

**FINAL RESTORATION PLAN AND
ENVIRONMENTAL ASSESSMENT:**

COAKLEY LANDFILL SUPERFUND SITE

Prepared by

**Lead Administrative Trustee: U.S. Department of the Interior,
U.S. Fish and Wildlife Service**

**Cooperating Trustee: State of New Hampshire,
Fish and Game Department**

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1.0 Introduction to the Restoration Plan and Environmental Assessment

Natural resource trustees representing the U.S. Fish and Wildlife Service/Department of the Interior and the State of New Hampshire have prepared this Final Restoration Plan and Environmental Assessment (RP/EA). This document describes the extent of injuries to natural resources as a result of contamination at the Coakley Landfill Superfund Site, and identifies alternatives for restoration of injured resources and the services these resources provide. In addition, this document constitutes the environmental assessment as defined under the National Environmental Policy Act (NEPA) (40 CFR Part 1502.10), and addresses the potential impact of proposed restoration actions on the quality of the physical, biological, and cultural environment. This RP/EA is intended to inform the public of proposed restoration actions and to notify the public of our determination that the proposed actions will not have significant impacts on the quality of the environment.

Chapter 1.0 introduces the Trustees and their responsibilities (Section 1.1), briefly describes the affected area (Section 1.2), lists the purpose and need for the RP/EA (Section 1.3), summarizes the public notification and review provisions (Section 1.4), and explains how the public can comment on the RP/EA (Section 1.5).

1.1 Trustee Responsibilities Under CERCLA and NEPA

By Executive Order 12580, former President Reagan designated federal and state trustees for natural resources. The Secretary of the Department of the Interior is a designated federal trustee for avian resources including migratory birds, some marine mammals, anadromous fish, endangered species and their respective habitats, and federal lands managed by the Department. The states were designated trustees for all natural resources within their jurisdiction. Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, natural resource trustees are authorized to assess and recover damages for injury to or loss of natural resources resulting from a release of a hazardous substance.

For the Coakley Landfill Superfund Site, the U.S. Fish and Wildlife Service/Department of the Interior and the State of New Hampshire are the natural resource Trustees. In a report to the Department of Justice dated September, 1994, the Trustees determined that hazardous substances released at the Site caused injuries to migratory birds and their habitats, and they sought damages from responsible parties to fund restoration efforts (USFWS 1994).

Prior to expending funds for restoration, CERCLA requires the trustees to develop a publicly reviewed restoration plan (42 U.S.C. Section 9611(i)). The DOI natural resource damage assessment regulations require that the plan list a reasonable number of possible alternatives for restoration, rehabilitation, replacement, and/or acquisition of equivalent resources and the related services lost to the public associated with each (43 CFR, Sections 11.93 and 11.81, DOI Natural Resource Damage Assessment Regulations).

Under NEPA, the trustees must also assess the potential environmental impacts associated with each of the proposed restoration actions. This RP/EA integrates NEPA requirements by summarizing the affected environment, describing the purpose and need for action, identifying alternative actions, assessing their applicability and environmental consequences, and summarizing opportunities for public participation in the decision process. The Trustees believe this RP/EA indicates that the proposed actions will not have significant impacts on the quality of the environment.

1.2 Affected Area

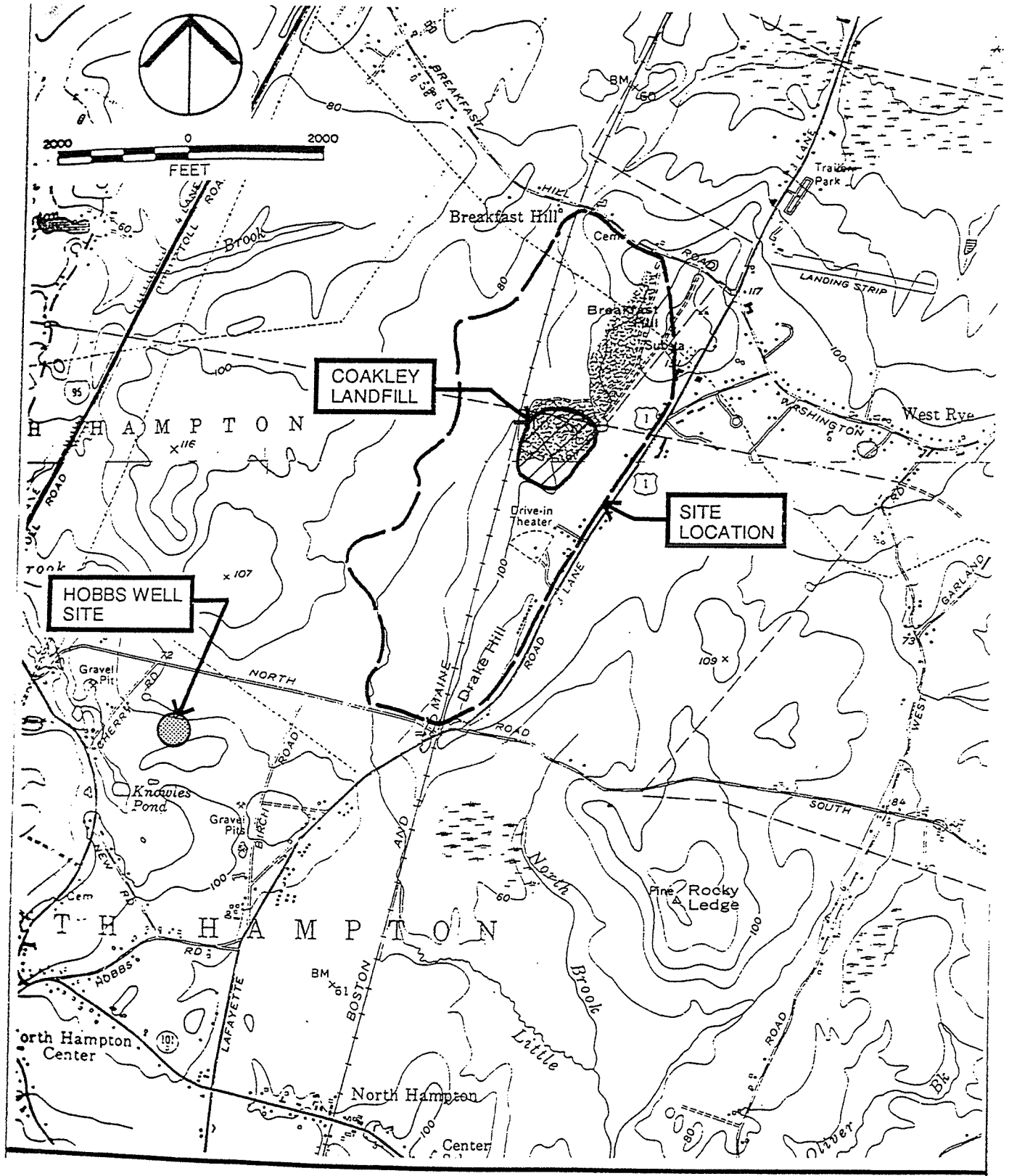
The Coakley Landfill Superfund Site is situated in southeastern New Hampshire within the towns of Greenland and North Hampton (Figure 1). From 1972 until 1985, the Site was an active landfill. The New Hampshire Waste Management Division (NHWMD) estimated that the landfill received approximately 120 tons of refuse per day prior to July 1982, and approximately 90 tons per day after July 1982 (CDM Federal 1994). Refuse deposited at the Site included municipal and industrial wastes from the Portsmouth area and residue from the Incineration-Resource Recovery Plant located at Pease Air Force Base.

The predominant classes of compounds related to waste disposal activities at the Site were volatile organic compounds and metals. Approximately one-fifth of the 183-acre wetland complex abutting the Site contained elevated levels of metals in surface waters or sediments (USFWS 1994). Surface waters contained lead, zinc and aluminum at levels above acute Ambient Water Quality Criteria, and sediments contained lead, mercury and nickel at concentrations greater than biological effect levels identified by the National Oceanic and Atmospheric Administration (Long and Morgan 1991).

Wetlands adjacent to the Site include forested, scrub shrub, emergent, open water, and riparian types. These wetland types are used by numerous migratory birds, including wading birds and dabbling ducks. The landfill and adjacent wetlands form the headwaters for four small streams: Berry's Brook, Bailey's Brook, North Brook and the Little River. All of the streams discharge into the Atlantic Ocean less than 9 kilometers downstream from the Site. Berry's Brook has established populations of alewife, blueback herring and both natural and hatchery-reared sea-run brown trout.

Impairment of wetland habitats and the services they provide, either through food web contamination, or the reduction and/or loss of their biological diversity and productivity, has occurred due to metal contamination. In turn, injury to wetland-dependant wildlife, primarily migratory birds, has occurred because of the loss of wetland habitats.

Figure 1. Coakley Landfill Superfund Site (reproduced from ERM 1994).



1.3 Purpose and Need

The underlying purpose of the proposed action is to restore, replace, and/or acquire the equivalent of natural resources injured or destroyed as a result of contamination from the Site, pursuant to applicable state and federal laws and regulations. The underlying need for the action is to ensure the recovery of resources injured as a result of contamination from the landfill.

The primary injuries resulting from contamination at the Site involve the impairment of wetlands and the resulting loss of habitat services to wetland-dependant wildlife, primarily migratory birds. In the September, 1994 report, the Trustees estimated that 70 acres of wetland habitat restoration were necessary to compensate for past and future wetland functions lost due to contamination from the landfill.

In a 1995 bankruptcy settlement with one of the responsible parties, DOI received \$90,500 of the estimated 3.5 million dollars needed to restore 70 acres of wetland. Settlement with another responsible party resulted in an additional \$131,000 for habitat restoration. It is unlikely that additional damages will be forthcoming; therefore, the Trustees are seeking to maximize wetland restoration with the \$221,500 available.

1.4 Public Notification and Review

Under both CERCLA and NEPA, the Trustees must notify the public and any federal, state, or local agencies with special interests or expertise relating to the RP/EA. To satisfy this requirement, the Trustees published notice of the availability of the draft RP/EA in the Federal Register, The Portsmouth Herald, Foster's Daily Democrat, and The Manchester Union Leader. The document was available for review at the North Hampton Public Library, and copies of the RP/EA were obtainable from the U.S. Fish and Wildlife Service.

A copy of the final RP/EA will also be available at the North Hampton Public Library:

North Hampton Public Library
235 Atlantic Avenue
North Hampton, New Hampshire 03862
(603) 964-6326
Hours: Monday-Thursday: 10:00 a.m. - 8:00 p.m., Friday: 10:00 a.m. - 5:00 p.m.

Copies of the final RP/EA may be obtained at the following address:

U.S. Fish and Wildlife Service
22 Bridge Street, Unit 1
Concord, New Hampshire 03301
Contacts: Molly Sperduto or Kenneth C. Carr
Phone: 603-225-1411, Fax: 603-225-1467

1.5 Comments on the Restoration Plan/Environmental Assessment

The Trustees received eleven comments during the 30 day public review and comment period which began on April 30, 1997. A summary of comments and the Trustees' responses to those comments is found in Section 8.0.

2.0 Proposed Restoration Actions and Alternatives

In developing the RP/EA, the Trustees are required to consider a reasonable number of possible restoration alternatives (43 CFR, Section 11.81, DOI Natural Resource Damage Assessment Regulations). Chapter 2.0 explains the criteria for identifying alternatives (Section 2.1), describes Alternative A—No Action (Section 2.2) and Alternatives B through E—Other Action Alternatives (Sections 2.3 through 2.6). The proposed restoration action is identified in Section 2.7.

2.1 Criteria for Identifying the Proposed Restoration Actions and Alternatives

The Trustees' objective is to compensate for impacts to wetlands which provide habitat for migratory birds. The Trustees will ensure that restoration funds are used to provide the maximum benefit for Trust resources (maximum benefit is stipulated since the damage settlement was insufficient to provide complete restoration) and ensure that the project provides benefits to Trust resources in perpetuity.

2.2 Alternative A: No Action

Under Alternative A, no action would be taken to restore resources injured due to contamination from the Site.

Specific Projects

No projects would be conducted under this alternative.

2.3 Alternative B: On-Site Wetland Restoration

On-site wetland restoration projects include capping or removing existing wetland contamination, converting upland areas to wetland, and enhancing existing wetland values by eradicating *Phragmites australis* (common reed).

Specific Projects

Sediment Capping:

Surface water and sediments in approximately 41 acres of wetlands adjacent to the landfill were contaminated with metals above biological effect levels (USFWS 1994). Contaminated sediments could be capped with clean fill material.

Sediment Removal:

Damaged wetlands could also be restored by removing contaminated sediments. Excavated sediments could be remediated by various treatment techniques or deposited in an appropriate landfill. Sediment removal is an expensive alternative; removal and disposal of contaminated sediments from a similar wetland in Vermont was estimated to cost approximately \$128,000/acre (ERM 1994).

Wetland Creation:

On-Site uplands could be converted to wetlands. Roads, staging zones, cleared land, and buffers between wetlands and the landfill could potentially be available for wetland creation. Typical costs for creating freshwater wetlands vary between \$25,300/acre and \$77,900/acre, depending on the type of wetland being constructed (King and Bohlen 1994). At a maximum, nine acres of wetland could be created with the available funds.

Eradication of *Phragmites australis* (common reed):

Partial restoration of lost natural resource values could be accomplished by eradication of *P.australis*. *P. australis* has formed large, dense, monotypic stands which may have degraded habitat for some migratory birds. Potential measures to control *P. australis* include manipulating salinity and water levels, burning, applying chemicals, cutting, mowing, and mulching (Marks et al. 1994).

2.4 Alternative C: On-Site Upland Habitat Restoration

Potential on-site upland habitat restoration projects include enhancing disturbed upland areas with plantings or capping contaminated wetland habitats and converting them to upland areas.

Specific Projects

No specific projects have been identified for this alternative.

2.5 Alternative D: Off-Site Wetland Restoration

Alternative D is the proposed restoration action. Numerous federal, state, and local governments, as well as private conservation groups were contacted for potential wetland restoration projects. A variety of off-site opportunities exist, including both forested freshwater wetland and salt marsh restoration projects.

Specific Projects

Atlantic White Cedar Swamp Restoration:

In a report submitted to the EPA (Sperduto and Ritter 1994), the New Hampshire Natural Heritage Program identified a degraded Atlantic White Cedar Swamp of

approximately six acres on the Portsmouth/Rye municipal boundary. Atlantic White Cedar swamps are relatively uncommon natural communities in New Hampshire. This swamp is located on Berry's Brook, approximately one mile downstream from the landfill. The swamp has been degraded by a sewer line which has altered the hydrology of the site. The soils north of the line are exceedingly dry, while to the south of the sewer line they are moist to permanently inundated. Restoration of the hydrology at this site to conditions similar to those prior to construction of the sewer line would improve the potential for long term viability of the Atlantic White Cedar community.

Coastal Salt Marsh Restoration:

Within three miles of Coakley Landfill, the Natural Resource Conservation Service has identified a number of degraded salt marshes in need of restoration (USDA 1994). These salt marshes are characterized by lower salinities and increased colonization of non-native and invasive plants, such as *Phragmites australis*, *Lythrum salicaria* (purple loosestrife), and *Typha angustifolia* (narrow-leaved cattail). Undersized culverts and other tidal restrictions have prevented adequate salt water flow to the identified marshes. Productivity of the marshes has declined (A. Ammann, NRCS, pers. comm. 1995) and the quality of the habitat for migratory birds has decreased.

NRCS has identified a number of specific salt marshes in North Hampton and Rye where restoration could be achieved by increasing tidal flow (Figure 2). Projects include replacing existing culverts with larger culverts, removing gates restrictive to tidal flow, dredging tidal outlets and other specific tasks. Three of the largest projects in close proximity to the landfill are described below.

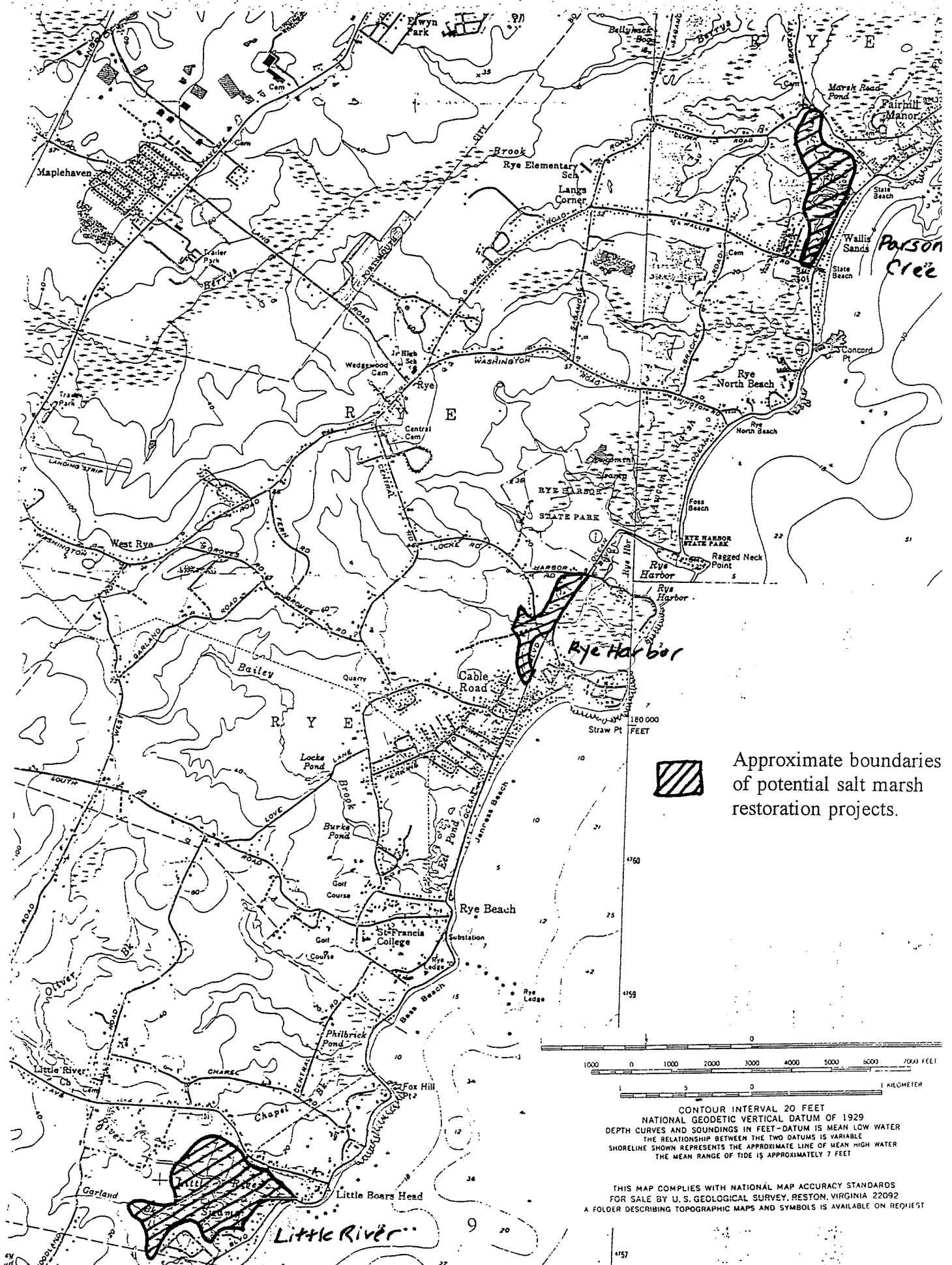
Little River, North Hampton, New Hampshire

At the outflow of the Little River, which drains from the Site, a restriction under U.S. Highway 1A prevents adequate tidal exchange to 147 acres of salt marsh. Extensive road construction activities are required to achieve adequate tidal flow to the marsh. The estimated cost of restoration is \$1,000,000.

Parson's Creek, Rye, New Hampshire

Parson's Creek is a 151-acre salt marsh complex. Due to inadequate culverts, salinity in the marsh has declined and invasive plant species, including *Rhus radicans* (poison ivy), *P. australis*, and *T. angustifolia* have begun to colonize the marsh. There is also evidence that the peat is deteriorating and the productivity of the marsh has declined (A. Ammann, pers. comm. 1995). NRCS has estimated the cost to restore 68 acres of the marsh to be \$76,000.

Figure 2. Potential Salt Marsh Restoration Projects (Approximated from USDA 1994, Plates 1 and 2).



Rye Harbor, Rye, New Hampshire

The Rye Harbor salt marsh comprises approximately 37 acres. Culvert improvements at four road restrictions have been estimated to cost \$69,200. Funds from the U.S. Fish and Wildlife Service's Partners for Wildlife Program and the N.H. State Coastal Program supported restoration activities at two of the four culverts. However, funding has not yet been secured to remove the restriction closest to the ocean. Approximately \$45,300 is needed to replace the existing culverts with larger culverts and ensure that tidal flow is restored to the entire marsh.

Other Wetland Restoration Opportunities:

The New Hampshire Wetlands Board has received funds to restore a one-half-acre forested wetland in Hampton, New Hampshire as a result of a project specific mitigation. Funds from the Coakley settlement could be used to expand the scope of this project.

2.6 Alternative E: Acquisition of Equivalent Resources

Acquisition of equivalent resources entails the purchase and protection in perpetuity of wetland or upland habitats. Potential protection areas include those lands which provide habitat for federal- and state-listed species, migratory birds or other important natural resources.

Specific Projects

No specific projects have been identified for this alternative.

2.7 Preferred Alternative

Alternative D, off-site wetland restoration (Section 2.5), is the Trustees' preferred alternative. This alternative maximizes the amount of wetland restoration in the vicinity of the Site and best compensates for services lost to the environment and to the public.

3.0 Environmental Consequences of Restoration Actions and Alternatives

Both CERCLA and NEPA require the trustees to assess and disclose the potential effects of restoration alternatives. Chapter 3.0 discusses the potential benefits and consequences of each alternative.

For any restoration projects considered, the potential for project activities to affect cultural resources, such as prehistoric and historic resources, Native American human remains, and cultural objects, will be determined early in project planning. To this end, the procedures in 36 CFR 800 implementing Section 106 of the National Historic Preservation Act, requirements of the Native American Graves Protection and Repatriation Act, and policies

and standards specified in the Fish and Wildlife Service Manual 614 FW 1-5 will be followed.

3.1 Effects of Alternative A: No Action

Under the no action alternative, injuries to migratory birds and their habitats would be uncompensated. Given sufficient time, natural processes should enable natural resources and associated services to recover to pre-injury levels. However, the increment of resources and associated services lost to the public in the past and during the recovery period would not be compensated. Further, no benefits would be realized from the settlement with Coakley Landfill Inc. et al. and the obligations of the Consent Decree would not be met.

3.2 Effects of Alternative B: On-Site Wetland Restoration

On-site wetland restoration alternatives would provide minimal compensation for wetland services lost as a result of contamination at the Site. On-site opportunities are costly and impractical or undesirable for the following reasons.

Sediment Capping

Sediment capping (one to two feet of fill may be required) would alter the bottom contours of the wetland, causing changes in wetland hydrology and associated plant communities. Furthermore, disturbance associated with capping the wetlands could physically damage the scrub/shrub and forested wetlands. Considerable time and effort would be required to replant capped areas. Short term irretrievable losses of wetland habitat would occur while remedial activities were being conducted. Long term impacts may also result from the changes in hydrology that arise from partially filling the wetland.

Sediment Removal

Sediment removal, or dredging wetland areas affected by contamination, would likely result in increased injury to wetlands due to physical habitat disturbance. Numerous trees and shrubs would need to be removed. Once sediment removal was completed, replanting would also be necessary. As a result, losses in habitat value would occur until the dredged areas recovered from remedial activities. Dredging activities associated with sediment removal would also resuspend contaminants and possibly increase contaminant loads in currently less contaminated, downstream portions of the wetland. Finally, lowering contaminant levels in the areas which exceeded water quality and sediment biological effect levels would require significantly more funds than are currently available. At an estimated cost of \$128,000/acre (ERM 1994), remediation of the contaminated wetlands would cost over \$5,000,000.

Wetland Creation

Conversion of uplands to wetlands is not feasible or practical at the Site. Roads and staging zones are unavailable for creation opportunities due to the need to maintain their current functions. Upland buffer areas that might be used for wetland creation are also currently

serving important functions. They filter contaminants, reduce contaminant migration to adjacent wetland habitats, and provide wildlife habitat. Conversion of uplands to wetlands would result in irreversible losses of habitat services associated with those uplands.

Eradication of *Phragmites australis* (common reed)

Wetland restoration through eradication of *P. australis* from the Site is impractical and uncertain. The large extent and dispersed nature of *P. australis* increases the difficulty of eradicating the species or controlling its abundance in the wetlands. Cutting, mowing and mulching are extremely labor intensive and are not generally used to eradicate *P. australis* over large areas. Cutting, mowing and burning tend to affect only the above-ground portion of the plant. For large stands of *P. australis*, water manipulation and herbicides have proven to be among the most effective control techniques. However, manipulating water levels to flood *P. australis* stands would be difficult or impossible because remedial activities at the landfill are expected to lower the ground water in areas presently vegetated with *P. australis*. Aerial chemical applications could be conducted in some areas of the Site. However, repeated applications are often required to eradicate *P. australis* (Marks et al. 1994). Furthermore, chemical applications are not species specific, and may kill grasses and broadleaved plants in the vicinity of *P. australis*.

3.3 Effects of Alternative C: On-Site Upland Habitat Restoration

On-site upland habitat restoration would not compensate for wetland services lost as a result of contamination from the Site. Enhancement of uplands adjacent to wetlands could improve the overall habitat value of the uplands and wetlands, although significant acreage of adjacent uplands is lacking on the Site. Creation of uplands by capping contaminated wetlands will not restore wetland values lost at the Site. Filling wetlands is contrary to the goals of applicable state (New Hampshire Wetlands Statute RSA 482-A) and federal (Section 404, Clean Water Act 1972, as amended 1977) wetland protection statutes. Conversion of wetland to upland would result in irreversible losses of wetland habitats.

3.4 Effects of Alternative D: Off-Site Wetland Restoration

Off-site restoration of wetlands, freshwater or saline, would compensate for many of the wetland services lost as a result of contamination from the Site. Atlantic White Cedar Swamps, in particular, are infrequent in New Hampshire and are considered a natural community of concern by the New Hampshire Natural Heritage Program. Restoration of this habitat type would contribute to conserving the biological diversity of the seacoast area and enhance habitat for migratory birds. However, the technical feasibility of restoring the hydrology at the Cedar Swamp is uncertain and the cost is unknown.

The Trustees believe that salt marsh restoration would best compensate for the lost habitat values associated with wetlands adversely affected by the landfill. Most of the migratory bird species affected by degraded wetlands adjacent to the Site would benefit from increased productivity of nearby salt marshes.

The salt marsh restoration projects being considered are cost-effective and would enhance extensive wetland systems. For example, the Parson's Creek marsh project would restore 68 acres of salt marsh for approximately \$1100/acre. In contrast, on-site wetland restoration alternatives would cost between \$25,000/acre and \$128,000/acre. Other off-site wetland restoration projects would cost upwards of \$25,000/acre.

Salt marsh restoration would be consistent with ongoing federal, state, municipal and private restoration activities in the area. Numerous cooperating agencies, including the U.S. Fish and Wildlife Service, Natural Resource Conservation Service, Environmental Protection Agency, Army Corps of Engineers, National Oceanic and Atmospheric Administration, N.H. Office of State Planning, N.H. Fish and Game Department, N.H. Department of Environmental Services, University of N.H. Jackson Estuarine Laboratory, and University of N.H. Cooperative Extension Marine Docent Program are currently participating in salt marsh restoration activities in the New Hampshire seacoast area. Town Conservation Commissions and Town Road Agents are also actively involved in several salt marsh restoration projects.

The proposed salt marsh restoration projects will not adversely affect endangered species or sensitive areas, such as prime agricultural land or historic resources. The state-listed *Iris prismatica* grows in several marshes proposed for restoration; however, increased tidal flow is not expected to negatively impact this species. Salt marsh restoration is consistent with the goals of the New Hampshire Wetlands Statute (RSA 482-A) and the Clean Water Act (Section 404).

The proposed salt marsh restoration could result in increased frequency and extent of salt water inundation and may affect landowners adjacent to the marsh. A full analysis of the potential impacts of tidal inundation will be undertaken before restoration activities are begun.

3.5 Effects of Alternative E: Acquisition of Equivalent Resources

Acquisition of equivalent resources is usually the least-preferred alternative because it results in preservation of existing resource values rather than replacement of lost resource values.

4.0 Proposed Action

The Trustees propose to conduct off-site wetland restoration (Alternative D) to compensate for habitat services lost to the environment and to the public as a result of contamination from the Coakley Landfill. Specifically, the Trustees propose to restore degraded salt marshes within the vicinity of the Landfill. Three priority projects to maximize habitat restoration have been identified: the Little River salt marsh in North Hampton and Hampton, the Parson's Creek salt marsh in Rye, and the Brown's River salt marsh in Seabrook and Hampton Falls (Section 8.2). Other salt marsh restoration projects, including protection of adjacent upland buffers, will be considered if funds are available once the three primary projects are completed, or if any of the primary projects is determined to be infeasible.

Our preference for the Little River salt marsh restoration alternative is based, in large part, on the public support for the alternative (Section 8.1), on the abundance of information documenting degradation of the Little River marsh, on the hydrologic connection between the landfill and the Little River, and on the fact that the majority of the marsh is located in the same town as the landfill. Prior to restoring the marsh, a full analysis of restoration options will be conducted. If a feasible restoration option is identified, State and Federal permits will likely be required and public comments will be solicited through the permit processes. Should a feasible restoration method be developed for this project, the majority of restoration funds will be spent on the Little River salt marsh.

In addition to the Little River salt marsh restoration, we consider restoration of the Parson's Creek salt marsh a high priority. Parson's Creek is preferred due to public support for the alternative, information documenting degradation of the marsh, and the cost-effectiveness of the project. In cooperation with other partners, necessary wetland permits have already been obtained, and restoration is scheduled for fall, 1997. Restoration activities include replacing two 6' x 12' concrete boxes and one 5' diameter culvert, and ditching between existing stream channels and the new culverts. These actions will increase tidal flow to the marsh and restore the former hydrology of the marsh. Initiating restoration quickly will begin to offset impacts that have occurred at the Landfill.

Finally, we support the restoration of Brown's River (Section 8.2) salt marsh. This project was chosen because it is cost-effective, and because it has the potential to be implemented quickly. Marsh habitat will be restored by replacing an undersized culvert with a larger culvert and re-establishing tidal flow to the marsh.

5.0 Monitoring Plan

Baseline conditions for restoration sites should be established before restoration activities are initiated, and monitoring of post restoration conditions should occur for at least ten years after completion. At a minimum, measurements should include data on water table depth and salinity, percent cover of plant species and the extent of tidal flooding on spring

and neap tides (USDA 1994). Data should be collected from the restoration area and a suitable reference site. Examples of salt marsh monitoring methods and sampling designs are available from NRCS (USDA 1994).

6.0 List of Preparers

The RP/EA was prepared by the U.S. Fish and Wildlife Service, New England Field Office and the State of New Hampshire, Department of Fish and Game. U.S. Fish and Wildlife Service Environmental Contaminants Biologists Molly Sperduto and Kenneth Carr were the primary authors. Document review and ideas for restoration alternatives were provided by numerous interested persons.

7.0 List of Agencies, Organizations, and Parties Consulted for Information

Ralph Abele, Environmental Coordinator, FWS/EPA Liaison
Alan Ammann, USDA, Natural Resource Conservation Service
Mark Barash, Office of the Solicitor, Department of the Interior
Steve Bird, Rockingham County Regional Planning Commission
Alison Brackett, Greenland Conservation Commission
Nelson Burge, North Hampton Conservation Commission
John Catena, NOAA
Charlie Chandler, U.S. Fish and Wildlife Service
Richard Cook, Audubon Society of New Hampshire
Robert Dunkle, North Hampton Conservation Commission
Roger Duwart, U.S. Environmental Protection Agency
Tim Fannin, U.S. Fish and Wildlife Service
Stewart Fefer, U.S. Fish and Wildlife Service
Marcia Gittes, Office of the Solicitor, Department of the Interior
Talcott Hubbard, N.H. Department of Environmental Services
William Ingham, N.H. Fish and Game
Patrick McCarthy, Nature Conservancy
Chris Nash, N.H. Office of State Planning Coastal Program
James Raynes, Rye Conservation Commission
Laurie Richardson, U.S. Fish and Wildlife Service
Bob Scheirer, U.S. Fish and Wildlife Service
Louise Tallman, Rye Conservation Commission
Patti Tyler, U.S. Environmental Protection Agency
Sharon Vaughn, U.S. Fish and Wildlife Service
Dori Wiggin, N.H. Wetlands Board

8.0 Responses to Comments

The Trustees received eleven comments during the 30 day public review and comment period of the draft RP/EA which began on April 30, 1997. Comments included support for and opposition to the specific restoration projects, as well as suggestions of additional restoration projects.

8.1 Comments Regarding Specific Restoration Projects

Little River Salt Marsh Restoration

Comment:

Six comment letters were received in support of the restoration of the Little River salt marsh in North Hampton and Hampton, New Hampshire. One comment letter included 246 signatures from citizens in the Town of North Hampton who endorse the restoration of the marsh. Support for restoration was also received from the Conservation Commission, Planning Board, and Selectmen in the Town of North Hampton. The Little Boar's Head District (a village within the Town of North Hampton), The New Hampshire Office of State Planning, and a representative from the conservation organization, Wildlife Preserves, Inc., also supported the Little River restoration.

Commentors cited the degradation of the productivity and habitat quality of the marsh and the need for restoration. The Little River salt marsh has been the subject of at least six scientific studies, many of which emphasize the increasing abundance of invasive exotic plants, including *Phragmites australis* and *Lythrum salicaria*. Local citizens have actively participated in programs to improve the marsh habitat, including the recent establishment of over 100 nesting boxes for tree swallows. In addition, some 60 acres of the marsh and 24 acres of adjacent property have been permanently protected by either private conservation organizations or the Town.

Commentors expressed their support of the restoration of the Little River salt marsh over other salt marsh restoration projects, due to its hydrologic association with the Coakley Landfill. The Landfill is within the headwaters of the Little River (where low levels of landfill-related contamination have been detected). Furthermore, the Little River salt marsh is located within the same town as the Landfill.

Response:

The Trustees appreciate the support the public and other government agencies have shown for this project. Our preference for the Little River marsh restoration alternative is based, in large part, on the public support for the alternative, on the abundance of information documenting degradation of the Little River marsh, and on the hydrologic and geographic connections among the Town of North Hampton, the landfill and the Little River.

Comment:

One comment was received in opposition to restoration of the Little River salt marsh. The commentor is concerned that the project will create a permanently open channel to the ocean in the area of the Little River at the North Hampton/Hampton town line. The commentor believes that properties abutting this location would be "substantially compromised" by such an action.

Response:

The Trustees have not identified the specific means to restore the Little River salt marsh. A feasibility study will be required to evaluate restoration alternatives for the marsh and to determine potential impacts to adjacent land owners. Based on the results of the feasibility study, the Trustees, in consultation with local governments and citizens, and other State and Federal agencies, will determine the best approach for restoring the salt marsh and minimizing impacts to land owners. As noted in Section 4.0, additional public input will be sought prior to implementation of any restoration of the marsh.

Parson's Creek and Rye Harbor Salt Marsh Restoration

Comment:

One letter was received from the Rye Conservation Commission in support of our proposed restoration of the Parson's Creek and Rye Harbor salt marshes. The Commission endorses salt marsh restoration within the Town. To date, the Town has initiated restoration of approximately 230 acres of salt marsh.

Response:

The Trustees appreciate the support the Town of Rye has shown for these projects. We anticipate contributing to the funding of the Parson's Creek project in cooperation with other federal, state, and town partners. This project is highly cost-effective and will enhance 151 acres of degraded salt marsh habitat.

The Rye Harbor Marsh project would enhance 37 acres of salt marsh habitat at a cost of approximately \$45,000. This project would improve marsh habitat in Rye considerably; however, it has not been chosen as one of the Trustees' priority projects because it is less cost-effective than the selected projects. Should restoration funds remain once the other alternatives are conducted, this project will be considered for funding.

8.2 Comments Regarding Alternative Projects

Alternative Off-Site Wetland Restoration Projects

Comment:

The USDA Natural Resources Conservation Service supported our selection of off-site wetland restoration projects as the preferred alternative. In addition to the three proposed salt marsh restoration alternatives, NRCS proposed three additional alternatives:

"Brown's River: Located on the boundary between Hampton Falls and Seabrook, the flow in this tidal river is restricted by an inadequate culvert through the abandoned Boston and Maine Railroad Embankment. Installing an adequate culvert would cost an estimated \$20,000 and would restore approximately 41 acres of salt marsh.

Landing Road: Located in Hampton, approximately 11 acres of salt marsh has restricted tidal flow because of an abandoned section of Landing Road. Removal of this portion of road using an excavator would cost an estimated \$5,000.

Abandoned Boston and Maine Railroad Grade: Portions of this RR grade which cross the large Hampton Seabrook salt marsh have washed out during storms resulting in the deposition of gravel in the marsh. The area covered by gravel is at least several acres in size and growing as the embankment continues to erode. The problem is likely to be even worse in the future as the embankment will no longer be maintained. One alternative would be to remove as much gravel as possible from the marsh and stabilize the embankment with vegetation and riprap where necessary. Engineering cost estimates for this project have not been made."

Response:

The Trustees appreciate the Natural Resource Conservation Service's support of the preferred alternative. We acknowledge the additional restoration options provided in their comments. Each of these projects will improve the quality of salt marsh habitat on the New Hampshire seacoast; however, the Brown's River project will improve the greatest amount of habitat and is particularly cost-effective. Therefore, the Trustees intend to fund this salt marsh restoration.

Comment:

One comment was received in support of a salt marsh restoration technique called open marsh water management. This technique was started in the 1960's to restore fish and wildlife habitat, control invasive plants, increase biodiversity, and control mosquitos by larvivorous minnows. Activities such as plugging old drainage ditches, excavating shallow pannes for aquatic life, and increasing salinity to control invasive upland plants are utilized. Several towns in the New Hampshire seacoast, including Greenland and Hampton, have recently appropriated money for open marsh water management.

Response:

The Trustees agree that open marsh water management is a useful salt marsh restoration technique, and we will consider its use to enhance habitat at the salt marshes we restore.

Comment:

The State of New Hampshire Fish and Game Department supported salt marsh restoration as the preferred alternative. However, the Department recommended that money in excess of that spent on the Parson's Creek project be used to purchase undeveloped uplands that are immediately adjacent to the Parson's Creek salt marsh or other salt marshes in the area. Protection of adjacent, undeveloped uplands provides buffers for wildlife that utilize tidal wetlands and reduces development pressures adjacent to those wetlands.

Response:

The Trustees agree that protection of upland buffers could benefit wildlife and limit encroaching development and future degradation of salt marsh. If funds are available once the three primary projects are completed, or if any of the primary projects is determined to be infeasible, the Trustees will consider protecting upland buffers to maintain the long-term integrity of salt marshes proposed for restoration.

LITERATURE CITED

- CDM Federal. 1994. Coakley Landfill. Management of Migration Remedial Investigation and Feasibility Study Report. Volumes 1-3. Prepared for USEPA, Region 1.
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- King, D. and C. Bohlen. 1994. Estimating the costs of restoration. *National Wetlands Newsletter*. May/June, 1994:3-8.
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- Marks, M., B. Lapin, and J. Randall. 1994. *Phragmites australis* (*P. communis*): Threats, Management, and Monitoring. *Natural Areas Journal* 14:285-294.
- Sperduto, D. D. and N. Ritter. 1994. Atlantic White Cedar Wetlands of New Hampshire. Report submitted by the New Hampshire Natural Heritage Program to the EPA, Wetlands Protection Section, Region 1, Boston, Massachusetts.
- USDA. 1994. Evaluation of Restorable Salt Marshes in New Hampshire. Prepared by USDA Soil Conservation Service. October 1994. pp. 32.
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UNITED STATES FISH & WILDLIFE SERVICE


ENVIRONMENTAL ACTION STATEMENT

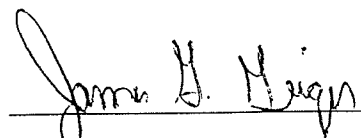
Within the spirit and intent of the Council of Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and have determined that the action of the Final Restoration Plan and Environmental Assessment for the Coakley Landfill Superfund Site, Rockingham County, New Hampshire:


- ☐ is a categorical exclusion as provided by 516 DM 6 Appendix 1 and 516 DM 6, Appendix 1. No further documentation will therefore be made.
- ☒ is found not to have significant environmental effects as determined by the attached Environmental Assessment and Finding of No Significant Impact.
- ☐ is found to have significant effects, and therefore further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.
- ☐ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.
- ☐ is an emergency action within the context of 40 CFR 1506.11. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Other supporting documents (list):

- ☒ Restoration Plan and Environmental Assessment
- ☒ FONSI
- ☐ Public comments


Michael J. Bartlett, Date 8/11/97
Field Supervisor


James H. Maign Date 8/21/97
Regional Director **ACTING**


Paul W. Ahle 8/21/97
Regional Environmental Coordinator

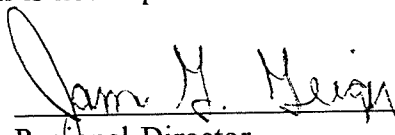
FINDING OF NO SIGNIFICANT IMPACT

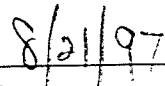
FINAL RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT: COAKLEY LANDFILL SUPERFUND SITE

The U.S. Department of the Interior and the State of New Hampshire have completed a Final Restoration Plan and Environmental Assessment (RP/EA, cited below) that will restore, replace, and/or acquire the equivalent of the natural resources injured, destroyed or lost as a result of contamination from the Coakley Landfill Superfund Site in North Hampton and Greenland, New Hampshire. Plan activities include restoration of salt marsh habitats for fish and wildlife resources in tidal marshes in Rockingham County, New Hampshire.

The public was notified of the availability of the draft RP/EA for review and comment on April 30, 1997, by publication in the Federal Register, the Manchester Union Leader, Foster's Daily Democrat, and The Portsmouth Herald. After a public comment period of 30 days, 11 comments were received. Seven comment letters, one of which included 246 signatures, supported the proposed salt marsh restoration projects. Three comments suggested additional restoration alternatives, and one comment expressed concern regarding one of the salt marsh restoration projects. These comments, and any corrections or additions have been addressed in the Final RP/EA.

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 of 1969. Accordingly, the preparation of an environmental impact statement on the proposed action is not required.


Regional Director **ACTING**


Date

Supporting Reference:

Final Restoration Plan and Environmental Assessment: Coakley Landfill Superfund Site