Buzzards Bay Oil Spill

Cooperatively Working from Spill Response to Natural Resource Injury Restoration

Office of Response and Restoration • Office of Habitat Conservation • General Counsel for Natural Resources

On April 27, 2003, Bouchard Transportation Company's Barge 120 (B-120) grounded on a shoal soon after entering the western approach to Buzzards Bay, creating a 12-foot rupture in its hull and spilling an estimated 98,000 gallons of No. 6 oil. In the days and weeks that followed the spill, winds and currents drove the oil ashore, oiling approximately 100 miles of shoreline in Massachusetts and Rhode Island, including rocky and cobble shores, tidal marshes, and sand beaches. The oil spill killed or harmed hundreds of loons, sea ducks, and other birds, and adversely affected the public's use of the coastal waters and the adjoining coastline. The lost uses of natural resources included a prolonged temporary harvesting closure of shellfish beds, restrictions on general shoreline use, including beach access, and limitations on recreational coastal boating opportunities.

Pursuant to the Oil Pollution Act of 1990 and related state laws, Federal and State agencies act on behalf of the public as Trustees for natural resources and are given authority to pursue compensation for oil spill-related impacts on natural resources. In that capacity, Trustees first assess natural resource injuries and lost public uses of natural resources (known as a natural resource damage assessment or "NRDA") caused by an oil spill and related clean-up activities; and then determine (based on the injury assessment) the appropriate type and amount of restoration needed to compensate the public for the injuries.

For this case, the natural resource Trustees are the U.S Department of Commerce (National Oceanic and Atmospheric Administration (NOAA)), the U.S. Department of the Interior (U.S. Fish and Wildlife Service (USFWS)), the Commonwealth of Massachusetts, and the State of Rhode Island. The Trustees worked cooperatively with Bouchard Transportation Company and their related corporate entities (the Responsible Parties) to assess the injuries and to determine damages necessary to compensate the public for those injuries.

Oiled marsh and boulder beach, Long Island, Fairhaven, Mass., April 2003.

After the commitment of substantial time and effort, the Trustees reached an agreement with the Responsible Parties to resolve a portion of the Trustees' claims, specifically those for injuries to lost recreational uses, aquatic and shoreline resources, and plovers; claims for injuries to birds other than plover and for reimbursement of certain damage assessment costs continue to be pursued by Trustees. The following information provides greater detail about the settlement agreement reached with the Responsible Parties and the related process and steps that the Trustees have taken or will take to complete restoration of the B120 spill natural resource injuries.

Injury Assessment

Shortly after the spill, the Trustees established Technical Working Groups (TWGs) comprised of scientists and technical staff from the federal and state

agencies and the Responsible Parties to determine the extent and magnitude of environmental injuries and lost services attributable to the oil spill. Each TWG focused on injuries to specific natural resource categories including: shoreline, aquatic, bird and wildlife resources, and lost human uses (as discussed in further detail below). The investigations involved cooperative joint reviews and discussions among scientists and economists representing the Trustees and Responsible Parties. The following is a brief summary of the technical work completed to date; copies of available reports may be found online at: www.darrp.noaa.gov/northeast/buzzard/admin.html.

Shoreline Resources

The Shoreline TWG damage assessment work focused on injuries associated with the oiling and also injuries caused by the clean-up, such as trampling of marsh and dune vegetation, and increased erosion in marsh areas. The Shoreline TWG evaluated the extent and duration of injury to shoreline natural resources using Shoreline Cleanup Assessment Techniques (SCAT) and other survey data collected immediately following the spill or otherwise available for use in the assessment. A pre-assessment data report (June 2005) identified resources potentially at risk of injury including shoreline and other types of resources. The surveys indicated that rocky, boulder and cobble shoreline suffered the most extensive oiling, followed by sand beaches and marshes. In total, oil adversely affected an estimated 84.7 acres (along 87.2 miles) of the Massachusetts shoreline and an estimated 13.8 acres (along 17.7 miles) of the Rhode Island shoreline.

Oiled beach cleanup, Dartmouth, Mass., April 2003.

Aquatic Resources

The Aquatic TWG collected and analyzed data to determine the nature and extent of the aquatic injuries caused by the B-120 oil spill. Studies were designed to assess the aquatic habitats injured by the spill including the water column, subtidal sediments, intertidal sediments, and living organisms that reside in or use these habitats (e.g., American lobster and bivalves such as hard clams and oysters) and the ecological services associated with these environments and species.

Birds and Wildlife

The Bird and Wildlife TWG (BWTWG) is assessing injuries to various birds, marine and coastal mammals, and other coastal animals. The assessment includes the number of birds and other species that were killed or affected by the oil spill and related clean-up activities. While the BWTWG has completed investigations for a number of species, much of the BWTWG's work has focused on injuries to birds that were the primary wildlife injury, and in particular, injuries to federally-listed roseate tern, federally-threatened piping plover, common and least terns, sea ducks, loons, and other marine birds. The BWTWG's assessment of injuries to birds other than piping plovers (e.g., loons, sea ducks, and terns) is on-going.

Lost Uses

The Lost Use TWG (LUTWG) evaluated how the spill and related cleanup activities impacted access to, and use of, various shoreline and coastal water areas for recreation. The results of this assessment are used to determine appropriate restoration projects that compensate the public for this lost use of natural resources. In particular, the LUTWG assessed three categories of recreational activities: recreational shellfishing, general shoreline use, and recreational boating. The general shoreline use category included a variety of shoreline and beach-related activities affected by the spill including sunbathing, walking, picnicking, birding, fishing, and kayaking. Boating impacted by the spill included motor-boating, boat-based recreational fishing, and sailing. Where appropriate and available, the LUTWG combined existing data and previous economic studies with on-site data collected specifically for the spill to develop

a thorough evaluation of the spill's impact on the public's use of these resources.

Injury Restoration Scaling, Project Alternatives and Case Settlement

Primary restoration includes actions conducted by Trustees to return injured natural resources to the condition that would have existed if the incident had not occurred. Some natural resources might recover very slowly, or not even recover at all, from injuries due to an oil spill. Trustees are authorized to conduct primary restoration to speed the recovery of the injured resources, such as reconstructing physical habitat that was destroyed or taking measures to protect or increase the population of an endangered species.

The Trustees employ scientific methods to assess the extent of injuries to the natural resources. The results are then "translated" (termed "scaling") to determine the level of restoration actions needed to make the environment and public whole. This involves determining both the restoration required to restore injured resources to the condition that would have existed if the incident had not occurred (known as "primary restoration"); and the type and level of restoration to compensate for losses of natural resources and ecological "services" they provide from the time of injury until recovery is completed (referred to as "compensatory restoration").

Natural resource services are the functions performed by a natural resource that benefit other natural resources and/or the public. To complete the analysis, the Trustees used commonly accepted natural resource damage assessment scaling methods. For the ecological injuries (e.g., aquatic resources, birds) these methods included what is known as habitat equivalency analysis (HEA) and resource equivalency analysis (REA), while for the lost human use injuries, Trustees employed non-market economic valuation approaches (e.g., shellfish license demand analysis, benefit transfer) combined with data on visitation and use. These techniques are commonly used to measure the value of ecosystem resources and services and to estimate the amount of restoration required to compensate the public for the oil spill impacts.

Marsh injury assessment, Long Point, Fairhaven, Mass., September 2003.

For example, the Trustees evaluated injuries to shoreline and aquatic resources using the HEA methodology to determine service losses and resource recovery of salt marshes, beaches, rocky shores, and subtidal habitats over time. The shoreline and aquatic restoration debit was computed as discount service-acre-years (DSAYs) of salt marsh, and then costs for a tidal marsh restoration to compensate for the DSAY restoration debit (equivalent to a 4.46-acre tidal marsh restoration) were calculated by applying known assessment, design, permitting, construction, inspection, and oversight costs for this region. This analysis also took into account both inflation and discounting over time for the projected period of injury until the restoration is completed. The scaling methods and results are explained in detail in the June 2008 shoreline injury report (Refer to www.darrp.noaa.gov/northeast/buzzard/admin.html).

These methods and the associated analyses, however, are complicated and can be interpreted as suggesting differing types or amounts of restoration. For example, to determine the appropriate level of compensation for injuries to a particular bird species, the Trustees must determine, among other factors, how many birds were killed and/or harmed, and what steps could be taken to increase the bird population to what it would have been in the absence of the spill. The determination includes consideration of a number of variables such as the number of young birds (or fledglings) born in a given year and their survival to an age when they can reproduce. As this example demonstrates, there is often a level of uncertainty in many of these calculations. In this case, the Trustees

Shoreline Technical Working Group assessment, September 2005.

and Responsible Parties differed in opinion over the level of and recovery period for most of the identified injuries. The restoration planning and scaling work for the B-120 spill, as in most other NRDA cases, was an extensive, iterative process. Trustee agency staff spent considerable time developing conceptual restoration designs and costs as a basis for settling each of the injuries at an amount that, in their expert judgment, would appropriately compensate the public for the identified injuries.

The Trustees reached an agreement with Bouchard to resolve the Trustees' claims for injuries to lost recreational uses, aquatic and shoreline resources, and plovers, as noted above. The terms of the agreement are set forth in a proposed Consent Decree, which the U.S. Department of Justice filed with the U.S. District Court for the District of Massachusetts on November 15, 2010. The Consent Decree calls for Bouchard to pay to the Trustees more than $6 million to settle those particular claims. In addition, the Responsible Parties would reimburse damage assessment costs for Federal and State governments of almost $1.6 million. More specifically, if approved by the Court, Bouchard must pay damages of: $1,522,000 for injuries to aquatic and shoreline resources, $534,000 for injuries to shoreline resources on Ram Island, $3,305,393 for lost recreational uses, and $715,000 for injuries to piping plovers. The Consent Decree is subject to a 60-day public comment period as noted in the Federal Register (Federal Register, December 15, 2010, pg 78267; http://69.175.53.6/register/2010/Dec/15/2010-31392.pdf). Following the end of the comment period, the Trustees will respond to any comments received during the comment period and then, if after review of the comments, the Trustees determine that the settlement continues to be in the public interest, request the Court to sign and enter the Consent Decree. The Court's approval of the Consent Decree triggers Bouchard's obligations set forth by the Consent Decree. Damages will be held in the U.S. Department of the Interior's NRDA restoration fund accounts and jointly administered by the Trustees for natural resource (including lost use) restoration purposes.

Restoration Planning, Project Selection and Implementation

The Trustees will use the settlement funds to further evaluate, select, and implement specific restoration projects to compensate for the natural resource injuries, in compliance with requirements of the National Environmental Policy Act (NEPA). In accordance with NEPA and regulations implementing the NRDA provisions of the Oil Pollution Act, the Federal Trustees will prepare documentation of a reasonable set of alternatives to be considered as part of a restoration plan. During 2011, the Federal Trustees, in collaboration with the State Trustees, expect to prepare one or more Restoration Plans/Environmental Assessments (RPs/EAs) for public review and comment, aand to seek input during the review and comment period.

The Trustees expect to hold one or more public meetings to discuss restoration project alternatives to be included in the RP/EA. A notice of scheduled public meeting dates, times, and locations will be posted on the Trustee web site(s) and in local public libraries and published in local newspapers. Comments received at the public meetings and/or submitted during the designated comment period will be considered in revising the Draft RP/EA. The RPs/EAs will be available electronically for downloading from: www.darrp.noaa.gov/northeast/buzzard/admin.htm, and hardcopies and CDs of the RP/EA documents and notices of public meetings will be available at several local libraries.

Restoration Project Implementation

Before the Trustees can implement the restoration project(s), they must first complete project site assessment and design work and obtain any required permits. Upfront assessment activities may include property boundary and topographic surveys, property deed and title searches, site access easement preparation, natural resource inventories and delineations, and environmental assessments for potential existing on-site contamination. Project sites that are available and viable for restoration then proceed through preliminary and final design phases, with plans prepared by professionally-licensed engineers and surveyors. Once the project final design is complete, the plans are typically submitted to the local Conservation Commission representing the municipality in which the project will occur. Depending on the type and scale of the project and the proposed work activities, regulatory authorizations may also be required from State agencies and the U.S. Army Corps of Engineers. The Trustee agencies provide reviews and oversight of the technical materials prepared and submitted throughout the process.

Once the Trustees secure all regulatory authorizations, projects are usually implemented through a competitive procurement process administered by one of the Trustee agencies. Engineer and inspector oversight is provided throughout project construction to ensure the contractor completes the project in accordance with the permitted design. Following project completion, site monitoring is conducted to evaluate performance of the restoration and determine if any corrective measures are needed to improve on the restoration and the ecological services and uses provided by the restoration.

Next Steps and How You Can Get Involved

As the NRDA process moves into the above-described restoration planning phase, public input will help to identify, evaluate, and assist in the selection of appropriate restoration projects. Interested members of the public should look for notices of public meetings. Once the Trustees have selected restoration projects, the public may have additional opportunities to review and comment on any necessary permit applications required for project implementation. Depending on the restoration project and activities, the public may be able to volunteer during implementation or take part in monitoring of restoration projects.

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