

**Final Restoration Plan / Environmental Assessment  
for the  
September 23, 2001 Sanborn Pond Oil Spill  
Town of Brooks, Waldo County, Maine**



February 2010

Prepared by:

U.S. Fish and Wildlife Service  
and  
State of Maine:  
Department of Environmental Protection  
Department of Inland Fisheries and Wildlife  
Department of Conservation

Lead Administrative Trustee Agency:

Maine Department of Environmental Protection  
Eastern Maine Regional Office  
106 Hogan Road  
Bangor, Maine 04401  
(207) 941-4570

Lead Agency for Compliance with the National Environmental Policy Act:

U.S. Fish and Wildlife Service  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, New Hampshire 03301  
(603) 223-2541

Other Co-Trustees

Maine Department of Inland Fisheries and Wildlife  
650 State Street  
Bangor, ME 04401

Maine Department of Conservation  
22 State House Station  
Augusta, ME 04333

Cover page photos:

Common loon: Steve Mierzykowski, U.S. Fish and Wildlife Service

Sanborn Pond crash site with hard boom deployed: Veronica Varela, U.S. Fish and Wildlife Service

# TABLE OF CONTENTS

<b>1.0 INTRODUCTION AND PURPOSE .....</b>	<b>1</b>
<b>1.1 Overview of the Incident .....</b>	<b>2</b>
<b>1.2 Natural Resource Damage Assessment.....</b>	<b>4</b>
<b>1.3 Coordination.....</b>	<b>5</b>
1.3.1 <i>Trustee Council Organization and Activities.....</i>	<i>5</i>
1.3.2 <i>Responsible Party Involvement.....</i>	<i>5</i>
1.3.3 <i>Public Notification and Involvement .....</i>	<i>5</i>
1.3.4 <i>Administrative Record .....</i>	<i>5</i>
<b>2.0 AFFECTED ENVIRONMENT AND SUMMARY OF NATURAL RESOURCE INJURIES.....</b>	<b>6</b>
<b>2.1 Lake Ecosystem.....</b>	<b>6</b>
2.1.1 <i>Surface Water.....</i>	<i>6</i>
2.1.2 <i>Sediment.....</i>	<i>7</i>
2.1.3 <i>Fish Tissue .....</i>	<i>7</i>
2.1.4 <i>Trophic Condition.....</i>	<i>7</i>
2.1.5 <i>Shoreline habitat.....</i>	<i>8</i>
<b>2.2 Fisheries .....</b>	<b>8</b>
<b>2.3 Wildlife.....</b>	<b>9</b>
<b>2.4 Lost Recreational Uses of Natural Resources .....</b>	<b>11</b>
<b>3.0 SUMMARY OF SETTLEMENT FOR NATURAL RESOURCE DAMAGES .....</b>	<b>11</b>
<b>4.0 RESTORATION ALTERNATIVES .....</b>	<b>11</b>
<b>4.1 Allocation of Natural Resource Damages Among Restoration Categories .....</b>	<b>11</b>
<b>4.2 Criteria for Identifying and Selecting Alternatives .....</b>	<b>12</b>
<b>4.3 Restoration Alternatives for Wildlife (Common Loon) .....</b>	<b>13</b>
4.3.1 <i>Alternative 1: No Action / Natural Recovery.....</i>	<i>13</i>
4.3.2 <i>Alternative 2: Protection of Nesting Habitat.....</i>	<i>13</i>
4.3.3 <i>Alternative 3: Enhancement of Reproductive Success of Common Loons in Waldo County (Preferred Alternative).....</i>	<i>14</i>
<b>4.4 Restoration Alternatives for Recreational Uses.....</b>	<b>15</b>
4.4.1 <i>Alternative 1: No Action / Natural Recovery.....</i>	<i>15</i>
4.4.2 <i>Alternative 2: Enhancement of Public Access to Sanborn Pond.....</i>	<i>15</i>
4.4.3 <i>Alternative 3: Establishing Public Access to Hurds Pond (Preferred Alternative)..</i>	<i>15</i>
<b>5.0 ENVIRONMENTAL CONSEQUENCES OF RESTORATION ALTERNATIVES ..</b>	<b>16</b>
<b>5.1 Restoration Alternatives for Wildlife (Common Loon) .....</b>	<b>16</b>
5.1.1 <i>Alternative 1: No Action / Natural Recovery.....</i>	<i>16</i>
5.1.2 <i>Alternative 2: Protection of Nesting Habitat.....</i>	<i>16</i>
5.1.3 <i>Alternative 3: Enhancement of Reproductive Success of Common Loons in Waldo County (Preferred Alternative).....</i>	<i>17</i>
<b>5.2 Restoration Alternatives for Recreational Uses.....</b>	<b>18</b>
5.2.1 <i>Alternative 1: No Action / Natural Recovery.....</i>	<i>18</i>

5.2.2	<i>Alternative 2: Enhancement of Public Access to Sanborn Pond</i> .....	18
5.2.3	<i>Alternative 3: Establishing Public Access to Hurds Pond (Preferred Alternative)</i> ..	18
<b>5.3</b>	<b>Cumulative Impacts of Preferred Alternatives</b> .....	<b>18</b>
<b>6.0</b>	<b>LIST OF PREPARERS</b> .....	<b>21</b>
<b>7.0</b>	<b>LIST OF AGENCIES, ORGANIZATIONS, AND PARTIES CONSULTED FOR INFORMATION</b> .....	<b>21</b>
<b>9.0</b>	<b>LITERATURE CITED</b> .....	<b>23</b>

**APPENDIX A:** Trustee Agency Approvals on the Final Restoration Plan / Environmental Assessment

**APPENDIX B:** Finding of No Significant Impact

## EXECUTIVE SUMMARY

The U.S. Fish and Wildlife Service and the State of Maine (i.e., the Natural Resource Trustees) have prepared this Restoration Plan / Environmental Assessment (RP/EA) to describe the compensatory restoration to be implemented in response to the September 23, 2001 oil spill at Sanborn Pond in the Town of Brooks, Waldo County, Maine. The purpose of compensatory restoration is to make the environment and the public whole for environmental harm caused by the oil spill. The Trustees' natural resource damage assessment concluded that wildlife (particularly common loons), fisheries, and the lake ecosystem were adversely affected by the oil spill. In addition, the public's recreational use of the natural resources in Sanborn Pond (e.g., recreational boating, fishing, and other uses) was impaired as a result of the spill. As compensation for this harm, the Trustees reached a negotiated settlement with H.O. Bouchard, Inc. for payment of natural resource damages in the amount of \$125,000 to be used for compensatory restoration projects. This RP/EA describes the suite of restoration alternatives that the Trustees considered and explains the Trustees' rationale behind choosing the alternatives preferred for funding. The preferred alternatives focus on compensatory restoration for common loons and lost recreational uses. Specifically, the Trustees will (1) implement a common loon artificial nesting platform management program on several lakes in Waldo County, Maine, to boost loon reproductive success in the area and (2) secure public access to Hurds Pond in the Town of Swanville, Maine, through land acquisition.

### 1.0 INTRODUCTION AND PURPOSE

The U.S. Fish and Wildlife Service (USFWS) and the State of Maine have prepared this Restoration Plan / Environmental Assessment (RP/EA) to describe the compensatory restoration to be implemented in response to the September 23, 2001 oil spill at Sanborn Pond in the Town of Brooks, Waldo County, Maine.

The USFWS and the State of Maine Department of Environmental Protection (ME DEP), the Maine Department of Inland Fisheries and Wildlife (ME IF&W), and the Maine Department of Conservation (ME DOC) are the Natural Resource Trustees ("Trustees") responsible for restoring natural resources<sup>1</sup> and resource services<sup>2</sup> injured by the oil spill, as authorized by the Oil Pollution Act of 1990 ("OPA," 33 U.S.C. §§ 2701 *et seq.*) and Maine Oil Discharge Prevention and Pollution Control law (38 M.R.S.A. §§ 541 *et seq.*). As a designated Trustee, each agency is authorized to act on behalf of the public under state and/or federal law to assess and recover natural resource damages and to plan and implement actions to restore, rehabilitate, replace, or acquire the equivalent of the natural resources or services injured as a result of an unpermitted discharge of oil.

---

<sup>1</sup> Natural resources are defined under the Oil Pollution Act (OPA) as "land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any State or local government or Indian tribe, or any foreign government."

<sup>2</sup> "Services" (or "natural resources services") means the functions performed by a natural resource for the benefit of another natural resource and/or the public.

The purpose of natural resource restoration is to make the environment and the public whole for natural resource injuries resulting from the oil spill by implementing restoration actions that return injured natural resources and services to baseline conditions<sup>3</sup> and compensate for interim losses<sup>4</sup>.

Consistent with the OPA and the National Environmental Policy Act (“NEPA,” 42 U.S.C. 4321 *et seq.*), the purpose of this document is to disclose to the public the Trustees’ decision-making process regarding the identification and evaluation of restoration alternatives that would compensate for the oil spill at Sanborn Pond. The Trustees issued a draft version of this document to provide the public with an opportunity for review and comment on the proposed restoration alternatives. This Final RP/EA describes the restoration activities that the Trustees identified as the preferred restoration activities.

## **1.1 Overview of the Incident**

On the evening of September 23, 2001, a 10,000-gallon capacity tanker truck failed to navigate a curve on Route 137 purportedly to avoid hitting a deer, veered off the road, crashed through a guardrail and small building, and came to rest along the southwest shore of Sanborn Pond in the Town of Brooks, Maine (Figure 1). The accident punctured the tanker, and an estimated 5,600 gallons of Number 6 fuel oil flowed onto the 98-acre pond covering approximately three-quarters of it with oil. H.O. Bouchard, Inc, of Hampden, Maine, owned the tanker truck and is the Responsible Party for the incident. Bouchard contracted Clean Harbors Environmental Services to implement the cleanup. The ME DEP supervised the cleanup. Spill cleanup effort was concentrated over the first week following the spill and continued at lower levels through early November 2001.

Clean-up techniques used during the incident response consisted of containing the oil with hard, floating boom and removing oil using sorbent material (snare/pom-poms), sorbent boom, and vacuum trucks. Some oil apparently adhered to small amounts of sand and gravel which helped to carry the oil to the bottom of the pond. Some of the sunken oil was removed by divers using underwater vacuums. As colder temperatures arrived in November, the oil became less apt to produce sheens and thus less of an immediate environmental hazard. The cleanup was suspended in November 2001 with a plan to return during warmer weather in 2002 to assess whether sheening had resumed and whether additional cleanup would be necessary.

Beginning in July 2002, #6 oil from this spill was observed refloating to the surface with the onset of hot summer weather. The corresponding rise in water temperature allowed globules of oil sunken to the bottom to float to the surface. Shoreline vegetation became impacted as well as small boats, docks/floats, and some reports of swimmers getting into this oil as well. In response, the DEP contacted Bouchard and requested appropriate response to address these impacts. Bouchard did hire a contractor who performed hand removal of impacted vegetation along the shore, cleaned boats, docks, and floats, and removed oil. The DEP also requested that a section of hard floating boom be deployed between the point of land now or formerly owned

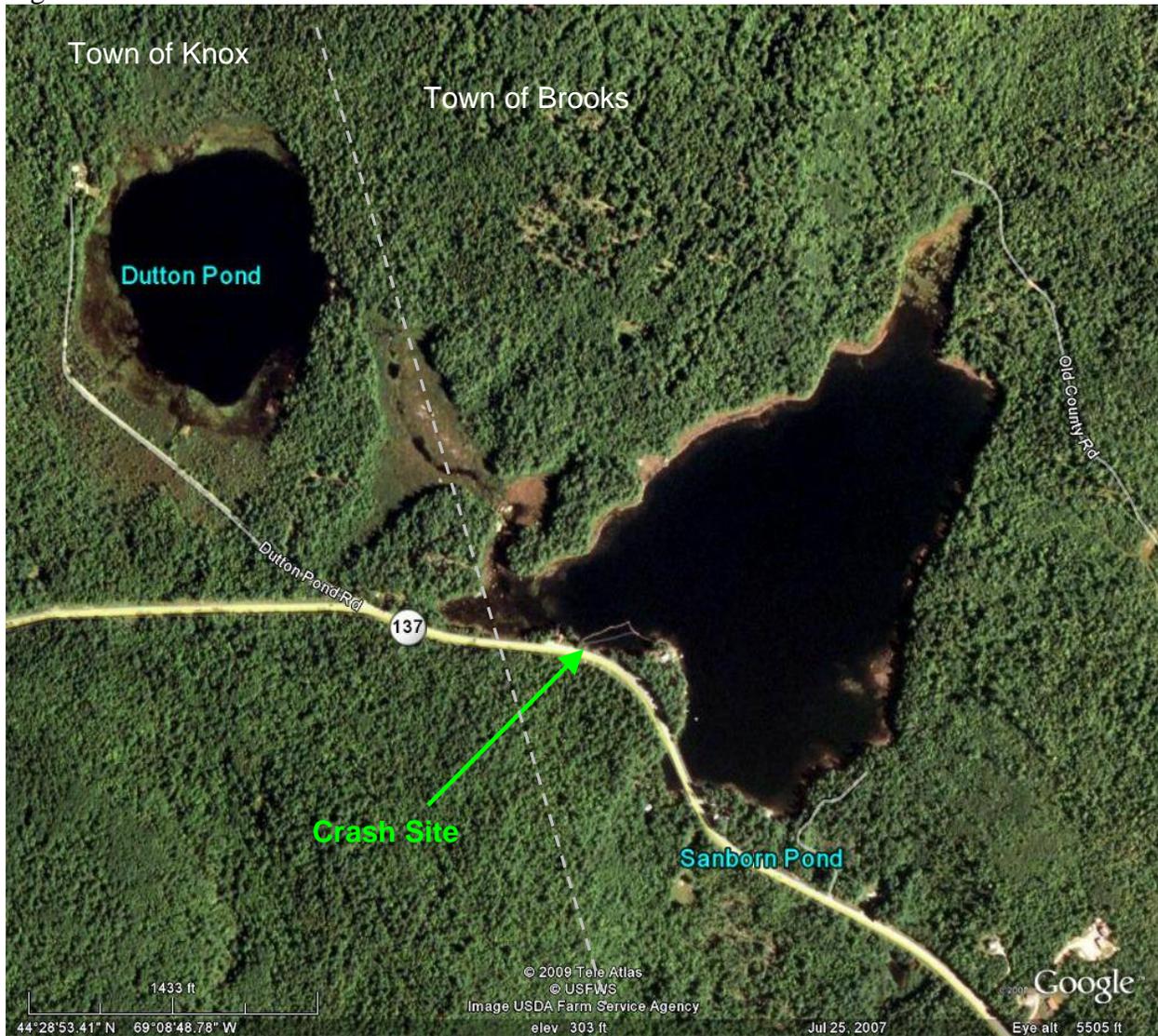
---

<sup>3</sup> “Baseline conditions” are the environmental conditions that would have existed had the oil spill not happened.

<sup>4</sup> “Interim losses” are the losses of natural resources or services that ensued from the time of the oil spill until baseline conditions were regained.

by the Shifone family approximately 600 feet west to land now or formerly owned by the Green family. This boom was deployed to contain refloated oil and remained in place until September/October.

Figure 1: Incident location.



In 2003, the boom was redeployed as a preventative measure. Additional oil was trapped along the shore, and a contractor was hired again to manually clean the shore and then remove the boom in the fall. In the fall of 2003, Bouchard hired a contractor to develop and submit a work plan for DEP review and approval in an effort to further reduce the volume of sunken oil. This effort was detailed in a report by GEOInsight dated 1/23/04. This project involved manually raking and agitating the bottom in the near shore area of the spill, and collecting oil that was driven to the surface. Shoreline vegetation was removed and sorbent material was employed to

snare free oil. This effort only had limited success due to the cold water temperature in the fall when the work was performed. Pre- and post-work surveys were completed by divers to document stranded oil on the bottom. Some oil was removed but some remained on the bottom.

In 2004, 2005, and 2006, the boom was placed in the spring and collected in the fall, and again hand labor was employed to remove residual oil that impacted plants and vegetation along the shoreline, but the amount of oil resurfacing seemed to be reduced. In 2007, it was a cool summer and very little oil was observed refloating, no cleanup was necessary. In 2008 Bouchard negotiated a memorandum of agreement with DEP whereby the Pond spill site will be monitored for 4 years. If oil refloats, the DEP will direct cleanup to be performed by Bouchard. In 2008 and 2009 no additional oil was observed, and no cleanup was necessary. If this trend continues, the MOA will terminate in the fall of 2011, and Bouchard will make a final payment to DEP towards any future cleanup costs which may arise.

The effects of the oil spill on wildlife and the resulting natural resource injuries, as well as impacts of the spill on the recreational uses of Sanborn Pond's natural resources, are described in Section 2.

## **1.2 Natural Resource Damage Assessment**

Immediately after the spill occurred, the Trustees commenced the Pre-assessment Phase of the natural resource damage assessment (NRDA) in accordance with the OPA NRDA regulations (the "OPA regulations") (15 CFR § 990.40) to determine if they had jurisdiction to pursue restoration under OPA and, if so, whether it was appropriate to do so. Based on their analyses of initial data collected during the response and the Pre-assessment Phase, the Trustees found that they had jurisdiction to pursue restoration under the OPA as well as State of Maine environmental regulations. The Trustees further determined that response actions had not adequately addressed the injuries resulting from the incident, and that feasible primary<sup>5</sup> and/or compensatory<sup>6</sup> restoration actions existed to address the potential injuries. These determinations were memorialized in a Notice of Intent to Conduct Restoration Planning. The Notice was signed on 2/14/2002 by DEP Commissioner Kirkpatrick and public notice was published in area newspapers, sent to the Town of Brooks and State legislators representing this area in March, 2002. Consequently, the Trustees initiated the Restoration Planning Phase of the NRDA, in accordance with Section 990.50 of OPA, which includes evaluating and quantifying potential injuries (injury assessment) and using that information to determine the need for and scale (or size) of restoration actions. In August 2002, Bouchard entered into a cooperative NRDA agreement with the Trustees (a.k.a., "Memorandum of Agreement between the Trustees and the Responsible Party Governing Cooperative Natural Resource Damage Assessment and Restoration Planning Activities for the H.O. Bouchard Oil Spill at Sanborn Pond, Brooks, Maine" or "Trustee-RP MOA"), which included a reimbursement agreement that supported the Trustees' role in injury assessment studies.

---

<sup>5</sup> "Primary restoration" is the restoration of injured natural resources and services to the baseline condition, i.e., the conditions that which would have existed had the oil spill not occurred, and usually consists of the cleanup efforts.

<sup>6</sup> "Compensatory restoration" is the compensation provided to offset the natural resource injuries that accrued from the time that the oil spill occurred until the baseline condition was re-established.

## **1.3 Coordination**

### *1.3.1 Trustee Council Organization and Activities*

The USFWS and the ME DEP, the ME IF&W, and the ME DOC are the Natural Resource Trustees for the Sanborn Pond case. To facilitate working together to accomplish the common goals of natural resource damage assessment and restoration, the Trustees entered into a Memorandum of Agreement (Trustee MOA) in January 2002. The Trustee MOA indentified the ME DEP as the Lead Administrative Trustee agency for the case. The Trustees worked together to assess the natural resource injuries and develop this Restoration Plan.

### *1.3.2 Responsible Party Involvement*

The Trustees provided the Responsible Party with scopes of work for assessment studies, according to the procedures for cooperative studies outlined in the Trustee-RP MOA. The Responsible Party hired Kleinschmidt Associates, Inc. to conduct the fisheries assessment studies in 2003. Other than this, the Responsible Party, by choice, did not participate in the field data collection activities during the assessment. The Trustees and Responsible Party negotiated a mutually agreeable settlement for natural resource damages in 2007 (see Section 3.0 for details).

### *1.3.3 Public Notification and Involvement*

The Trustees held a public informational meeting on June 18, 2003, in Brooks, Maine, to inform the public of the Trustees' activities to assess natural resource injuries. Another goal of the meeting was to gather input from the public on injury assessment activities and on ideas for future compensatory restoration projects. The public provided useful information to the Trustees, particularly regarding the recreational values of Sanborn Pond and potential restoration options.

The Trustees published the draft Restoration Plan / Environmental Assessment for public review and comment on December 16, 2009. Notices of Availability were published in the Bangor Daily News and the Republican Journal (Belfast, Maine). Hard copies of the draft RP/EA were available for viewing at the Maine DEP office in Bangor and the Brooks Town Office. The draft RP/EA could also be downloaded from the Maine DEP website. The comment period closed on January 31, 2010. No comments were received.

### *1.3.4 Administrative Record*

The Trustees established an Administrative Record in compliance with the requirement of the federal regulations for natural resource damage assessments of oil spills (15 CFR §900.45). The Record includes documents relied upon by the Trustees during the injury assessment. The Record is on file at ME DEP, Eastern Maine Regional Office, 106 Hogan Road, Bangor, Maine 04401. Arrangements may be made to review the Record by contacting Edward Logue, ME DEP Regional Director, at the same address or calling him at 207-941-4570.

## **2.0 AFFECTED ENVIRONMENT AND SUMMARY OF NATURAL RESOURCE INJURIES**

Sanborn Pond is located primarily in the Town of Brooks, Waldo County, Maine. However, the tip of the western cove crosses the border into the Town of Knox. As of the 2000 Census, Brooks had 1,022 residents, with a median household income of \$30,104 (MCRPC 2003). The area of Sanborn Pond is surrounded by forest or otherwise relatively undeveloped lands. The Town of Brooks is rural, with most of the land use in agricultural, forestry, or otherwise undeveloped lands. An area of candidate significant habitat for wintering deer is located on the land bordering Sanborn Pond to the northwest.

The Trustees evaluated potential injuries in the following categories: wildlife, fisheries, lake ecosystem, and lost recreational use of natural resources.

### **2.1 Lake Ecosystem**

Sanborn Pond is a relatively small (98 acre) and deep (66 feet maximum depth; average depth of 28 feet) 'second order' pond on a tributary to the Passagassawaukeag River. The size of Sanborn Pond is partly attributable to its small dam. The pond's direct drainage area is approximately 0.63 square miles, and total drainage area is estimated at 3.44 square miles. Water flushes Sanborn Pond twice during a year of average rainfall. Upstream of Sanborn Pond is Dutton Pond, the watershed of which accounts for most of the total drainage area to Sanborn (2.81 square miles). Dutton Pond has a surface area of approximately 37 acres, an average depth of 15 feet and maximum depth of 22 feet. Dutton Pond flushes approximately 8 times in a year having average rainfall. The year of 2001 is considered to be one of the driest on record, thus the water flowing through the pond ecosystem is likely to have been one of the lowest on record (estimated outlet flow of less than one cubic foot per second). Dutton Pond was not affected by the oil spill and was used as a reference site to compare to Sanborn Pond.

The Trustees investigated the following aspects of the pond's ecological characteristics to determine whether the oil spill adversely affected the lake ecosystem of Sanborn Pond: water quality, sediment contamination, fish tissue contamination, trophic condition, and shoreline oiling.

#### *2.1.1 Surface Water*

The Trustees sampled water from Sanborn and Dutton Ponds on September 26, 2001; October 31, 2001; and in May and August of 2002. The water samples were analyzed for volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs). No VOCs were detected in Dutton Pond samples, but a few VOCs were detected in Sanborn Pond samples, at very low levels, only in samples collected a few days after the spill. No PAHs were detected in any of the water samples.

### *2.1.2 Sediment*

The Trustees sampled sediments from the deepest areas of Sanborn and Dutton Ponds on September 26, 2001; October 31, 2001; and in August of 2002 and tested these for VOCs, PAHs, and various heavy metals. No VOCs were detected in any of the sediment samples. Although metal concentrations were slightly higher in Sanborn Pond sediment than in Dutton Pond, the concentrations were within the background range for lakes in Maine. Concentrations of several PAHs were elevated in the 2002 Sanborn Pond sample that was taken from the area near the crash site, compared to Dutton Pond samples and other areas within Sanborn Pond. However, even these concentrations, the highest measured in Sanborn Pond, are approximately 2 orders of magnitude less than the sediment quality guidelines developed for the protection of freshwater aquatic invertebrates (MacDonald et al. 2000).

### *2.1.3 Fish Tissue*

The Trustees collected fish from Sanborn Pond in fall 2001 and in spring and fall of 2002 to investigate whether fish had accumulated spill-related contaminants in their tissues to levels that would be hazardous to humans or wildlife that might consume the fish. Fillets of brown trout were collected to evaluate hazards to human health. Whole white suckers and yellow perch were collected to evaluate hazards to piscivorous birds (e.g., common loons, osprey, and bald eagles). Reference samples for brown trout came from Alford Pond (20 miles away from Sanborn Pond), while reference samples for white sucker came from the Penobscot River at Woodville (approximately 80 miles from Sanborn Pond). All fish were analyzed for PAHs, mercury, lead, and arsenic. Levels of arsenic and lead were not detected in any of the fish from the reference sites or Sanborn Pond. Levels of mercury in white sucker composites from Sanborn were half of those determined at the Penobscot River (Woodland) site. The maximum and average levels of mercury in brown trout from the Alford Pond reference site (max = 0.66 mg/kg, average = 0.42 mg/kg) are very similar to levels at Sanborn Pond (max = 0.67 mg/kg, average = 0.44 mg/kg). The range of mercury levels in 354 fish obtained from 123 Maine lakes in 1993 was 0.002 mg/kg to 2.5 mg/kg. Thus, results from the 2001 mercury analyses did not indicate levels warranting additional consumption restrictions beyond the existing statewide advisory. None of the PAH concentrations in Sanborn Pond fish exceeded any action levels in relation to the State's cancer and non-cancer actions levels for the protection of human health.

### *2.1.4 Trophic Condition*

Oil spills can cause oxygen depletion in waters. While breaking down various substances in the water column, aquatic microbial populations consume oxygen. An oil spill adds compounds to the natural system that can create an additional biological oxygen demand. Adequate oxygen levels are critical for the health of all biological populations in lake ecosystems. Oxygen depletion in a lake can stress cold-water fish and may cause sediment bound phosphorus to be released into the water column ultimately causing deterioration of trophic status. Concern over the potential for such deterioration prompted evaluation of parameters related to trophic state. Before the spill, Sanborn Pond's trophic condition would have fallen at the oligotrophic end of the mesotrophic scale, having better than average transparencies and low to moderate oxygen depletion in bottom waters. The Trustees found no detectable or significant change in water

transparency, dissolved oxygen, phosphorus, or chlorophyll, and thus no shift in trophic condition, following the oil spill.

### *2.1.5 Shoreline Habitat*

During the time of the oil spill, the water level in Sanborn Pond was approximately three feet lower than normal. The shoreline of Sanborn Pond consists of boulder-to-cobble sized rock interspersed with sand/silt deposits. Submerged and emergent aquatic vegetation, dominated by water-shield, water lily, pickerelweed, *Potamogeton natans*, various rush species, and *Eriocaulon*, was plentiful along the shoreline. The aquatic vegetation provides habitat, particularly foraging area and shelter, for many aquatic animals. The three-dimensional habitat complexity formed by the vegetation and rocks along the shoreline provides habitat for aquatic invertebrates and fish.

Although oil recovery booms were deployed across the western and northern coves of the pond, some oil managed to pass the booms in 2001. The cove shoreline protected by the two booms, estimated to be approximately 39% of the total pond shoreline (4,587 feet), was considered slightly oiled. Lightly oiled areas in Sanborn Pond totaled about 13% of the shoreline length (1,529 feet) and varied in width from 8 inches to 11 inches. Within heavily oiled areas (52% of shore, 5,646 feet), the width of oiling on the shoreline varied between 8 inches and 25 feet depending on the substrate and slope of the shore. The Trustees estimated that a total of 73,477 square feet (approximately 1.7 acres) of shoreline habitat was adversely impacted to various degrees by the oil spill in 2001.

During the spill clean-up, oiled vegetation (floating and emergent) was removed from littoral areas of Sanborn Pond as a means of removing oil from the pond ecosystem. Subsequent qualitative surveys were conducted to verify persistence of previously recorded species despite removal of oiled foliage during the spill clean-up and subsequent resurfacing of oil. The dominant species were not adversely affected in the long-term.

## **2.2 Fisheries**

Sanborn Pond is home to a variety of coldwater and warmwater fish species, which provide recreational fishing opportunities to Maine's anglers, as well as food for aquatic, avian, and terrestrial predators. As of the last survey in 1998 (ME IF&W 1998), the pond supports brown bullhead, American eel, minnow species, white and yellow perch, chain pickerel, golden shiner, rainbow smelt, common sucker, pumpkinseed sunfish, and brown trout (stocked by ME IF&W). The 1998 fish survey listed smallmouth bass as occurring in Sanborn Pond; however, the injury assessment studies documented only largemouth bass. The brown trout, bass, and pickerel are the main recreational fishing attractions at Sanborn Pond. Commercial bait dealers harvest rainbow smelt from Sanborn Pond for resale.

To determine whether the H.O. Bouchard oil spill affected fisheries production of recreationally important species in Sanborn Pond, rainbow smelt and bass were sampled to document the age class structure of the populations. By examining the age class structure for anomalies, one can

identify periods of abnormally low reproductive success in the population or abnormally high mortality in an age class.

The ME IF&W selected rainbow smelt as an important species to examine post-spill for the following reasons: smelt are an important prey item for brown trout; smelt provide important recreational and commercial winter fisheries in Sanborn Pond; and the smelt spawning habitat was at high risk of being impacted by the oil spill. Smelt spawn by broadcasting their eggs over the substrate, and the adhesive eggs develop there for a number of days, depending on water temperature; the substrate was heavily oiled near shore prior to clean up efforts. The Responsible Party's contractor, Kleinschmidt Associates, Inc., subcontracted commercial smelt fishers in March 2003 to obtain a sampling of their commercial catches. The commercial fishers used drop net through the pond ice. Sampled smelt did not show any anomalies in gross morphology. However, the age class distribution was disrupted, with higher proportions of older fish found than young-of-year (this was deemed not to be a result of sampling technique). Kleinschmidt and ME IF&W also attempted to collect smelt by gillnetting in October 2003. The resulting catch was much less than anticipated considering the level of fishing effort. Therefore, several pieces of information indicate some impacts on the rainbow smelt population subsequent to the spill. These factors include the decreased relative abundance of age I smelt compared to age II smelt in the drop net samples and the lack of a significant number of smelt observed during the 2003 spawning season (which was very well sampled). The Trustees did not pursue further sampling of the smelt, since the cost of continued sampling would likely outstrip potential restoration costs.

The ME IF&W selected smallmouth and largemouth bass as important fishes to examine in the assessment because both bass species support important recreational fisheries in Maine waters, and the spawning habitats of both bass species were at high risk of adverse impact due to the spill. The bass spawn by constructing nests in the substrate, in which the eggs develop over several days; this shallow substrate was particularly badly oiled in Sanborn Pond prior to clean up efforts. Kleinschmidt used boat electrofishing to sample young-of-year/juvenile and adult bass in August 2003. No smallmouth bass were found, and ME IF&W suspects the 1998 survey report was in error and that smallmouth bass do not exist in Sanborn Pond. Largemouth bass were plentiful, outnumbered only by American eel. Sampled largemouth bass did not show any gross morphological anomalies, and the age class distribution appeared appropriate. Thus, there was no evidence found to indicate that the oil spill adversely impacted largemouth bass.

### **2.3 Wildlife**

The shoreline of Sanborn Pond is relatively undeveloped; a few summer cottages are located primarily along Route 137 and on the pond's eastern shore. The informal, primitive recreational access area is also in this area. More than half of the pond's shoreline provides unaltered freshwater riparian wildlife habitat, with mostly expansive stands of forested upland outside of the riparian zone. No formal surveys of wildlife exist for Sanborn Pond for the time before the 2001 oil spill. However, since the spill, the following wildlife have been noted at the pond: common loons (nesting pair), double-crested cormorants, bald eagles, ospreys, great blue herons, Canada geese, mallards, black duck, wood duck, blue jays, American crows, common ravens, hairy woodpeckers, yellow-bellied sapsucker, belted kingfisher, various warbler species, black-

capped chickadees, several other passerine species, spotted sandpipers, gulls, painted turtles, snapping turtles, green frogs, beavers, muskrats, and white-tailed deer.

In addition to their roles in natural resource damage assessment, the ME DEP and the USFWS have responsibilities in ensuring that the remedial actions are sufficient to contain and remove the oil and to prevent or minimize additional impacts to natural resources. In this capacity, the Trustee agencies began surveys for oiled wildlife (i.e., mammals, amphibians, reptiles, birds) immediately after the spill occurred. Surveys consisted of searching for dead or live oiled debilitated wildlife by walking along the shoreline, inspecting the shoreline from a boat, and/or scanning the pond and shoreline with binoculars. The Trustee response crew conducted surveys daily for the first nine days immediately after the spill and twice more in 2001.

The surveys identified the following oiled wildlife: three common loons (one adult and its two young-of-year juveniles that were hatched and raised on Sanborn Pond in July 2001), one great blue heron, one double-crested cormorant, several muskrats (four found dead), several painted turtles, and several snapping turtles (one found dead). The three loons, one cormorant, and fifteen painted turtles were captured and sent for rehabilitation at the Center for Wildlife in York, Maine. Two of the loons (one adult and one young-of-year juvenile) and the cormorant died during rehabilitation, while one loon (second young-of-year juvenile) and the fifteen painted turtles were rehabilitated successfully. The rehabilitated loon was released in the Rachel Carson National Wildlife Refuge in Wells, Maine, and the fifteen painted turtles were released in the north cove of Sanborn Pond after most of the free floating oil in the pond had been captured.

The fate of the second loon parent was unknown. By the time wildlife personnel were able to survey Sanborn Pond, one day after the spill, only the three loons were observed. It is possible that the second adult was present during the time of the spill, became oiled, and (1) flew elsewhere and died or (2) died at Sanborn Pond, was scavenged, and was not detected by wildlife personnel. However, due to the uncertainty regarding the presence of a second parent immediately prior to the spill, only one parent was included in the injury assessment for 2001.

In 2002, a pair of loons nested at Sanborn Pond and produced one chick. Re-surfacing of sunken oil during the summer caused the demise of all three of these loons. In 2003, two pairs of loons inhabited Sanborn Pond. However, no nesting attempts were made. Common loons have high fidelity to their nesting territories, they are long-lived species, and they have a high annual survival rate (Evers 2007). If not for the spill and the subsequent re-oilings, Sanborn Pond would have supported the production of some number of loon offspring in 2003. Average loon productivity is 0.53 fledglings per territorial pair per year (Evers 2007). Thus, the Trustees considered 0.53 chicks were lost in 2003 due to the lack of successful territory establishment and nesting by a new pair of loons. The Trustees did not conduct wildlife surveys in 2004 and, for purposes of the natural resource damage assessment, assumed that normal loon nesting and reproduction resumed at Sanborn Pond in 2004. No species other than the common loon were observed to be affected by the re-surfacing oil in 2002 or 2003. In summary, the Trustees estimated a total of 5-6 common loons were lost as a result of the oil spill.

The Trustees focused the natural resource damage assessment for wildlife on common loons, because loons were affected by the oil spill significantly more than any other species of wildlife. Common loons are long-lived birds that have a delayed age at first breeding (6 yrs old) and low annual productivity (Evers 2007). Loons are fairly monogamous from year to year and have high nest site fidelity (Evers 2007). These characteristics indicate that human intervention would

facilitate the recovery of local loon community to baseline conditions and compensatory restoration would be needed to offset the interim losses.

## **2.4 Lost Recreational Uses of Natural Resources**

Sanborn Pond offers recreational (and commercial) fishing, recreational boating, and waterfowl hunting opportunities as well as passive recreational opportunities (e.g, wildlife viewing). The pond has no formal public access, since all of the land along the shore is privately owned. However, the public has historically enjoyed access through private property immediately adjacent to Route 137. This area informally provides opportunities for recreators to park vehicles, picnic, swim, and launch small boats and canoes. Sanborn Pond attracts recreational users from within a five-mile radius of the pond and is the only non-fee recreational pond opportunity within ten miles.

During the active cleanup of the 2001 oil spill, all active recreational activities at the pond were restricted. After oil began resurfacing during the summer of 2002, water samples were collected in July and August 2002 to evaluate suitability of the water in Sanborn Pond for swimming and the potential health risks from involuntary ingestion of water. These samples deliberately included surface sheens as swimmers would be in contact with this layer. Analyses revealed elevated levels of the higher molecular weight, more toxic, PAHs. These results prompted the ME DEP to post signs in 2002 around Sanborn Pond advising people that swimming in areas having visible sheens was not advised due to the possibility of ingesting these substances or contracting a skin irritation.

## **3.0 SUMMARY OF SETTLEMENT FOR NATURAL RESOURCE DAMAGES**

Under the OPA rules, the Responsible Party is liable for the costs of conducting a natural resource damage assessment, as well as the costs of implementing restoration projects to restore the injured resources. In 2007, the Trustees negotiated a settlement with the Responsible Party that consisted of payment of \$125,000, to be used for compensatory restoration projects for wildlife, fisheries, lake ecosystem habitat, and lost recreational uses. Specific uses for the settlement funds were to be identified subsequently (i.e., via this Restoration Plan) and according to the restoration planning process outlined in the federal natural resource damage assessment and restoration regulations. The Responsible Party also reimbursed the Trustees for all of their past assessment costs.

## **4.0 RESTORATION ALTERNATIVES**

### **4.1 Allocation of Natural Resource Damages Among Restoration Categories**

The Trustees' claim for natural resource damages was based on concerns about injuries to loons, shoreline ecosystem, fishery impacts, and lost recreation uses of natural resources. The Trustees propose to focus compensatory restoration activities on common loons and recreational uses,

because they were significantly affected by the spill and are amenable to meaningful restoration with the funds available. In light of the limited nature of the impacts to the lake ecosystem and fisheries, the Trustees believe that the lake ecosystem and fisheries were fully returned to baseline by or prior to the time of settlement in 2007 and that restoration efforts are best directed towards loon and recreational use restoration. Based in large part on the damage assessment work performed, the Trustees have determined that \$96,000 of the damages paid by the Responsible Party will be allocated for loon restoration, and \$25,000 will be allocated for restoration of lost recreational uses. The remainder of the settlement funds will be used to support the Trustees' development and administration of a final Restoration Plan.

#### **4.2 Criteria for Identifying and Selecting Alternatives**

According to Section 990.53(2) of the OPA natural resource damage assessment regulations (15 CFR §990.53(2)), the Trustees must consider a reasonable range of restoration alternatives before selecting their preferred alternative(s) for compensatory restoration. The Trustees used the following criteria for developing compensatory restoration alternatives.

- Action must be technically feasible.
- Action must be in accordance with applicable laws, regulations, or permits.
- Action should provide natural resource services of the *same* type and quality, and of comparable value, as those injured, or if such is not possible, then actions should provide natural resource services of *comparable* type, quality, and value as those injured.
- A “no-action” alternative must be considered.

Once the list of potential alternatives was compiled, the Trustees considered the following factors when evaluating the alternatives and selecting one or more as the preferred alternative(s) (15 CFR §990.54(a)):

- the cost to carry out the alternative;
- the extent to which the alternative was expected to meet the Trustees' goals and objectives in compensating for interim losses;
- the likelihood of success of the alternative;
- the extent to which the alternative will prevent future injury as a result of the oil spill and will avoid collateral injury as a result of implementing the alternative;
- the extent to which the alternative would benefit more than one natural resource and/or service; and
- the effect of the alternative on public health and safety.

Each alternative should address both primary and compensatory restoration options (15 CFR §990.53(2)). The primary restoration for this oil spill consists of the cleanup efforts implemented by the Responsible Party and the ME DEP. The Trustees considered all primary restoration to be adequately addressed by the remedial activities, and therefore, this Restoration Plan focuses on alternatives for compensatory restoration.

### **4.3 Restoration Alternatives for Wildlife (Common Loon)**

The Trustees estimated that at least five to six common loons were lost over three breeding seasons due to the oil spill.

#### *4.3.1 Alternative 1: No Action / Natural Recovery*

In this alternative, the Trustees provide no human intervention to directly restore injured natural resources and services. Primary restoration would not address the loss of the common loons, and notable compensatory restoration would remain warranted. Therefore, this alternative is not appropriate as it does not achieve the Trustees' goal regarding providing restitution to the public for the natural resource injuries incurred due to the oil spill.

#### *4.3.2 Alternative 2: Protection of Nesting Habitat*

This alternative consists of the perpetual protection of common loon nesting habitat via land acquisition or conservation easement.

Common loons build nests on the ground near the water's edge, preferably on the sheltered side of lake islands facing the mainland, the lee side of mainland on small lakes with no islands, or floating bog islets with a screened view to open water (Mcintyre and Barr 1997).

The Trustees considered protecting loon nesting habitat on Sanborn Pond, but no properties were available within the Trustees' price range. There were some properties for sale on Sanborn Pond, but these did not provide loon nesting habitat. Therefore, habitat protection at Sanborn Pond was not a feasible option.

The Trustees considered protecting the land surrounding Hurds Pond in Swanville, Waldo County, Maine, approximately 5.5 miles east of Sanborn Pond. During the time the Trustees were identifying potential restoration alternatives, a local land conservation organization was already coordinating with the private landowner to complete the protection of all remaining privately owned land surrounding Hurds Pond (the ME IF&W already owned half of the land surrounding Hurds Pond). However, the organization had yet to secure adequate funding for the land transaction. The cost of the project was generally within the Trustees' budget. The project would have protected 65.2 acres of upland from development but would have allowed timber activities on 63 acres; protected 32 acres of wetlands; and provided an area to construct primitive recreational access to the pond. Although the pond provided pristine lake and wetland habitat to probably all of the bird species found at Sanborn Pond, the value of the pond with respect to common loon reproduction was uncertain. Hurds Pond may potentially offer some nesting habitat for common loons. However, anecdotal information available to the Trustees from the landowner, a local citizen, loon biologists, and state and federal wildlife professionals suggested that, although loon pairs had been observed at Hurds Pond, successful loon nesting (i.e., chick production) was not an annual occurrence. The pond is potentially only marginal loon habitat, as it is shallow, weedy, and of poor water quality (ME IF&W 2006) and is in the lower range for minimum lake size for supporting one "whole-lake" nesting territory (Evers 2007, USFWS 2001). The pond may have enough open water to attract foraging adult loons, but the pond may

not be preferred nesting habitat. Therefore, land protection at Hurds Pond, while it may potentially provide some benefits to loon reproduction, it would not provide adequate restoration benefits within a short time to offset the natural resource injuries incurred by loons at Sanborn Pond.

The Trustees scoped local real estate listings from May 2008 until May 2009 for other opportunities for protecting loon nesting habitat in Waldo County but no cost-effective properties were found that would fit within the Trustees' budget.

#### *4.3.3 Alternative 3: Enhancement of Reproductive Success of Common Loons in Waldo County (Preferred Alternative)*

Because common loons nest on the ground in low-lying areas adjacent to water, the nests are at risk of being flooded by fluctuating lake water levels (e.g., from hydroelectric dam water management, leaky dams, or episodic heavy rain events) or human recreational activities (e.g., boat wakes). Floating platforms have been successfully used to increase loon hatching success by as much as 119% on lakes with greatly fluctuating water levels and 51% on lakes with relatively stable water levels (DeSorbo et al. 2007).

Under this alternative, the Trustees would work with local loon conservation groups and loon experts to manage nesting rafts on several common loon nesting lakes in the vicinity of Sanborn Pond that would benefit from such management. The project would include a survey of the loon nesting lakes in Waldo County, including Sanborn Pond, to determine which lakes would benefit from nesting rafts. The project team would construct, deploy, and monitor nesting rafts. The project team would manage the rafts (e.g., their locations and design) to ensure that the rafts have the highest potential for being used by nesting loons and that no negative population dynamics result (e.g., increased territorial aggression from territories being too close). The project team would provide environmental (loon) education to local lake associations and landowners to generate stewards for the rafts. The stewards would ideally learn to monitor the reproductive success of the nesting loons, become local environmental educators regarding loon conservation issues, and volunteer to remove the rafts before winter and replace them in the spring. Thus, the stewards would allow the benefits of the rafts to persist even after the compensatory restoration funding runs out. Restoration success would be measured by the direct quantification of the reproductive success of the loons using the nesting rafts compared either to the average "natural nest" productivity of DeSorbo et al. (2007) or site-specific data on pre-raft reproductive success.

The Trustees considered the available, published data for information on loon reproductive success under various conditions, likelihood that loons would use nest rafts, and the increase in reproductive success when using nest rafts to estimate the restoration benefit that would result from implementing a nest raft management project. In order to fully offset the natural resource injuries that the Trustees calculated for loons, (i) nesting rafts would need to be established in 7 nesting territories on lakes with stable water levels and managed for 5 years, (ii) rafts would need to be established in 5 nesting territories on lakes with fluctuating water levels and managed for 4 years, or (iii) some intermediate combination between these two scenarios would be necessary. The Trustees should have sufficient restoration funds available to implement a 4-year monitoring project. The magnitude of restoration benefits will most heavily depend on the lakes chosen for

the project and whether their water levels fluctuate. The project will be designed and managed to yield as many restoration benefits as possible with the allocated funds.

Of the alternatives considered for loon restoration, this alternative is most appropriate, as it has the potential to fully achieve the Trustees' goals regarding loon restoration.

The Trustees propose to allocate \$96,000 toward implementing this alternative.

#### **4.4 Restoration Alternatives for Recreational Uses**

Recreational uses of Sanborn Pond were restricted during the summer and fall from the time of the oil spill in September 2001 through 2003.

##### *4.4.1 Alternative 1: No Action / Natural Recovery*

In this alternative, the Trustees provide no human intervention to directly offset the natural resource services (recreational uses) lost as a result of the oil spill. Although the recreational uses of Sanborn Pond have returned to pre-spill conditions as of the issuance of this Restoration Plan, compensatory restoration remains warranted. Therefore, this alternative is not appropriate as it does not achieve the Trustees' goal regarding providing restitution to the public for the natural resource service injuries incurred due to the oil spill.

##### *4.4.2 Alternative 2: Enhancement of Public Access to Sanborn Pond*

Under this alternative, the Trustees would secure public access to Sanborn Pond by purchasing the private land that currently provides the informal access area (between Route 137 and the dam). This parcel covers 40 acres with approximately 2000 feet of shore frontage along the southeast shoreline of Sanborn Pond. This idea was supported by some members of the public that attended the Trustees' June 18, 2003 public scoping meeting in Brooks, Maine. However, there was also sentiment from the Sanborn Pond landowners that too much public access would be detrimental to the recreational value of the pond. The land would be owned and managed by the State of Maine. This alternative would not include structural improvements to the area, because the Trustees' would not have sufficient funds; however, such amenities could be constructed at a later time should funding become available to the State.

The subject parcel of land was up for sale during the time that the Trustees were developing the restoration alternatives. However, the available restoration funds were insufficient to purchase the 40-acre parcel, and discussions with the landowner about purchasing only a portion of the parcel proved not fruitful. Additionally, the parcel included a dam, the condition and maintenance requirements of which created additional Trustee concerns. Therefore, this alternative is not feasible.

##### *4.4.3 Alternative 3: Establishing Public Access to Hurds Pond (Preferred Alternative)*

A larger land protection alternative regarding Hurds Pond was described in Section 4.2.2. Alternative 4 involves securing public access to Hurds Pond by contributing the funds that the

Trustees have available for recreational use restoration toward the 97.2-acre land protection project but targeting the Trustees' funds to the 2.2-acre parcel between Oak Hill Road and the pond. The parcel would become the property of the ME IF&W and managed as a public walk-in canoe/kayak access area. No structural improvements or amenities are included in this alternative. Hurds Pond is only approximately 5.5 miles away from Sanborn Pond, so the recreational users affected by the oil spill can easily benefit from the compensatory restoration to take place on Hurds Pond. The success of the project would be measured via sign-in registers for visitors to document the increased public use of the area.

The Trustees propose to allocate \$25,000 to this alternative.

## **5.0 ENVIRONMENTAL CONSEQUENCES OF RESTORATION ALTERNATIVES**

The Trustees evaluated each restoration alternative with respect to its potential to impact, either adversely or beneficially, the natural and socioeconomic environments of the project area. In general, none of the proposed alternatives for common loon or recreational use restoration would result in adverse impacts to the human or natural environment. All alternatives would provide net benefits. Summaries of the detailed analyses are shown in Table 1. Further explanation is given below for the potential consequences that are listed in Table 1 as other than "No Impact."

### **5.1 Restoration Alternatives for Wildlife (Common Loon)**

#### *5.1.1 Alternative 1: No Action / Natural Recovery*

This alternative will not have any impact on the human or natural environments, other than the fact that compensation for the common loon losses will never be provided.

#### *5.1.2 Alternative 2: Protection of Nesting Habitat*

Environmental consequences – beneficial consequences - Preserving undeveloped land would prevent the degradation of surface water, sediment, soil, and groundwater quality that could result if the land were not protected and became developed. Likewise, protection of wetlands or of uplands bordering wetlands will benefit not only the wetlands but the surface water and sediment of the pond.

Aesthetics – beneficial consequences - Preserving undeveloped land would prevent the degradation of the viewshed of the pond.

Native American trust resources – unknown – Since the Trustees concluded that this alternative was not feasible (i.e., no parcels could be found that fit within the Trustees' restoration budget), the Trustees did not investigate whether Native American trust resources were present at any of the parcels considered.

### 5.1.3 *Alternative 3: Enhancement of Reproductive Success of Common Loons in Waldo County (Preferred Alternative)*

Biodiversity and abundance – beneficial consequence - The purpose of this alternative is to increase the number of loons in the project area by increasing their reproductive success over several years. Significant adverse impacts could occur if the placement of nesting rafts is not carefully planned and monitored (e.g., improperly located rafts can result in an increase in territorial aggression and potentially the death of loon competitors). However, the alternative includes a careful process to evaluate the lakes proposed for rafts, to plan the appropriate locations to minimize the chances of adverse loon reactions, and to monitor the reactions of loons to the rafts so that corrective actions can be taken should adverse impacts occur. Therefore, adverse effects will be avoided.

Aesthetics – minimal adverse consequence - The nesting rafts will be constructed according to the guidance provided by DeSorbo et al. (2008) - primarily consisting of cedar logs and plastic snow fence. The avian predator screen, if constructed, is made of wire fencing and camouflage material. If the lake is frequented by recreational boaters that have a high potential of disturbing the nesting raft, floating ropes and signs might be deployed to advise boaters to avoid disturbing the raft. These structures may disrupt the natural-looking quality of the lake for some observers. However, the number of rafts on any one lake will be very small (1 to 3), so the aesthetic effect will be small.

Recreational activity – minimal adverse consequence – Recreational boating may be slightly impacted if nesting raft areas are cordoned off with floating rope and signs requesting that boaters stay away from the nesting raft. Often the loon nesting areas are along the shoreline in a cove, which are places that canoes and kayaks often explore. However, the areas requested as “off-limits” are a very small fraction of the entire shoreline of the lake. Thus, there may be some small inconvenience to recreational boaters during a few months of the summer.

Education – beneficial consequence – The alternative aims to include local college students as some of the project personnel. In addition, public education regarding loon conservation issues will be provided to lake associations and other stakeholders.

Local partnerships and collaborative efforts – beneficial consequence – Ancillary benefits can be created through bringing together local stakeholders to work together to achieve conservation goals. The alternative will bring together local academia, conservation organizations, lake associations, landowners, and others to provide common loon conservation. Partnerships are likely to persist past the performance period of this alternative.

Recreational expenditures and related businesses – beneficial consequence – Birdwatchers are one of the largest groups of ecotourists in the United States, and in 2001, birders spent \$32 billion in retail sales on wildlife-watching (Sekercioglu 2002, USFWS 2003). Birdwatchers are attracted to the majestic common loon, and a nesting pair accompanied by adorable chicks can be a local ecotourism attraction. Since this alternative aims to increase the chick population on the targeted lakes, ecotourism benefits may be realized.

## 5.2 Restoration Alternatives for Recreational Uses

### 5.2.1 *Alternative 1: No Action / Natural Recovery*

This alternative will not have any impact on the human or natural environments, other than the fact that compensation to the affected public for the lost recreational uses will never be provided.

### 5.2.2 *Alternative 2: Enhancement of Public Access to Sanborn Pond*

Recreational activity – beneficial consequence – The purpose of the alternative is to provide formal public access.

Native American trust resources – unknown – Since the Trustees concluded that this alternative was not feasible (i.e., parcel did not fit within the Trustees’ restoration budget), the Trustees did not investigate whether Native American trust resources were present.

Non-tribal cultural sites – unknown – Most of the shoreline and area immediately around Sanborn Pond is identified as “potential archeological resources areas” (MCRPC 2003). However, the Trustees did not investigate the exact nature of the potential archeological resources and whether this alternative could affect them, since this alternative was not feasible.

Nuisances – minimal adverse consequence – The Trustees have heard some sentiment from recreational users of Sanborn Pond that too much additional public use could potentially be detrimental to the recreational value of the pond.

Recreational expenditures and related businesses – beneficial consequence – Recreational users drawn to the area could add to the local economy through expenditures for food, fuel, supplies, etc.

### 5.2.3 *Alternative 3: Establishing Public Access to Hurds Pond (Preferred Alternative)*

Recreational activity – beneficial consequence – The purpose of the alternative is to provide formal public access.

Local partnerships and collaborative efforts – beneficial consequence – The purchase of the 2.2 acre parcel that would provide the access area would be part of a larger conservation effort being lead by local conservation groups.

Recreational expenditures and related businesses – beneficial consequence – Recreational users drawn to the area could add to the local economy through expenditures for food, fuel, supplies, etc.

## 5.3 Cumulative Impacts of Preferred Alternatives

The Preferred Alternatives are to implement a multi-year, common loon nest raft management program in the vicinity of Sanborn Pond and to provide public recreational access to Hurds Pond.

Cumulative impacts are the effects of the preferred alternatives added to, or in combination with, other actions implemented outside of this restoration program in the foreseeable future.

The nesting raft management program may result in increased awareness of loon conservation in areas other than the lakes receiving nesting rafts. Community volunteers and other local stakeholders will be some of the partners in the project and can share and apply their knowledge to others and other areas. In addition, recreational boaters using the lakes receiving the nesting rafts may also travel to other loon lakes, carrying their conservation ethic with them.

The public access project at Hurds Pond is part of a larger conservation effort to protect the entire shoreline of the pond from development. The entire northern shore of Hurds Pond is already owned by the ME IF&W, and public access at Hurds Pond will allow the ME IF&W to achieve its goals of protecting the ecological resources at Hurds Pond and providing public access to such resources.

Increasing the recreational use of Hurds Pond increases the risk that the pond may become invaded by non-native, aquatic invasive vegetation, if such vegetation is not already present. Vegetation such as Eurasian milfoil (*Myriophyllum spicatum*) can be introduced into ponds by plant fragments stuck onto boats and fishing gear that have previously been used in infested waters. Educating the public (e.g., advisory signs posted at the access point) to be cautious about the potential for transporting plant fragments is the best method to protect Hurds Pond. The risk of invasive aquatic vegetation infestation is also relevant to the loon raft management project if boats or other gear will be shared between lakes. The project participants will be educated to inspect and clean any gear that is shared between lakes.

**Table 1: Potential Environmental and Socioeconomic Consequences**

		Loons			Recreational Use		
		1 – No Action	2 – Protection of Nesting Habitat	3 – Nest Rafts	1 – No Action	2 – Access to Sanborn Pond	3 – Access to Hurds Pond
<b>Environmental</b>	Air quality	NI	NI	NI	NI	NI	NI
	Surface water quality	NI	++	NI	NI	NI	NI
	Sediment quality	NI	++	NI	NI	NI	NI
	Soil quality	NI	++	NI	NI	NI	NI
	Groundwater quality	NI	++	NI	NI	NI	NI
	Wetlands quality and services	NI	++	NI	NI	NI	NI
	Biodiversity and abundance	NI	++	++	NI	NI	NI
<b>Social</b>	Minority or low income populations	NI	NI	NI	NI	NI	NI
	Aesthetics	NI	NI	Min Adv	NI	NI	NI
	Public health or safety	NI	NI	NI	NI	NI	NI
	Recreational activity	NI	NI	Min Adv	NI	++	++
	Native American trust resources	NI	unk	NI	NI	unk	unk
	Non-tribal cultural sites	NI	NI	NI	NI	unk	NI
	Education	NI	NI	++	NI	NI	NI
	Local partnerships and collaborative efforts	NI	NI	++	NI	NI	++
	Subsistence activity	NI	NI	NI	NI	NI	NI
	Nuisances	NI	NI	NI	NI	Min Adv	NI
<b>Economic</b>	Short-term commercial economic impact	NI	NI	NI	NI	NI	NI
	Property values	NI	NI	NI	NI	NI	NI
	Recreational expenditures and related businesses	NI	NI	++	NI	++	++
	Resource-based industries, commercial users	NI	NI	NI	NI	NI	NI

NI = no impact  
 Min Adv = minimal adverse consequences  
 Sig Adv = significant adverse consequences  
 ++ = Beneficial consequences  
 unk = unknown

## **6.0 LIST OF PREPARERS**

Veronica Varela, U.S. Fish and Wildlife Service, New England Field Office  
Mark Barash, U.S. Department of the Interior, Office of the Solicitor, Northeast Region  
Ed Logue, Maine Department of Environmental Protection, Eastern Maine Regional Office  
Richard Dressler, Maine Department of Inland Fisheries and Wildlife  
Dan Prichard, Maine Department of Conservation  
Linda Bacon, Maine Department of Environmental Protection  
Danielle D’Auria, Maine Department of Inland Fisheries and Wildlife  
Jordan Bailey, Maine Department of Inland Fisheries and Wildlife

## **7.0 LIST OF AGENCIES, ORGANIZATIONS, AND PARTIES CONSULTED FOR INFORMATION**

BioDiversity Research Institute  
19 Flaggy Meadow Road  
Gorham, ME 04038

Coastal Mountains Land Trust  
101 Mt. Battie Street  
Camden, Maine 04843

G.R.F. Real Estate Company  
230 Searsport Avenue  
Belfast, Maine 04915

Town of Brooks, Maine

## **8.0 PUBLIC COMMENT ON THE DRAFT RESTORATION PLAN**

The Trustees published the draft Restoration Plan / Environmental Assessment for public review and comment on December 16, 2009. Notices of Availability were published in the Bangor Daily News and the Republican Journal (Belfast, Maine). Hard copies of the draft RP/EA were available for viewing at the Maine DEP office in Bangor and the Brooks Town Office. The draft RP/EA could also be downloaded from the Maine DEP website. The comment period closed on January 31, 2010. No comments were received.

## 9.0 LITERATURE CITED

- DeSorbo, C. R., J. Fair, K. Taylor, W. Hanson, D. C. Evers, H. S. Vogel, and J. H. Cooley, Jr. 2008. Guidelines for constructing and deploying common loon nesting rafts. *Northeastern Naturalist* 15(1):75-86.
- DeSorbo, C. R., K. M. Taylor, D. E. Kramar, J. Fair, J. H. Cooley, Jr., D. C. Evers, W. Hanson, H. S. Vogel, and J. L. Atwood. 2007. Reproductive advantages for common loons using rafts. *J. Wildl. Manag.* 71(4):1206-1213.
- Evers, D. C. 2007. Status assessment and conservation plan for the Common Loon (*Gavia immer*) in North America. BRI Report 2007-20. U.S. Fish and Wildlife Service, Hadley, MA. 127 pp.
- Maine Department of Inland Fisheries and Wildlife (ME IF&W). 2006. Maine Lake Survey Maps – Waldo County – Hurds Pond. Available online: [http://www.state.me.us/ifw/fishing/lakesurvey\\_maps/waldo/index.htm](http://www.state.me.us/ifw/fishing/lakesurvey_maps/waldo/index.htm)
- Maine Department of Inland Fisheries and Wildlife (ME IF&W). 1998. Maine Lake Survey Maps – Waldo County – Sanborn Pond. Available online: [http://www.state.me.us/ifw/fishing/lakesurvey\\_maps/waldo/index.htm](http://www.state.me.us/ifw/fishing/lakesurvey_maps/waldo/index.htm)
- MacDonald, D. D., C. G. Ingersoll, and T. A. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater systems. *Arch. Environ. Contam. Tox.* 39:20-31.
- Mcintyre, J. W., and J. F. Barr. 1997. Common Loon (*Gavia immer*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/313>
- Mid-Coast Regional Planning Commission (MCRPC). 2003. Town of Brooks Comprehensive Plan. Available at: [http://brooks.govoffice2.com/index.asp?Type=B\\_BASIC&SEC={358E40B4-E572-4DEC-9239-847E8E98260C}](http://brooks.govoffice2.com/index.asp?Type=B_BASIC&SEC={358E40B4-E572-4DEC-9239-847E8E98260C})
- Sekercioglu, C. H. 2002. Impacts of birdwatching on human and avian communities. *Environ. Conserv.* 29(3):282-289
- U.S. Fish and Wildlife Service (USFWS). 2003. *Birding in the United States: A demographic and economic analysis. Addendum to the 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation.* Report 2001-1. Division of Federal Aid, U.S. Fish and Wildlife Service, Washington, D.C.
- USFWS. 2001. Common Loon Habitat in the Gulf of Maine (LOONHAB2). U.S. Fish and Wildlife Service, Gulf of Maine Program. [http://www.fws.gov/r5gomp/gom/habitatstudy/metadata/common\\_loon\\_model.htm](http://www.fws.gov/r5gomp/gom/habitatstudy/metadata/common_loon_model.htm)

APPENDIX A

Trustee Agency Approvals on the Final Restoration Plan / Environmental Assessment

**U.S. Department of the Interior Approval  
of the  
Final Restoration Plan / Environmental Assessment  
for the  
September 23, 2001 Sanborn Pond Oil Spill  
Town of Brooks, Waldo County, Maine**

In accordance with U.S. Department of the Interior policy regarding documentation for natural resource damage assessment and restoration projects (521 DM 3), the Authorized Official for the Department must demonstrate approval of draft and final Restoration Plans and their associated National Environmental Policy Act documentation, with concurrence from the Department's Office of the Solicitor.

The Authorized Official for the Sanborn Pond oil spill case is the Regional Director for the U.S. Fish and Wildlife Service's Northeast Region.

By the signatures below, the Final Restoration Plan/Environmental Assessment is hereby approved.

Approved:

Concurred:

*James M. Moriarty* 4/23/10  
Date  
Marvin Moriarty  
Regional Director  
Northeast Region  
U.S. Fish and Wildlife Service

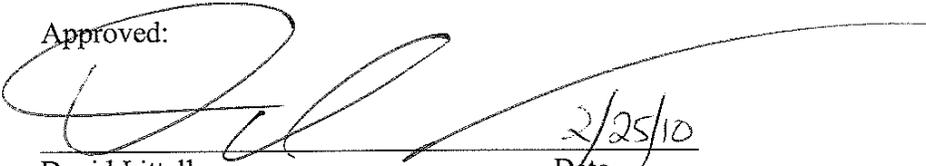
*Mark Barash* 4/16/2010  
Date  
Mark Barash  
Senior Attorney  
Northeast Region  
Office of the Solicitor

Acting

**Maine Department of Environmental Protection  
Approval of the  
Final Restoration Plan / Environmental Assessment  
for the  
September 23, 2001 Sanborn Pond Oil Spill  
Town of Brooks, Waldo County, Maine**

By the signature below, the Final Restoration Plan/Environmental Assessment is hereby approved by the Maine Department of Environmental Protection:

Approved:

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a long horizontal stroke extending to the right.

David Littell  
Commissioner

2/25/10  
Date

Maine Department of Environmental Protection

**Maine Department of Inland Fisheries and Wildlife  
Approval of the  
Final Restoration Plan / Environmental Assessment  
for the  
September 23, 2001 Sanborn Pond Oil Spill  
Town of Brooks, Waldo County, Maine**

By the signature below, the Final Restoration Plan/Environmental Assessment is hereby approved by the Maine Department of Inland Fisheries and Wildlife:

Approved:

 3/3/2010  
\_\_\_\_\_  
Roland Martin Date  
Commissioner  
Maine Department of Inland Fisheries and Wildlife

**Maine Department of Conservation  
Approval of the  
Final Restoration Plan / Environmental Assessment  
for the  
September 23, 2001 Sanborn Pond Oil Spill  
Town of Brooks, Waldo County, Maine**

By the signature below, the Final Restoration Plan/Environmental Assessment is hereby approved by the Maine Department of Conservation:

Approved:

 2-22-10  
Eliza Townsend Date  
Acting Commissioner  
Maine Department of Conservation

## APPENDIX B

### Finding of No Significant Impact

**FINDING OF NO SIGNIFICANT IMPACT**

**FINAL RESTORATION PLAN / ENVIRONMENTAL ASSESSMENT FOR THE  
SEPTEMBER 23, 2001 SANBORN POND OIL SPILL, TOWN OF BROOKS, WALDO  
COUNTY, MAINE**

The U.S. Department of the Interior (acting through the U.S. Fish and Wildlife Service), the Maine Department of Environmental Protection, the Maine Department of Inland Fisheries and Wildlife, and the Maine Department of Conservation have completed a Final Restoration Plan / Environmental Assessment (RP/EA) that explains the decisions of the Trustee Council to provide \$125,000 to two restoration activities as appropriate compensatory restoration for the 2001 Sanborn Pond oil spill. Specifically, the Trustee Council proposes to (i) implement a multi-year project to install and manage artificial nesting platforms for loons on ponds that have detrimental water level fluctuations to improve reproductive success and (ii) acquire land that would provide recreational access to natural resources.

The Trustees published the draft RP/EA for public review and comment on December 16, 2009. Notices of Availability were published in the Bangor Daily News and the Republican Journal (Belfast, Maine). Hard copies of the draft RP/EA were available for viewing at the Maine DEP office in Bangor and the Brooks Town Office. The draft RP/EA could also be downloaded from the Maine DEP website. The comment period closed on January 31, 2010. No comments were received. Thus, the Final RP/EA does not contain any significant revisions from the draft.

Based on a review and evaluation of the information contained in the Final RP/EA, I have determined that the proposed actions do not constitute a major federal action which would significantly affect the quality of the human environment within the meaning of Section 102 (2)(c) of the National Environmental Policy Act (NEPA) of 1969. Accordingly, the preparation of an environmental impact statement on the proposed actions is not required at this time.

*James H. Margis*  
Regional Director/DOI Authorized Official

*4/22/10*  
Date

Acting