversight, operations and analysis costs, are included in the Department's Coordination, Oversight, Implementation and Analysis budget in Section 10 and Exhibit 2.

One of the proposed assessment procedures in this Second Interim Partial Claim was previously included in the Department's 2011-2012 Interim Partial Claim: UV Screening to Detect Petroleum on Bird Plumage. At the time of this Claim, the Department has not sought funding for this assessment activity under the July 2011 Interim, Partial Claim. However, the activity is still considered necessary for injury determination and quantification and therefore is included in this Claim.

A description of each activity is provided in subsequent sections of this Claim. Pursuant to current Department practice in this case, a work plan describing the activity in more detail will be presented to BP (and the National Pollution Funds Center ("NPFC") separately, where appropriate (i.e., salary and early restoration activities will not have a separate detailed work plan). Additional budget detail per activity can be provided upon request. Brief summaries of each procedure are provided below.

As more information about the impacts of the Oil Spill becomes available, the Department expressly reserves its right to supplement the assessment procedures identified herein through additional claims for assessment and restoration planning costs. Modifications to the identified assessment procedures may be made because of the participation of BP in the NRDA pursuant to 15 C.F.R. § 990.14.

The Department structured this Claim to facilitate a request for adjudication to the NPFC after 90 days if the Responsible Party(s) declines to pay the Department's assessment and restoration planning costs. Except for two proposed activities, DOI salary and Early Restoration Planning, each proposed activity will have a detailed work plan. As per current practice in this case, the Department will transmit a work plan to BP along with an "Invoice/Request for Advance Funding." This transmittal will satisfy presentment as required under the NPFC regulations. Ninety (90) days after the receipt of the Invoice/Request for Advance Funding, the Department may request adjudication of any work plan for which the Responsible Party declines to pay.

3. Endangered/Threatened Sea Turtles

The Department's assessment activities focus on nesting turtles whereas the assessment activities of our sister agency, NOAA, focus on oceanic and neritic turtles. Through the TWG process, these separate activities are coordinated to supplement the Trustees' understanding of potential adverse impacts to sea turtles as a result of the Oil Spill. Data and analysis from the nesting sea turtle studies will be incorporated into the Sea Turtle

Exposure and Injury Assessment Report, as described in NOAA's Second Interim Partial Claim. All four proposed assessment procedures are continuations of prior pre-assessment and assessment studies in this Oil Spill. The analysis of data from these previous activities is underway.

3.1. 2013 IPC # 1: Nesting and Hatchling Kemp's Ridley 2013 Field Work Plan

Purpose of Activity and Injury Assessment Need

Kemp's Ridley turtles nest along the Texas shoreline in the Gulf of Mexico, including in the Padre Island National Seashore. In part based on satellite data obtained from the 2010-2012 NRDA studies, intra- and post-nesting locational positions are beginning to demonstrate foraging and migration area use patterns, showing that the species migrate through and spend non-breeding foraging time in the area of the spill. Since 2010, nesting occurrence along the TX shore has effectively plateaued after numerous years of nearly exponential growth. The cause of this slowing in nesting improvement is unknown. Nesting success in Kemp's ridleys, monitored at protective nesting corrals and a specialized incubation facility, has remained nearly constant through the three years of monitoring effort, although the occurrence of certain types of deformities detected in dead embryos and hatchlings has increased since the spill. This proposed assessment activity will assess potential continued exposure and injury to Kemp's ridley nesting adults, hatchlings, and eggs from *Deepwater Horizon* oil and dispersants. Further consideration is that this species nests every two to three years, thus field work in 2013 will allow assessment of individual that nested in 2010 or 2011 to determine whether their health or reproductive status have changed since the Oil Spill.

Methods

This proposed assessment activity would be an addendum to the 2010 and 2011 Preassessment Plans and the 2012 Assessment Plan, funded by the NPFIC. The field work is anticipated to be similar to the previous efforts. However, preliminary findings from the 2010/2011 Turtle Analytical Plan (TAP) and years 1-3 of the study may dictate slight plan modifications.

Relationship to Other Activities and Data

Data collected from this sampling will be directly comparable with historic data and NRDA data (2010-2012). No other trustee is conducting assessment activities on nesting and hatchling sea turtles.

Coordination and Implementation

The 2013 Nesting and Hatchling Kemp's ridley Sea Turtles work plan will be developed in collaboration with co-Trustees through the Sea Turtle TWG. Data analysis and results from the Kemp's ridley sea turtle nesting plans implemented as part of this NRDA will be integrated into the Sea Turtle Exposure and Injury Assessment Report described in NOAA's Second Interim Partial Claim.

Timeframe

This proposed activity would be initiated in early April when Kemp's ridley sea turtles begin nesting in Texas.

3.2. 2013 IPC # 2: Nesting and Hatchling Loggerhead Sea 2013 Field Work Plan

Purpose of Activity and Injury Assessment Need

Loggerhead turtles nest along the Gulf Coast, including in coastal Alabama and the panhandle of Florida, areas affected by the Oil Spill. In part based on satellite data obtained from the 2010-2012 NRDA studies, intra- and post-nesting locational positions are beginning to demonstrate foraging and migration area use patterns, which shows that the species migrate through and spend non-breeding foraging time in the area of the Oil Spill. This pattern suggests that not only nesters in the area of the Oil Spill were/are exposed to MC 252 oil, but that other nesting turtles may forage in the area of the spill and then migrate throughout the eastern Gulf, including central and southern Florida.

Methods

This proposed assessment activity would be an addendum to the 2010 and 2011 Preassessment Plans and the 2012 Assessment Plan, funded by the NPFC. The field work is anticipated to be similar to previous efforts. Preliminary findings from the 2010/2011 Turtle Analytical Plan (TAP) and years 1-3 of the study may dictate slight plan modifications.

Relationship to Other Activities and Data

Data collected from this sampling will be directly comparable with historic data and NRDA data (2010-2012). No other trustee is conducting assessment activities on nesting and hatchling sea turtles.

Coordination and Implementation

The 2013 Nesting and Hatchling Loggerhead Sea Turtle Assessment Plan Addendum will be developed in coordination with co-Trustees through the Sea Turtle TWG. Data analysis and results from the Loggerhead sea turtle nesting plans implemented as part of this NRDA will be integrated into the Sea Turtle Exposure and Injury Assessment Report described in NOAA's Second Interim Partial Claim.

Timeframe

This proposed activity would be initiated in late May 2013 when Loggerhead sea turtles begin nesting.

3.3. 2013 IPC # 3: 2012 Turtle Analytical Plan

Purpose and Injury Assessment Need

The 2012 Kemp's ridley and Loggerhead nesting and hatchling assessment plans are near completion and samples from the studies will shortly be available for analysis. This proposed assessment activity will fund analyses of field samples collected under both the 2012 Kemp's ridley and 2012 Loggerhead Nesting and Hatchling Assessment Plans. In

addition, it will fund the integration of the 2012 satellite telemetry information into the state space model being developed as part of the ongoing NRDA.

Methods

Chemical, biochemical and toxicological analysis methods, similar to those used in the 2010-2011 Turtle Analytical Plan, will be used to measure and determine exposure and effects of *Deepwater Horizon* oil in the focal sea turtle species.

Relationship to Other Activities and Data

In Spring, 2011, the NPFC adjudicated the 2010-2011 TAP which covers sample analyses for samples collected through the Kemp's ridley and Loggerhead Nesting and Hatchling Preassessment Plans for 2010 and 2011 samples, only.

This study directly supports the 2012 Kemp's ridley and Loggerhead sea turtle field seasons by providing exposure and effects data for correlation with nesting success and satellite transmitter-based site use characterization studies currently underway. Data collected from this sampling will be directly comparable with pre-spill historic data (2008-2009) and NRDA data (2010-2011).

Coordination and Implementation

The 2012 Turtle Analytical Plan has been developed in collaboration with co-Trustees through the Sea Turtle TWG as well as other toxicological assessment work that is ongoing. The 2012 analyses will be informed by the preliminary results available from the 2010-2011 TAP.

Timeframe

The proposed analysis activities would begin in January 2013, or earlier, as the samples are available for analysis at this time.

3.4. 2013 IPC # 4: 2013 Turtle Analytical Plan

Purpose and Injury Assessment Need

This Claim includes assessment activities for Kemp's ridley and Loggerhead nesting and hatchling for the 2013 sea turtle field seasons. This activity will fund analyses of field samples collected under both Assessment Plans in 2013.

Methods

Chemical, biochemical and toxicological analysis methods, similar to those used in the 2010-2011 TAP, and the proposed 2012 Turtle Analytical Plan, will be used to measure and determine exposure and effects of *Deepwater Horizon* oil in the focal sea turtle species. Obtained data will be evaluated in light of findings from nesting and satellite transmitter studies performed on the source animals that provided the samples.

Relationship to Other Activities and Data

In Spring, 2011, the NPFC adjudicated the 2010-2011 Turtle Analytical Plan which covers sample analyses for samples collected through the Kemp's ridley and Loggerhead Nesting and Hatchling Preassessment Plans for 2010 and 2011 samples, only.

This study directly supports the proposed 2013 Kemp's ridley and Loggerhead sea turtle field seasons by providing exposure and effects data for correlation with nesting success and satellite transmitter-based site use characterization studies currently underway. Data collected from this sampling will be directly comparable with pre-spill historic data (2008-2009) and NRDA data (2010-2011) and NRDA data (2012), upon funding and completion.

Coordination and Implementation

The 2013 Turtle Analytical Plan will be developed in close collaboration with co-Trustees through the Sea Turtle TWG as well as other toxicological assessment work that is ongoing.

Timeframe

The proposed analysis of the 2013 samples would begin only after the end of the respective nesting seasons for Kemp's ridley and Loggerhead sea turtles, in early Fall 2013.

4. BIRDS

Thousands of visibly oiled birds were collected dead and many thousands more were observed oiled during and following the Oil Spill. The Trustees are assessing injuries to birds caused by exposure to oil using two primary approaches.

The first approach, the Beached Bird Model (BBM), will be used to estimate avian mortality. The second approach, the Live Oiled Bird Model (LOBM), will be used to estimate injury to birds that were exposed to oil, but were not immediately killed or sufficiently incapacitated to capture. In addition to these two models, the Trustees are also investigating additional injuries to birds from the Oil Spill that may not be captured in the two primary approaches.

The nine activities specific to birds proposed by the Department in this Claim are designed to reduce uncertainties in avian injury determination.

4.1. Beached Bird Model

Inputs to the BBM include information on the recovery of dead or impaired birds and the effort exerted to recover those birds. Processes that may affect the rates of deposition of carcasses on shorelines and the ability of survey crews to locate and recover birds are also considered in the BBM. Such processes include: 1) carcass persistence on shorelines, 2) searcher efficiency when collecting dead and injured birds, and 3) carcass deposition under non-spill (background) conditions. The Trustees have completed studies to measure these processes across the geographic extent and diversity of habitats affected by the Oil Spill, including:

- Carcass deposition on shorelines,

- Carcass persistence in dominant habitat types affected by the spill (i.e., hard “walkable” beaches, marshes, sandbars and islands within marshes, open water habitats),
- Searcher efficiency for sand beach, marsh and sand bar habitats.

The following two assessment activities will further refine the BBM and reduce uncertainty in the avian injury determination and quantification.

4.1.1. 2013 IPC # 5: Background Deposition of Bird Carcasses on Walkable Shorelines and Marshes

Purpose and Injury Assessment Need

The purpose of this proposed assessment study; “Background Deposition of Bird Carcasses on Walkable Beaches and in Marshes” is to help quantify background bird carcass deposition rates in the northern Gulf of Mexico. At this time, there are no data in the scientific literature quantifying background avian carcass deposition in the northern Gulf of Mexico. These data are necessary to develop an accurate estimate of avian mortality that distinguishes the number of birds killed by the Oil Spill from the number of birds killed by other, unknown factors.

(Note: While the Department identifies the importance of accurately estimating avian mortality caused by the Oil Spill, we also recognize that the execution of this assessment activity will be dependent on the actual environmental conditions during the proposed time of this study (summer 2013). An increase in ‘abnormal events’ that could potentially increase avian mortality (e.g. hurricanes, accidents, lethal epizootic diseases outbreak, etc.) in the northern Gulf of Mexico during the study time period will influence the Trustees decision to proceed with this assessment procedure).

Methods

The study will collect information on the background deposition of bird carcasses in sandy/hard (i.e., walkable) beach and marsh environments. For walkable beaches, searches for naturally deposited carcasses will be conducted using the same methods as the beached bird surveys implemented under Bird Study #1/1A during the spill. For marshes, searches will be conducted from boats. Searchers for both habitat types will complete datasheets following the protocols of Bird Study #1/1A to record all dead birds encountered. Rather than collect these dead birds (because storage and disposal would be unnecessary expenses), the carcasses will be left in place and marked in a way that allows them to be identified as “previously found.”

Relationship to Other Activities and Data

This activity will generate data to be used in the BBM. It will provide data that will allow us to calculate background (non-spill) bird carcass deposition rates in the area of the spill.

Coordination and Implementation

The proposed activity is coordinated with co-Trustees through the Bird TWG.

Timeframe

This proposed activity will be initiated in late spring 2013 and continue through the summer, during a time period consistent with the Oil Spill.

4.1.2. 2013 IPC # 6: Measuring the Detection Function (Searcher Efficiency) for Birds in Open Water

Purpose and Injury Assessment Need

This assessment activity will evaluate the ability of searchers to detect bird carcasses in open water. This information will be used to complement existing datasets to estimate acute bird injury.

Methods

These activities will focus on open water habitats. Consistent with other searcher efficiency studies, carcasses of a mix of bird species will be randomly placed (tethered) along transects in open water habitats. Search crews unfamiliar with the placement of the carcasses will search from different start points and headings within the study area.

Relationship to Other Activities and Data

This activity will generate data to be used in the BBM. The results from this assessment activity will complement data collected during the Beached Bird Study (and similar activities focused on other habitats), the marsh edge Carcass Persistence Study, and the open water Carcass Drift study by documenting search team carcass-detection rates, which in turn will facilitate development of estimates of total avian injury.

Coordination and Implementation

The proposed activity will be coordinated with co-Trustees through the Bird TWG. Field implementation will include contractor staff and equipment and staff from the State Trustee agencies and the Department.

Timeframe

This proposed activity would be initiated in the summer of 2013.

4.2. Live Oiled Bird Model

The LOBM will be used to estimate non-acute injury to birds exposed to oil. Inputs to the LOBM include three general types of data: 1) the number of birds occurring in areas affected by the Oil Spill; 2) the incidence and degree of bird oiling (oiling rates); and 3) the fate of oiled birds (i.e., the likelihood a bird would die or suffer other adverse effect due to oil). The Trustees implemented several preassessment and assessment studies to generate these data for dominant groups of birds potentially affected by the Oil Spill.

The following three assessment activities will help to reduce uncertainty in avian injury estimates generated by the LOBM.

4.2.1. 2013 IPC # 7: Background Oiling Rate for Live Birds

Purpose and Injury Assessment Need

This study will help us determine the number of birds we observed oiled during the Oil Spill that were actually oiled by a source other than the Deepwater Horizon spill (i.e., baseline oiling rate). The Deepwater-related oiling rate would be adjusted to account for this background oiling rate, ensuring the LOBM estimates injury due exclusively to the Deepwater Horizon spill.

Methods

The study would collect information from the field on the baseline oiling rates for birds in the northern Gulf of Mexico. Observers would evaluate live birds using spotting scopes and binoculars to identify the presence or absence of oil on the birds. High resolution photographs of surveyed congregations of birds will be taken to corroborate visual observations. No birds will be captured or handled for this effort.

Relationship to Other Activities and Data

This assessment activity will help reduce uncertainty in avian injury estimates using the LOBM. The baseline avian oiling rate is relevant to the results of Bird Studies #4 (Colonial Waterbirds), #5 (Non-breeding shorebirds), #6 (Pelagic birds), #7 (Piping plovers), #8 (Breeding shorebirds), #10 (Waterfowl), and #12 (Wintering Open Water Waterbirds).

Coordination and Implementation

The proposed activity will be coordinated with co-Trustees through the Bird TWG. Field implementation will include contractor staff and equipment and staff from the state Trustee agencies and the U.S. Department of the Interior.

Timeframe

This proposed activity would be initiated in the spring of 2013.

4.2.2. 2013 IPC # 8: Colonial Waterbird Oiling Rate Survey Photograph Evaluation

Purpose and Injury Assessment Need

As part of pre-assessment study “*Estimating Oiling and Mortality of Breeding Colonial Waterbirds from the Deepwater Horizon (DWH) Oil Spill (Bird Study 4)*,” Trustee and BP representatives surveyed the incidence and degree of oiling of colonial waterbirds. Consistent with the study protocol, high resolution digital photographs were taken in conjunction with the visual estimates. This activity will reduce uncertainty in the visual oiling rate estimates by comprehensively evaluating birds in photographs taken during the initial surveys of oiling rates of colonial waterbirds. Data generated through the evaluation of photographs will be used to gauge the accuracy of visual observations. Data generated by this project will be evaluated as part of the LOBM.

Methods

The photograph evaluations will be conducted by viewing photographic images on a large, high-resolution, color-calibrated monitor, and recording data on a standardized data sheet. Each oiled bird will be assessed for oiling using the same NRDA bird oiling level scale used during the original field surveys. Images will be annotated with standard markings that identify individuals assessed and those showing oiling. The results of the photographic assessment of oiling levels will be compared with the oiling of birds recorded by observers during the original field surveys.

Relationship to Other Activities and Data

This activity is related directly to the LOBM. The evaluation of colonial waterbird survey photographs will further establish the validity of oiling rates and oiling level assessments determined under field conditions (Bird Study #4), and will provide a permanent record of assessed individuals, whether they were determined to be oiled or un-oiled.

Coordination and Implementation

The proposed activity is coordinated with co-Trustees through the Bird TWG.

Timeframe

This proposed activity is not seasonally dependent and would be initiated as soon as funding is received.

4.2.3. 2013 IPC # 9: Survivorship Analysis—Great Egret

Purpose and Injury Assessment Need

The objective of this activity is to conduct a survival analysis and evaluate movement patterns for great egret using satellite tracking data. Data generated through this effort will be used to evaluate and quantify avian injuries as part of the LOBM.

Methods

The effect of oiling on survival of adult Great Egrets will be examined using analytical approaches, incorporating mark-resight analysis as the primary method and Program Mark as the primary modeling tool.

Relationship to Other Activities and Data

This assessment activity will help to reduce uncertainty in avian injury estimates generated using the LOBM.

Coordination and Implementation

The proposed activity is coordinated with co-Trustees through the Bird TWG.

Timeframe

This proposed activity is not seasonally dependent and would be initiated as soon as funding is received.

4.3. 2013 IPC # 10: 2013 Bird Colony Photographic Census: Acquisition and Evaluation of Aerial Photographs

Purpose and Injury Assessment Need

The Trustees are proposing a 2013 census of Oil Spill area bird colonies using aerial photography. To evaluate potential effects of the Oil Spill on bird nesting, the Trustees have documented nesting activity in bird colonies in the northern Gulf of Mexico through aerial photographic censuses in 2010, 2011, and 2012. The repeat of this census in 2013 will enable the Trustees to continue evaluation of potential effects to bird reproductive success that may not be adequately captured in injury estimates derived using the BBM or LOBM.

Methods

This proposed assessment activity would be a continuation of the aerial photographic censuses conducted in 2010, 2011, and 2012. The field work is anticipated to be similar to the previous cooperative efforts.

Relationship to Other Activities and Data

Data collected from this assessment will be directly comparable with historic data and cooperative NRDA data (2010-2012).

Coordination and Implementation

The proposed activity is coordinated with co-Trustees through the Bird TWG.

Timeframe

Planning for this proposed activity would be initiated in early calendar year 2013. Acquisition of the aerial imagery would occur in May and June, 2013. Evaluation of the imagery is expected to be completed by October, 2013.

4.4. 2013 IPC # 11: Baseline Mortality in Breeding Bird Colonies

Purpose and Injury Assessment Need

The study will conduct “colony sweeps” after the 2013 breeding season to obtain information on background mortality rates (i.e., baseline mortality) within the same nesting colonies that were swept in 2010 during the spill. A number of mortalities were observed during the 2010 sweeps and a 2013 sweep of the same colonies will help distinguish mortality caused by the 2010 Oil Spill from ‘normal’ baseline mortality.

Methods

At the end of the 2013 breeding season, field teams will visit the target colonies and collect all unhatched eggs and dead birds (chicks, fledglings, juveniles, and adults) found along transects within the colony area.

Relationship to Other Activities and Data

The proposed study will help quantify the colony baseline mortality rate and decipher the findings of the 2010 colony sweeps.

Coordination and Implementation

The proposed activity is coordinated with co-Trustees through the Bird TWG. All permits will be obtained from appropriate land management agencies prior to implementation.

Timeframe

Colony sweeps will be conducted at the end of the 2013 avian breeding season in the northern Gulf of Mexico (late August and early September, 2013).

4.5. 2013 IPC # 12: UV Screening to Detect Petroleum on Bird Plumage

Purpose and Injury Assessment Need

This study will validate a field screening method used by the Trustees to detect petroleum on bird plumage using UV light. The results of this study will help determine the accuracy and precision of the UV screening methods used to assess the extent of external oiling of captured birds and recovered carcasses.

Methods

The initial focus of the evaluation is to use laboratory confirmation testing to confirm that fluorescing substances observed on birds are crude oil. This method will use archived bird feather samples collected from the field.

Relationship to Other Activities and Data

This activity is directly related to our oiling rate calculation and thus directly related to our LOBM. Several NRDA work plans characterized external oiling on captured birds using visual observation and observation under UV light and all of them are integral to our LOBM injury calculation.

Coordination and Implementation

The proposed activity will be coordinated with co-Trustees through the Bird TWG.

Timeframe

This proposed activity would be initiated in early calendar year 2013.

4.6. 2013 IPC # 13: 2013 Supplement for Avian Injury Quantification

Purpose and Injury Assessment Need

Since the 2011-2012 Interim Partial Claim, additional assessment activities involving data management with BP (data verification and validation), for cooperative studies and cooperative discussions of Beached Bird Model inputs have been identified by both BP and the Trustees. The Department requires additional funding for Avian Injury Quantification to secure contractor support to facilitate the Trustees' participation in these activities.

Timeframe

This proposed activity would be initiated no later than January 2013 and may continue through calendar year 2013.

5. Endangered/Threatened Fish

5.1. 2013 IPC # 14: Gulf Sturgeon Immune Challenge

Purpose and Injury Assessment Need

The Department and our co-Trustees have conducted a number of studies to evaluate Gulf sturgeon (*Acipenser oaxrinchus desotoi*) injury. We have quantified movement and habitat utilization using ultrasonic telemetry (confirming exposure), conducted overall health screens of captured sturgeon, and quantified injury to sturgeon from exposure to oil and oil-related products (e.g. DNA fragmentation). Field evaluations of Gulf sturgeon were supported by positive control laboratory studies as a means to calibrate field health assessments.

Scientists have confirmed that numerous adverse effects can result from continuous low-level exposure to oil and oil spill related chemicals in water and sediment. These include developmental toxicity, immune suppression, and tumors in fish. Immune suppression in fish resulting from oil exposure tend to be some of the most sensitive toxicity endpoints. Moreover, these effects directly translate to quantifiable injury, reducing survival of organisms and as such, have direct implications on the structure and function of exposed populations. In order for the Trustees to be understand the injury to Gulf sturgeon on the population level, we must first quantify injury to Gulf sturgeon at the organism level of biological organization. The proposed laboratory studies measuring immune function will assist the Trustees in quantifying injury to Gulf sturgeon at the organism level of biological organization

Methods

Oil and oil-related chemicals from the Oil Spill were documented in foraging habitat utilized by adult sturgeon and may have resulted in adverse effects to this species. Directly applicable tools evaluating adverse effects in Gulf sturgeon attributable to oil contamination are required for the Trustees to accurately quantify Gulf Sturgeon injury. Gene expression profiles in blood samples are one such tool and have been successfully used to both classify exposures of PAHs and identify functional aspects of PAH-induced toxicity. Initial injury studies with Gulf sturgeon began in 2012 to evaluate transcriptomic responses in peripheral blood cells of sturgeon exposed to *Deepwater Horizon* oil. We are currently measuring red blood cell and lymphocyte gene expression following oil exposure. This sturgeon laboratory study begun in 2012 complements our quantification of DNA damage measured in blood samples from field-collected sturgeon in from 2010 - 2012. The laboratory sturgeon exposure study allows us to keep a number of external variables constant and serves as a positive control for the field portion of the sturgeon injury assessment.

Relationship to Other Activities and Data

The laboratory sturgeon exposure studies for FY2013 are designed to be fully integrated with both our previous Gulf sturgeon field sampling assessment work and our previous laboratory assessment work begun in 2012. In order for us to be able to quantify injury to Gulf sturgeon at the organism level of biological organization laboratory studies measuring immune function will be required. Compromises in the immune system result in increased

susceptibility to disease. This study will provide additional evidence of injury by quantifying the presence of physiologically compromised immune system responses in Gulf sturgeon following exposure to *Deepwater Horizon* oil. The metrics in the study directly equate to disease susceptibility in the sturgeon as a result of a known oil exposure.

Coordination and Implementation

The proposed activity is coordinated with co-Trustees through the Fish and Toxicity TWGs, with additional coordination with the Marine Mammals and Turtle TWGs.

Timeframe

This proposed activity would be initiated in the spring of 2013.

6. DOI Management Lands and Facilities

6.1. 2013 IPC # 15: 2013 Addendum: Assessment of Jean Lafitte National Historic Park and Preserve (“JELA”) Submerged Aquatic Vegetation

Purpose and Injury Assessment Need

Previous assessment data from JELA, obtained in 2010, 2011 and 2012, suggest that the Submerged Aquatic Vegetation (“SAV”) community in JELA was likely negatively affected by the increased freshwater flow to JELA during the Oil Spill response. Additional samples and field observations are needed to evaluate the extent and magnitude of observed changes and to determine if recovery to baseline conditions is occurring or has occurred. This proposed assessment activity is a continuation of the Assessment of SAV at JELA.

Methods

Sample sites and field methods will follow the three previous JELA preassessment and assessment plans in the *Deepwater Horizon* NRDA. Data will be collected for water quality, Submerged Aquatic Vegetation Relative Abundance, and Floating Aquatic Vegetation percent cover and relative cover.

Relationship to Other Activities and Data

Data collected from this assessment will be directly comparable with historic data (Porrier et al, 2009) and NRDA data (2010-2012).

Coordination and Implementation

This effort is coordinate with co-Trustees through the SAV TWG.

Timeframe

This proposed activity would include one field survey in the fall of 2013.

6.2. 2013 IPC # 16: 2013 Addendum: Assessing Recovery of Submerged Aquatic Vegetation Propeller Scars at Gulf Islands National Seashore

Purpose and Injury Assessment Need

In 2012, DOI and BP entered into a cooperative agreement to assess recovery of the 9 identified response-related no-action propeller scars at Gulf Islands National Seashore (“GUIS”). (*Deepwater Horizon/Mississippi Canyon 252 Oil Spill Plan for Assessing Recovery of Submerged Aquatic Vegetation Propeller Scars at Gulf Islands National Seashore*). Pursuant to that Assessment Plan, initial field work was completed in July, 2012 and additional monitoring is planned for late October/early November 2012. If the field results do not meet the performance criteria defined in the Assessment Plan, additional field work in 2013 will be needed. This proposed assessment activity is a continuation of the Assessment of the recovery of the GUIS Propeller Scars.

Methods

The methods are the same as those described in the 2012 *Deepwater Horizon* NRDA cooperative plan, *Deepwater Horizon/Mississippi Canyon 252 Oil Spill Plan for Assessing Recovery of Submerged Aquatic Vegetation Propeller Scars at Gulf Islands National Seashore National Seashore*.

Relationship to Other Activities and Data

Data collected from this assessment will be directly comparable with historic data from GUIS (2006-2007) and NRDA preassessment data (2010-2011) and assessment data (2012). The nine scars were identified by the Trustees and BP in a previously implemented plan and determined at the time to not warrant primary restoration due to a variety of factors.

Coordination and Implementation

This assessment activity is similar to and is coordinated with ongoing assessment and restoration activities through the SAV TWG. Emergency restoration of SAV beds injured by the response effort is ongoing. This monitoring effort inside GUIS is separate from and not duplicative of the monitoring work conducted through the SAV TWG and the Emergency Restoration effort.

Timeframe

This proposed activity would include one field survey in the fall of 2013.

6.3. 2013 IPC # 17: Assessing Submerged Oil Mats by Remote Sensing Survey and Diver Characterization at Gulf Islands National Seashore

Purpose and Injury Assessment Need

More than two years after the *Deepwater Horizon* Oil Spill, NPS beaches at GUIS continue to be re-oiled by Submerged Oil Mats (“SOMs”). The SOMs continue to impact NPS resources such as seagrass, sea turtles, fish and threatened and endangered nesting shorebirds. These assessment activities will collect key data necessary to model the location,

formation and re-suspension of the oil/sand mixture that constitute SOMs. Quantification of SOMs will allow NPS to delineate injured subtidal habitat for purposes of primary and/or compensatory restoration planning.

Methods

Divers will be deployed to examine NPS bottomlands at GUIs with a high probability of having SOMs. These areas will be selected based on GIS data in the Environmental Response Management Application (ERMA; e.g. beach re-oiling, past oiling, predictive modeling and remote sensing data).

Diver deployment will include direct visual examination of areas of interest combined with video and photographic documentation. Sub-surface sediments will be examined by using a hydroprobe and push cores in a systematic grid pattern in high probability areas.

Remote sensing will consist of geo-referenced high-frequency side scan sonar coupled with a ROXANN acoustic bottom classification device to locate SOMs or seafloor topography that are conducive to SOM formation or concentration.

Relationship to Other Activities and Data

Data collected from this sampling will be directly comparable to historic data (2006-2007) and SCAT/NRDA data (2010-2011).

Coordination and Implementation

These assessment activities will be managed and administered by the NPS Submerged Resources Center. The Submerged Resources Center will coordinate directly with Gulf Islands Resources staff and external collaborators working on similar issues as a part of the MC-252 response.

Timeframe

This proposed activity will occur in the spring/summer/fall of 2013. Data generated from the study will be reviewed, verified, validated, and analyzed by December, 2013.

7. Other Assessment Activities

7.1. 2013 IPC # 18: Sand Beach Injury Assessment

Purpose and Injury Assessment Need

Beaches across the Gulf have experienced surface and subsurface oiling as a result of the *Deepwater Horizon* release. Re-oiling from re-mobilization of buried oil and submerged oil mats in the nearshore environment is continuing today. These oiling events along with the initial release of oil have exposed natural resources to oil and have required response actions to remove oil from sand beaches from Florida to Texas. These response actions have used and are using various manual and mechanical methods to remove oil and debris from the sand beaches that have resulted in modification or impairment of these habitats and caused injury to natural resources (“Response Injury”). In addition, a literature review on the effects

of oil in beach habitats has been conducted by the Shoreline TWG which further supports some level of injury due to habitat modification and oil fouling compared to unoiled beaches. As the oiling of beaches and response continues, the Shoreline TWG continues to assess impacts to sand beach habitats due to both *Deepwater Horizon* oiling and injury caused by response actions.

Studies have demonstrated a negative relationship between oiled beaches and beach invertebrate communities and habitat quality. Oil-related sand beach injury is being assessed by the Trustees using the shoreline oil exposure map currently under development within the Shoreline TWG. This map outlines the extent, duration and degree of oiling across various stretches of shoreline impacted by the *Deepwater Horizon* incident. Additional work will evaluate the impacts to sand beach ecosystem services resulting from various degrees of oiling.

Coupled with oil-related injuries, the Shoreline TWG is also assessing the effects of Response Injury to sand beach habitats. The objective of the sand beach Response Injury assessment is twofold. First, compile the various sources of information that may be used to assess injury related to response actions on the shoreline, and second, to categorize and rank the effects of the response action on the sand beach habitat. The information on the temporal and spatial extent of response-related injuries is scattered among many organizations, agencies and databases and has been difficult to obtain. (See description of assessment activity 2013 IPC # 19: Response Information Data Management, Infrastructure, Administration and Assessment.). The first objective of our Assessment (compile the various sources of information) requires contractor support.

Methods

Oil-related sand beach injury is being assessed based on the shoreline oil exposure map being developed within the Shoreline TWG. The associated oiling categories and extents within that map will be utilized, along with literature-based evaluations and other studies currently underway, to determine the degree of impacts to sand beach ecosystem services. The identification and collection of information about previous and ongoing response efforts for the *Deepwater Horizon* incident are not completed. This proposed activity will clearly define the extent and duration of injury to the sand beach habitat by acquiring and organizing new response information to categories of potential injury and/or correlating response actions.

Relationship to Other Activities and Data

The Department is the lead for assessing injuries to the sand beach habitat resulting from the Oil Spill. The proposed activity related to the sand beach habitat is a continuation of work conducted in 2011. To avoid duplication, the proposed Response Injury assessment for sand beach would be coordinated with assessment activity 2013 IPC # 19: Response Information Data Management, Infrastructure, Administration and Assessment (described below).

Coordination and Implementation

The activity is coordinated with co-Trustees through the Shoreline TWG.

Timeframe

This proposed activity would be initiated in January 2013 and may continue through Calendar Year 2013.

7.2. 2013 IPC # 19: Response Information - Data Management, Infrastructure, Administration and Assessment

Purpose and Injury Assessment Need

Response activities related to the Oil Spill are continuing two years after the wellhead was capped. In addition, re-oiling is still occurring in some places and warrants the continuation of response actions. The geographic scope and duration of the Oil Spill has created a voluminous record of information, reports, and other documentation related to response actions. This information is useful for the Trustees to quantify response-related injuries to natural resources and their services. Response Injury is an injury type separate from oil exposure and, in some cases, may significantly affect the recovery rates of different habitats and resources. The U.S. Coast Guard has recently made available to the Trustees nearly 12 terabytes of response information. However, the data is not in an accessible, easily searchable form and all the data may not be relevant to the Trustees NRDA objectives. This assessment activity includes three parts: 1) review of response information and narrowing the data to only information relevant to the Trustees NRDA; 2) the design of data infrastructure and system architecture based on the volume and type of data and the access needs of the Trustees for purposes of the natural resource damage assessment; and 3) review and data mining of existing response information.

Methods

This activity includes efforts to obtain, review and organize response information to be used by the Trustees to determine injuries to natural resources and their services. Additionally, the Trustees will need to develop and maintain a searchable database to house this information.

Relationship to Other Activities and Data

Identification and organization of response documentation potentially demonstrating injury to natural resources and their services will be used to either support existing injury claims or alternatively develop injury claims separate and apart from ongoing assessment studies.

Coordination and Implementation

The Department is the lead for the Trustees Response Injury efforts. This work will involve close coordination with our co-Trustees and applicable TWGs.

Timeframe

This proposed activity would be initiated in January 2013, or before and may continue through Calendar Year 2013.

8. Injury Assessment, Management and Administration

8.1. 2013 IPC # 20: Technical and Logistical Support for DOI's Deepwater Horizon Oil Spill NRDA

Purpose and Injury Assessment Need

The Department leads several areas of the *Deepwater Horizon* NRDA (i.e., Bird TWG, Response Injury) and leads activities within other areas of the assessment (i.e., turtle assessment activities and fish assessment activities). Various field and analytical work plans have been developed and are continuing to be developed as part of the ongoing NRDA. In addition, analyses and interpretation of data collected throughout the course of the NRDA are being generated. Support is needed to assist in managing the ongoing assessment activities, including study implementation, Trustee coordination, and data analysis. In addition, related but separate NRDA activities led by other co-Trustees are integral to improved understanding of the effects of the Oil Spill on natural resources and development of the Programmatic Damages Assessment and Restoration Plan ("P-DARP"). The Department has also identified the need for technical and logistical support to improve co-Trustee coordination and P-DARP development.

Timeframe

This proposed activity would be initiated in January 2013, or before and may continue through Calendar Year 2013.

8.2 2013 IPC # 21: Comprehensive Database for DOI-lead Studies, Analytical and Observational Data, Infrastructure and Administration

Purpose and Injury Assessment Need

A large number of samples, instrument files, photographs, and visual observations were acquired to quantify injury and scale appropriate restoration needed because of the Oil Spill. The Department, in coordination with NOAA and the Data Management TWG, has led and continues to lead the effort to ensure the preservation of all such files and data for DOI-lead plans. This effort has entailed tracking, storage, maintenance, and sharing of these data with relevant TWGs and the wider Trustee community. With limited exception, data generated from implementation of approved NRDA work plans for which the Department is the lead are entered into the DOI *Deepwater Horizon* NRDA database.

Methods

This activity includes normal database maintenance and technical assistance. The Department database will be expanded to include additional DOI *Deepwater Horizon* NRDA data and features will be added and/or upgraded to facilitate cooperative data verification and validation of data sets. The DOI *Deepwater Horizon* NRDA database communicates with NOAA NRDA and will be designed to communicate with the NOAA Data Integration, Visualization, Exploration, and Reporting (DIVER) and the State of Louisiana's LOSDMS databases.

Relationship to Other Activities and Data

Full operation of the DOI *Deepwater Horizon* NRDA Database will enable the Trustees to deliver quality-checked datasets to BP, co-Trustees, and DIVER database where, ultimately (upon approval by the *Deepwater Horizon* NRDA Trustee Council), the validated data sets will be made available to the public. The storage and management of data generated by DOI-led assessment activities are necessary to facilitate access to assessment files and data by the Trustees, BP and the general public. Furthermore, a comprehensive system ensures proper document and data preservation necessary for litigation.

Coordination and Implementation

The DOI *Deepwater Horizon* NRDA database will store data generated by DOI-led preassessment and assessment activities during this NRDA. With limited exception (i.e., data from the 2010 and 2011 JELA SAV, the 2010 Loggerhead Nesting Plan), this data is otherwise not stored or is maintained in ERMA, noaanrda.org, Photologger or Query Manager.

Timeframe

This proposed activity would be initiated in January 2013, or before and may continue through Calendar Year 2013.

8.3 2013 IPC # 22: Comprehensive Document Management System for Assessment & Restoration Planning Records

Purpose and Injury Assessment Need

The purpose of this activity is to provide a *Deepwater Horizon* Document Management System that improves DOI staff efficiency and productivity by opening access to Oil Spill-related information, while protecting the integrity and availability of mission critical information. This system is distinct from the Data Management System that houses DOI analytical databases and results. It has a separate architecture and serves separate needs. It is also distinct from, but will be compatible with, the Document Management System that is included in NOAA's Second Interim, Partial Claim for Assessment and Restoration Planning Costs and DOI's Document Management System for Assessment Administrative Record (2013 IPC #23: Comprehensive Document Management System for Assessment Administrative Record).

Valuable information related to DOI's continuing study of the Oil Spill's effect on natural resources, including habitats and species in and using the Gulf of Mexico, has accumulated and is stored in locations across DOI staff offices and behind multiple fire walls. These data have critical operational and strategic value, yet the bulk of this information is currently housed in individual email accounts, local area network shares, and on device hard drives. Access to this information is essential for enabling DOI to utilize existing research (baseline data) and data collected and produced by researchers and scientists for decision-making related to damage assessment and restoration planning. Many DOI employees require real time access to Oil Spill related information in a system where it is organized and can be located, searched, and retrieved without being able to make changes to stored information.

Timeframe

This proposed activity would be initiated in January 2013, or before and may continue through Calendar Year 2013.

8.4 2013 IPC # 23: Comprehensive Document Management System for Assessment Administrative Record

Purpose and Injury Assessment Need

As the Federal Lead Administrative Trustee for this NRDA, DOI and the Trustees announced the establishment and opening of the Administrative Record for this NRDA (“AR”) on October 1, 2010 (See Notice of Intent to Proceed with Restoration Planning, 75 Fed. Reg. 06800, at 60802). The establishment of the AR is in accordance with 15 C.F.R. §§ 990.44 and .45. The AR is publicly accessible and is intended to include documents considered by the Trustees during the preassessment, assessment, and restoration planning phases of this NRDA. The Department has lead responsibility for the AR, however the underlying effort to identify, collect, organize, review and approve materials for inclusion in the AR involves all Trustees. The costs to provide for and maintain a sufficient AR have increased rapidly and exponentially as more data is collected, study plans are finalized, and technical reports are written

Methods

Management of the Administrative Record reflects five major components: (1) identification, routing, and management of legal records from the assessment; (2) leading co-Trustee, joint records management and coordination, including for Trustee Council level legal records management, legal reviews, and public accessibility; (3) contactor support to design, implement and manage the administrative record process from identification through approval and inclusion in the record; (4) hardware and data architecture for legal document management; and (5) external website support to facilitate public access and usability.

- (1) Identification/management of legal assessment records for the AR from DOI-led or managed activities—Includes searches, collection, organization, routing, and management of AR records from DOI-led TWGs, NRDA operational support groups, et., that are candidate for inclusion in the NRDA AR;
- (2) Leading joint legal management of records with co-Trustees—as the Lead Administrative Trustee, DOI will take a leading role in providing legal guidance for AR record searches, to define protocols and platforms for joint legal reviews, and will provide services appropriate to support AR decision-making processes at the Trustee Council level, including records management, joint legal review, redaction review for DOI records, and public accessibility;
- (3) Development of a technology system to facilitate the efficient collection, review and disposition of candidate records for inclusion in the NRDA AR. In addition, to the architecture of the Administrative Record Review process, DOI will hire contractor support on behalf of the Trustees to manage the Assessment Administrative Record review process;

- (4) Hardware and data architecture – Candidate Trustee records for the AR extracted from DOI’s document management systems (described above) will be voluminous, and will only increase with inclusion of candidate records from other Trustees. Existing data and records management systems are not sufficient to support the Trustees’ legal record review obligations for the AR and this NRDA. The Department intends to create a system for the AR that is compatible with NOAA’s document management systems, as well as DOI’s larger, more comprehensive document management system (described in activity above). An AR-focused document repository for the Department and our co-Trustees will require specially designed software and hardware, as well as information management architecture for tagging, cataloging, and creating document workflows for processing and reviewing documents. Staff and contractor time are required to design the architecture and process the documents in workflows that have been agreed to by all of the Trustees. These activities will occur continuously over the entire span of CY 2013;
- (5) Additional web support to facilitate the public’s ability to access the Administrative Record. This will include, but is not necessarily limited to, re-design of the website.

Relationship to Other Activities and Data

The AR is publicly accessible and is intended to provide the public with documents considered by the Trustees during the preassessment, assessment, and restoration planning phases of the NRDA performed in connection with the Oil Spill.

Coordination and Implementation

This activity is fully coordinated with the co-Trustees.

Timeframe

This proposed activity would be initiated in January 2013, or before and may continue through Calendar Year 2013.

9 2013 IPC # 24: Early Restoration Planning

Purpose and Injury Assessment Need

The Department requires technical support to continue its responsibilities under the “Framework for Early Restoration Addressing Injuries from the *Deepwater Horizon* Oil Spill”. This agreement requires that the Trustees work with BP to develop and assess a set of restoration projects intended to provide early restoration of injured natural resources and the services those resources provide. Specifically, assistance is needed to identify the benefits of each restoration project identified by Department staff, including appropriate metrics (biological, physical, human use) that could be used to describe the benefits generated by each project, the time period over which those benefits will be generated, and the geographic scope of benefits, etc. These benefit measures will be used in negotiations with BP over the “offsets” (i.e., credits against natural resource damages) that will be provided by each project. This proposed activity is for contractor support for the Department’s continued involvement in the development and discussion of specific early restoration projects.

*U.S. Department of the Interior
Second Interim Partial Claim
Deepwater Horizon Oil Spill
October 4, 2012*

Timeframe

This proposed activity would be initiated in January 2013 and may continue through Calendar Year 2013.

10 2013 IPC # 25: DOI Coordination, Oversight, Implementation and Analysis

Purpose and Injury Assessment Need

Coordination, oversight, and planning costs are the administrative, legal, enforcement, monitoring, oversight and public participation costs as set forth in the definition of “reasonable assessment costs” in the OPA regulations at 15 C.F.R. Part 990. These include, among other things, the cost of participation in TWG activities, Trustee Council participation, co-trustee coordination, communication and coordination with RPs, and public outreach. These costs are estimated based on anticipated activities through 2013.

Timeframe

This proposed activity would be initiated in January 2013 and may continue through Calendar Year 2013.

Appendix A: List of Proposed Assessment and Restoration Planning Activities

2013 IPC Activity No.	Title of Proposed Activity	Timeframe of Proposed Activity
1	Nesting and Hatching Kemp's Ridley 2013 Field Work Plan	March-July 2013
2	Nesting and Hatching Loggerhead 2013 Field Work Plan	May-August 2013
3	2012 Turtle Analytical Plan	Upon Receipt of Funding
4	2013 Turtle Analytical Plan	August 2013
5	Background Deposition of Bird Carcasses on Walkable Shorelines and in Marshes	Spring 2013
6	Measuring the Detection Function (Searcher Efficiency) for Birds in Open Water	Summer 2013
7	Background Oiling Rate for Live Birds	Spring 2013
8	Colonial Waterbird Oiling Rate Survey Photograph Evaluation	Upon Receipt of Funding
9	Survivorship Analysis—Great Egret	Upon Receipt of Funding
10	2013 Bird Colony Photographic Census: Acquisition and Evaluation of Aerial Photographs	Spring 2013
11	Baseline Mortality in Breeding Bird Colonies	Summer 2013
12	UV Screening to Detect Petroleum on Bird Plumage	January 2013
13	2013 Supplement for Avian Injury Quantification	Upon Receipt of Funding
14	Gulf Sturgeon Immune Challenge	Spring 2013
15	2013 Addendum: Assessment of Jean Lafitte National Historic Park and Preserve (JELA) Submerged Aquatic Vegetation	Fall 2013
16	2013 Addendum: Assessing Recovery of Submerged Aquatic Vegetation Propeller Scars at Gulf Islands National Seashore	Fall 2013
17	Assessing Submerged Oil Mats by Remote Sensing Survey and Diver Characterization at Gulf Islands National Seashore	Summer 2013
18	Sand Beach Injury Assessment	CY 2013
19	Response Information - Data Management, Infrastructure, Administration and Assessment	Upon Receipt of Funding
20	Technical and Logistical Support for DOI's <i>Deepwater Horizon</i> Oil Spill NRDA	Upon Receipt of Funding
21	Comprehensive Database for DOI-lead Studies, Analytical and Observation Data, Infrastructure and Administration	CY2013
22	Comprehensive Document Management System for Assessment & Restoration Planning Records Comprehensive Document Management System for DOI	CY2013

*U.S. Department of the Interior
Second Interim Partial Claim
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23	Comprehensive Document Management System for the Assessment Administrative Record	CY2013
24	Early Restoration Planning	CY2013
25	DOI Coordination, Oversight, Implementation and Analysis	CY2013