

## **4.0 RESTORATION ALTERNATIVES**

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### **4.1 Restoration Strategy**

The goal of restoration under OPA is to compensate the public for injuries to natural resources and services from an oil spill. OPA requires that this goal be achieved by returning injured natural resources to their baseline condition, and, if possible, by compensating for any interim losses of natural resources and services during the period of recovery to baseline.

Restoration actions under the OPA regulations are either primary or compensatory. Primary restoration is action(s) taken to return injured natural resources and services to baseline on an accelerated time frame. The OPA regulations require that Trustees consider natural recovery under primary restoration. Trustees may select natural recovery under three conditions: (1) if feasible, (2) if cost-effective primary restoration is not available, or (3) if injured resources will recover quickly to baseline without human intervention. Alternative primary restoration activities can range from natural recovery to actions that prevent interference with natural recovery to more intensive actions expected to return injured natural resources and services to baseline faster or with greater certainty than natural recovery.

Compensatory restoration is action(s) taken to compensate for the interim losses of natural resources and/or services pending recovery. The type and scale of compensatory restoration may depend on the nature of the primary restoration action and the level and rate of recovery of the injured natural resources and/or services given the primary restoration action. When identifying the compensatory restoration components of the restoration alternatives, Trustees must first consider compensatory restoration actions that provide services of the same type and quality, and of comparable value to those lost. If compensatory actions of the same type and quality, and of comparable value cannot provide a reasonable range of alternatives, Trustees then consider other compensatory restoration actions that will provide services of at least comparable type and quality as those lost.

In considering restoration for injuries resulting from the Incident, the Trustees first evaluated possible restoration for each injury. Based on that analysis, the Trustees determined that no primary restoration, other than normal recovery for ecological injuries, was appropriate. Thus, with the exception of the natural recovery alternative, only compensatory restoration projects are presented below.

Compensatory restoration alternatives must be scaled to ensure that the size or quantity of the proposed project reflects the magnitude of the injuries from the spill. The Trustees relied on the OPA regulations to select the scaling approach for compensatory restoration actions.

Several of the restoration alternatives included in this section are based on conceptual designs rather than detailed engineering design work or operational plans. Therefore, details of specific projects may require additional refinements or adjustments

to reflect site conditions or other factors. Restoration project designs also may change to reflect public comments and further Trustee analysis. The Trustees assume that implementation of restoration will begin in 2003-2004

## **4.2 Evaluation Criteria**

The OPA regulations (15 CFR 990.54) require that Trustees develop a reasonable range of primary and compensatory restoration alternatives and then identify the preferred alternatives based on the six criteria listed in the regulations. In evaluating the possible restoration alternatives, the Trustees have considered, among other things, the following:

- The extent to which each alternative is expected to meet the Trustees' goals and objectives of returning the injured natural resources and services to baseline and/or compensating for interim losses;
- The likelihood of success of each alternative;
- The extent to which each alternative will prevent future injury as a result of the incident, and avoid collateral injury as a result of implementing the alternative;
- The extent to which each alternative benefits more than one natural resource and/or service;
- The effect of each alternative on public health and safety; and
- The cost to carry out the alternative

Information supporting the Trustees' selections of restoration alternatives is provided throughout the remainder of this chapter.

NEPA applies to restoration actions taken by federal Trustees. To reduce transaction costs and avoid delays in restoration, the OPA regulations encourage the Trustees to conduct the NEPA process concurrently with the development of the draft restoration plan.

To comply with the requirements of NEPA, the Trustees analyzed the effects of each preferred alternative on the quality of the human environment. NEPA's implementing regulations direct federal agencies to evaluate the potential significance of proposed actions by considering both context and intensity. For most of the actions proposed in this Draft RP/EA, the appropriate context for considering potential significance of the actions is local, as opposed to national or worldwide.

With respect to evaluating the intensity of the impacts of the proposed action, the NEPA regulations (40 CFR 1508.27) suggest consideration of ten factors:

1. Likely impacts of the proposed projects;

2. Likely effects of the projects on public health and safety;
3. Unique characteristics of the geographic area in which the projects are to be implemented;
4. Controversial aspects of the project or its likely effects on the human environment;
5. Degree to which possible effects of implementing the project are highly uncertain or involve unknown risks;
6. Precedential effect of the project on future actions that may significantly affect the human environment;
7. Possible significance of cumulative impacts from implementing this and other similar projects;
8. Effects of the proposed project on National Historic Places, or likely impacts to significant cultural, scientific or historic resources;
9. Degree to which the project may adversely affect endangered or threatened species or their critical habitat; and
10. Likely violations of environmental protection laws.

Using the above criteria, the Trustees evaluated a range of compensatory restoration alternatives which would compensate the public for losses caused by the T/V Posavina oil spill. Meetings and site visits were undertaken between the Trustees and individuals from the City of Boston, U.S. Environmental Protection Agency, the Massachusetts Wetlands Restoration Program and the Chelsea Creek Action Group, a local environmental organization. Potential restoration projects included wetland restoration, bank stabilization, fill removal and enhancement, and debris removal. In the following sections the preferred and non-preferred restoration alternatives for the affected natural resources and natural resource services are presented and discussed.

#### **4.3 Evaluation of Restoration Alternative 1: No-Action/Natural Recovery**

NEPA requires the Trustees to evaluate the “no-action” alternative. Here, the “no-action” alternative would mean that the Trustees would take no direct action to restore injured natural resources or to compensate for lost services pending natural recovery. Instead, the Trustees would rely solely on natural recovery for the achievement of restoration goals. While the Trustees believe that natural recovery will occur over varying time scales for the resources exposed to and/or injured by the *T/V Posavina* oil spill, the interim losses suffered would not be compensated under a “no-action” alternative.

The principal advantages of this approach are the ease of implementation and no costs because natural processes rather than humans determine the trajectory of the system. This approach, more so than any of the others, recognizes the tremendous

capacity of estuaries, bays, basins and entire watersheds for self-healing and does not in any way alter existing habitats.

However, OPA clearly establishes Trustee responsibility to seek compensation for interim losses pending recovery of the natural resources. This responsibility cannot be addressed through a no action alternative. The Trustees have determined that natural recovery is appropriate as primary restoration but the no action alternative is rejected for compensatory restoration. Losses were, and continue to be, suffered during the period of recovery from this spill and technically feasible and cost-effective alternatives exist to compensate for these losses.

#### **4.4 Evaluation of Restoration Alternative 2 (preferred)**

##### **4.4.1 Mill Creek Salt Marsh Restoration**

###### **Project Description**

The Chelsea Open Space and Recreation Committee (COSRC) is leading a community-based salt marsh restoration project on Mill Creek, in Chelsea, Massachusetts, in proximity to the spill area. The project sponsors include the NOAA-NMFS Restoration Center's Community-based Restoration Program, the Natural Resource Conservation Service, the Massachusetts Wetlands Restoration Program, the Massachusetts Corporate Wetland Restoration Partnership, and as proposed in this RP/EA, the co-Trustees for the *T/V Posavina* oil spill.

The project is an approximately one and a half acre marsh at the far end of the Chelsea River/ Mill Creek (Figure 2). The project site is surrounded by high density low-income housing, highway exit ramps and a shopping mall and associated multi-acre parking lot. The site has been heavily impacted from stormwater sedimentation and historic fill. Photography over the past decade by the U.S. Environmental Protection Agency documents an almost complete conversion from typical salt marsh vegetation (e.g., *Spartina sp.*) to a monoculture of an invasive marsh plant species (*Phragmites australis*). The basic project design includes a first phase where the Massachusetts Highway Department will undertake appropriate maintenance to clean stormwater sediments in the marsh creeks.

The second phase, sponsored by COSRC that will be partially paid for with the settlement funds, entails the implementation of a restoration design on about one acre of the marsh that will restore appropriate marsh elevations, tide creeks and marsh surface pools (Figure 3). The preliminary design work would result in minor regrading (6-18 inches) of marsh surface to directly remove the invasive phragmites and lower the marsh grade to an elevation that would support natural colonization of native marsh vegetation and animals. The restored marsh would also include a series of small marsh creeks and high marsh salt pans that provide important fish and bird habitat.

**Figure 2**  
**Locus Map of Mill Creek and Belle Isle Restoration Sites**





The Trustees believe that their proposed participation in and funding of this project will have substantive beneficial effects to restoring the natural resources that were injured as a result of the oil spill and monitoring the success of this project.

### **Restoration Objectives**

This project is intended to provide compensatory restoration for the marine resources that were exposed to and/or injured by the *T/V Posavina* oil spill by increasing the aquatic functions and values of this one acre marsh. The marsh grade is currently elevated due to historic fill and stormwater sediments and provides minimal habitat for marine organisms because the marsh is seldom inundated with tide water. This proposed project seeks to lower the marsh elevations to enable natural resources to more functionally use this marsh.

### **Probability of Success and Monitoring**

Restoring a marsh using the technologies and design contemplated here is an established process. The Trustees believe therefore that this project will achieve a high likelihood of success. Some of the settlement funds (\$5,000.00) will be used to monitor this project for a two-year period to ensure there is, for example, beneficial vegetation propagation and invasive species control, appropriate hydrology, and an evaluation of other monitoring markers that will be established for this site. A monitoring plan will be prepared and available through the sponsors and the Administrative Record for this settlement.

### **Environmental and Socio-Economic Impacts**

No long-term adverse environmental or socio-economic impacts are expected from this project. It is expected that the restored marsh will provide habitat for wading and shore birds which will in turn provide beneficial wildlife opportunities to local residents, a benefit that has not been available to them for over a decade. Minor short-term increases in turbidity are expected to occur during the physical excavation work. Turbidity impacts will be minimized by conducting marsh work during periods of low tide in accordance with all permit terms and conditions.

### **Cost**

The Trustees propose to assist in implementing this project by providing \$40,000.00 from the settlement with the Responsible Party. The estimated costs to fund this project through construction and provide two years of enhanced monitoring is \$50,000.00. The COSRC has raised funds and in-kind support to design and construct this project including \$10,000.00 from NOAA-NMFS Community-based Restoration Program. However these funds are not sufficient to complete this project and the additional \$40,000.00 from the *T/V Posavina* settlement, along with in-kind services from its cosponsors, will enable implementation of this project. The COSRC will assume responsibility for final design, permitting and implementation of the project and for the evaluation of the success of the project. This broad partnership of federal, state and

public groups will ensure a timely, cost-effective and accurate implementation of this project.

## **Evaluation**

The Mill Creek restoration site was not directly impacted by the *T/V Posavina* oil spill, but is contiguous to the impacted area and will provide spawning, foraging and refugia habitat for common salt marsh animals found throughout the Chelsea River/ Mill Creek system. The final design of the project is being developed to prevent the future input of stormwater road sediments across the marsh surface. The developing project plan will also include a long term operations and maintenance plan from the Massachusetts Highway Department to maintain the on-site stormwater retention basin.

Although there will be some negative short-term impacts to natural resources as a result of the construction activities, the Trustees have determined that the project's overall environmental impacts are positive. The permitting terms and conditions and other best management practices will ensure that there are minimal disturbances to the existing resources during project construction. The creation of a functioning salt marsh habitat will have long-term benefits for a number of fish and wildlife species and the marine community that were injured by the oil spill.

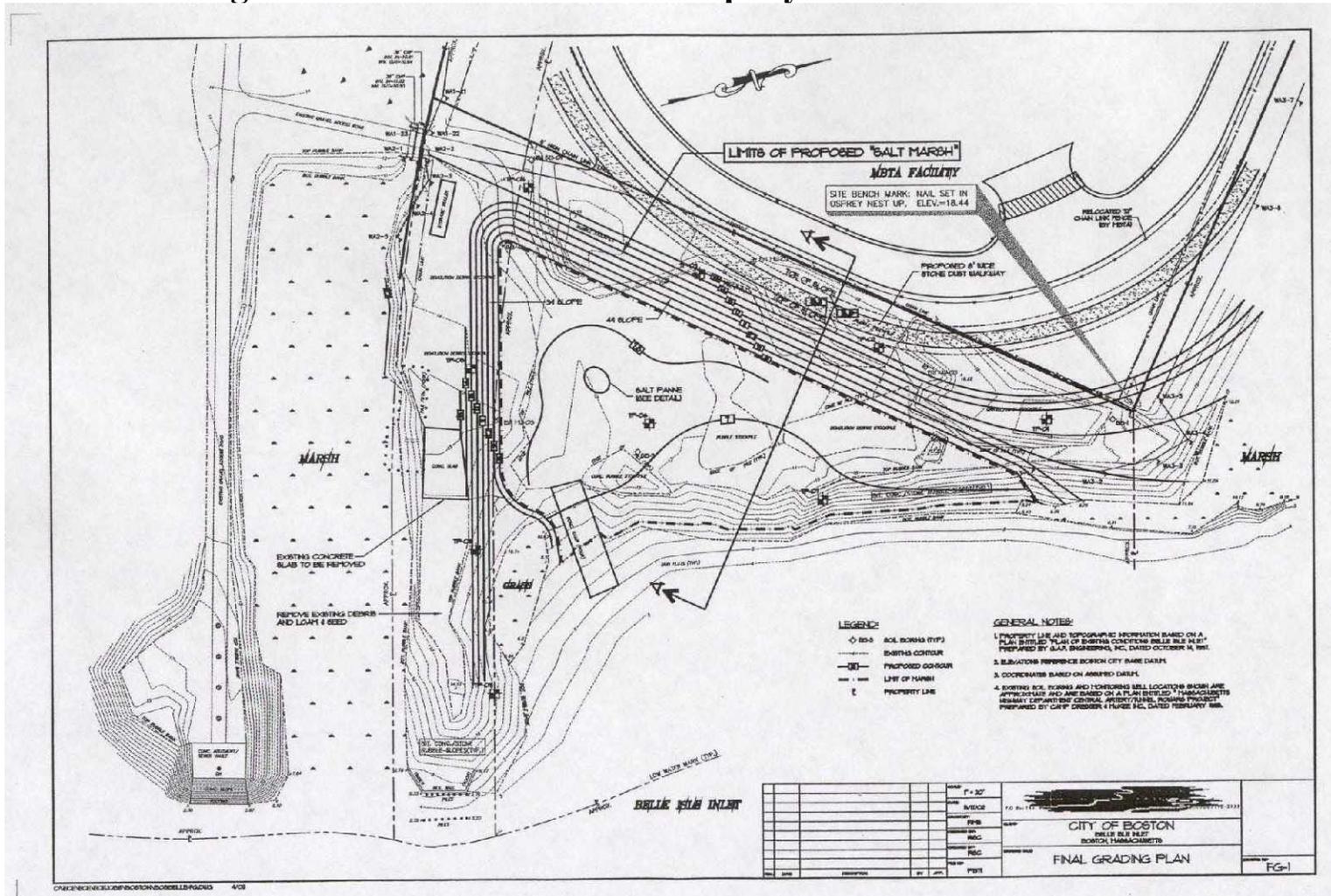
### **4.5 Evaluation of Restoration Alternative 3 (Preferred)**

#### **4.5.1 Belle Isle Fish Company Salt Marsh Restoration Project**

##### **Project Description**

The project site consists of approximately 1.6 acres off Saratoga Street in East Boston (figures 3 & 4). The property, which was formally owned by the Belle Isle Fish Company, was a functioning salt marsh that has undergone historic filling with demolition materials such as concrete, wood, brick, and other debris. The impetus behind this project was the identification of contaminated upland sediments on-site that require remediation by the City of Boston under the Massachusetts Oil and Hazardous Material Release Prevention and Response Act (M.G.L Chapter 21E). Remediation will consist of removal and proper disposal of the contaminated material. Total cost of the remediation is expected to be upwards of \$500,000.00. The requirements of the contamination cleanup do not include aquatic habitat restoration, and the salt marsh restoration described in the Draft DARP/EA is a proactive supplement above and beyond the required mitigation requirements. The proposed remedial phase of the project consists of selective excavation and removal of wetland fill material. The one-acre site will be properly graded and restored by back-filling with appropriate soils and planting with indigenous, herbaceous salt marsh plant species (e.g. *Spartina sp.*) to restore the salt marsh habitat. The required remediation in combination with the additional restoration will enhance the wetland and wildlife values of the site and create an aesthetically attractive attraction point for bird watching.

**Figure 4**  
**Design Plan for Belle Isle Fish Company Salt Marsh Restoration**



The project is being managed by the City of Boston Parks Department. The final permit plans have been submitted to local, state and federal regulatory agencies and the project is expected to be fully permitted during the summer of 2003. Construction bidding and notice to proceed could occur as early fall 2003. Opportunities for public comment are part of the permitting process and the City of Boston should be contacted for additional permitting information.

The Trustees believe that their proposed participation in and funding of this project will have substantial beneficial effects to restoring the natural resources that were injured as a result of the oil spill and monitoring the success of this project.

### **Restoration Objectives**

This project is intended to provide compensatory restoration for the marine resources that were exposed to and/or injured by the *T/V Posavina* oil spill by restoring the aquatic functions and values of this one-acre marsh. The marsh grade is currently elevated due to historic fill and provides no habitat for marine organisms. The site was historically a salt marsh, which increases the probability that this restoration effort will succeed. The project is located within the state-designated Belle Isle Marsh Area of Critical Environmental Concern (301 CMR 12.00, 1993). The project site is located contiguous to a large area of healthy salt marsh and a medium depth tidal channel and is expected to quickly be colonized by source plants and animals from these adjacent habitats. Active planting of native salt marsh vegetation species will be conducted to stabilize and more rapidly restore functions and values.

### **Probability of Success and Monitoring**

Restoring a marsh using the technologies and design contemplated here is an established process. The Trustees believe therefore that this project will achieve a high likelihood of success. Some of the settlement funds (\$5,000.00) will be used to monitor this project for a two-year period to ensure that there is, for example, beneficial vegetation propagation and invasive species control, appropriate hydrology, and an evaluation of other monitoring markers that will be established for this site. The Trustees monitoring effort will be above and beyond the permitting requirements by the City of Boston. A monitoring plan will be prepared and available through the sponsors and the Administrative Record for this settlement.

### **Environmental and Socio-Economic Impacts**

No long-term adverse environmental or socio-economic impacts are expected from the proactive restoration part of the overall BIFCO project. It is expected that the restored marsh will provide habitat for wading and shore birds which will provide beneficial wildlife opportunities to local residents, a benefit that has not been available to them for over a decade. Minor short-term increases in turbidity are expected to occur during the physical excavation work. Turbidity impacts will be minimized by conducting marsh work during periods of low tide and in accordance with all permit terms and conditions.

## **Cost**

The Trustees propose to partially fund, in the amount of \$60,000.00, only the restoration and monitoring phase of this project with monies partially provided from the settlement with the Responsible Party. The Trustees also propose to participate in the implementation of this project, along with in-kind services of the NOAA-NMFS Community-based Restoration program. Of this sum, the Trustees are recommending \$55,000.00 to be expended on construction and \$5,000.00 to be expended for 2 years of enhanced physical and biological monitoring. The estimated costs to fund the proactive phase of this project and provide two years of enhanced monitoring are difficult to exactly estimate because the project will be concurrently undertaken with the contamination remediation project. However, the best available information is that the proactive restoration component of this project will cost in the range of \$100,000.00. The City of Boston will provide all remaining funds to implement this restoration project because of the difficulties associated with segregating the remedial action and the mitigation costs and the proposed supplemental restoration activities.

## **Evaluation**

The Belle Isle Fish Company restoration site was not directly impacted by the *T/V Posavina* oil spill. However, the site is located in close proximity to the spill site, and is hydrologically connected by an underground culvert. The site is located within the larger Boston Harbor estuary and will provide spawning, foraging and refugia habitat for common salt marsh animals found throughout the estuary. The final design of the project is expected to be completed by July, 2003.

Although there will be some negative short-term impacts to natural resources as a result of the construction activities, the Trustees have determined that the project's overall environmental impacts are positive. The permitting terms and conditions and other best management practices will ensure that there are minimal disturbances to the existing resources during project construction. The creation of a functioning salt marsh habitat will have long-term benefits for a number of fish and wildlife species and the marine community that were injured by the oil spill.

### **4.6 Non-Preferred Alternatives Discussion**

The Trustees began identifying possible restoration sites simultaneously with the preassessment phase. The Trustees examined various options and sites, including potential opportunities associated with tidal restrictions, fill removal and sites where habitat restoration could result in enhanced functions and values to compensate for those lost from the *T/V Posavina* oil spill. However, most of the Chelsea Creek shoreline and the adjacent upland areas are privately owned and are being utilized for commercial marine industry. Most of the shoreline and historic wetland resources were filled or armored years ago and are not conducive to restoration due to technical, social and financial constraints. Additionally, the historical and current usage of these properties leads us to suspect that much of the shoreline property is contaminated and would make a small scale habitat restoration project very difficult to fund, permit and construct.

With the exception of the two restoration projects that the Trustees propose to partner with, as noted above, only three non-preferred restoration sites were identified due to the wide range of constraints in Chelsea Creek.

#### **4.6.1 Condor Street**

The first site, known at the Condor Street salt marsh restoration project, was initially targeted as a preferred alternative. The site is about eight acres, half of which are filled tidelands. The City of Boston owns the property, and under a remedial action chose to enhance their mitigation site by creating an urban green space along with a salt marsh fringe. The proactive restoration phase plan included removing deteriorated bulkheads and creating a salt marsh fringe along the intertidal area and enhancing public access to the site with a boardwalk.

At the time of the oil spill, no funding existed to ecologically restore the shoreline and salt marsh. The restoration was estimated to cost approximately \$75,000 - \$100,000. The project was considered “turn-key” because the City was already handling all engineering and permit requirements. While this site was originally targeted as potentially the preferred alternative, it was dropped from further consideration in 2001 because the project became fully funded from other sources while the *T/V Posavina* settlement was underway. The project was completed in the fall of 2002, prior to the *T/V Posavina* settlement.

#### **4.6.2 Parkway Plaza**

The Parkway Plaza salt marsh restoration site, is located in the upper tidal section of Chelsea Creek. The privately owned filled wetland area is comprised of a steep eroding bank leading down to the Mill Creek salt marsh. However, the property has been identified as a Massachusetts General Laws Section 21E contaminated site and will require formal clean-up action by the current property owner prior to any potential on-site restoration. Future redevelopment of the site is being pursued by the current owner and it is unknown when the opportunity to work on the site would arise. This very small alternative site was eliminated due to the above identified reasons.

#### **4.6.3 Forbes Street Industrial Park**

The Forbes Street Industrial Park is located one mile from the spill site consists of shoreline with severely eroding and non-habitable banks and deteriorated bulkheads. Many locations in this stretch of shoreline could be significantly improved by removing the bulkheads, peeling back a portion of the filled shoreline, creating salt marsh habitat and stabilizing the bank. This stretch of shoreline was significantly oiled by the spill. A number of variables eliminated this site from further consideration, including confusing land ownership, unknown but suspected contaminants on-site, and the Trustees’ belief that extensive shoreline restoration would be cost prohibitive.

#### **4.7 Essential Fish Habitat Consultation**

The Magnuson-Stevens Act (16 U.S.C 1801) as amended and reauthorized by the Sustainable Fisheries Act (Public Law 104-297) established a program to promote the protection of essential fish habitat (EFH) in the review of projects conducted under Federal permits, licenses, or other authorities that affect or have the potential to affect such habitat. After EFH has been described and identified in fishery management plans by the regional fishery management councils, Federal agencies are obligated to consult with the Secretary of Commerce with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any EFH.

Both the Mill Creek and BIFCO projects will take place in waters discharging into the Chelsea River and Boston Harbor and are similar enough in location and scope to be simultaneously evaluated for affects to EFH. Species for which the Chelsea River and Boston Harbor has been designated EFH for one or more life stages and which may use the particular combination of salinity, temperature, bottom sediments and depth in close proximity to the restoration site includes the following species: Atlantic *cod (Gadus morhua)*, Pollock (*Pollachius virens*), red hake (*Urophycis tenuis*), winter flounder (*Pleuronectes americanus*), yellowtail flounder (*Pleuronectes ferruginea*), windowpane flounder (*Sclopthalmus aquosus*), Atlantic sea herring (*Clupea harengus*), bluefish (*Pomatomus saltrix*), Atlantic butterfish (*peprilus triacanthus*), Atlantic mackerel (*Scomber scombrus*), and summer flounder (*Paralichthys dentatus*).

The Mill Creek and BIFCO marsh restoration projects described in Section 4.1 propose to enhance and restore salt marsh which habitat that is degraded from excessive stormwater runoff, historic filling and aggressively growing invasive plant species such as common reed (*Phragmites australis*). The specific details for both projects are just about complete and focus on fill removal and creating pannes and new tidal channels to increase tidal flow and depth at both locations. Both projects are expected to include planting of salt marsh vegetation (*Spartina sp.*) to encourage their growth and spread throughout the restoration sites. Resident salt marsh fish species will directly benefit from the additional tidal flow to areas of the marsh that are now only receiving infrequent storm tides as new foraging habitat will be opened up. Any turbidity plumes into the Chelsea River and Boston Harbor during construction are expected to be minor and short in duration. However, turbidity caused by such action should not be significantly different from ambient conditions with the implementation of appropriate Best Management Practices. For the foregoing reasons, the Mill Creek and BIFCO marsh restoration project are expected to result in only minor adverse affect to EFH of the species or life stages listed above and will be permitted with appropriate conservation recommendations.

The final design plans of both salt marsh restoration projects will require Section 404 (Clean Water Act) permitting from the Army Corps of Engineers. The Mill Creek site is expected to be permitted by the Army Corps through the Massachusetts General Programmatic Permit and the BIFCO site will be permitted through Army Corps Individual Permit review process due to the site remediation activities. Both projects will undergo final EFH review and sign-off at that time.

#### **4.8 Threatened and Endangered Species Act Consultation**

No Federally or State listed threatened or endangered species are known to permanently or seasonally inhabit either restoration site. The proposed actions would not have any adverse impact on endangered or threatened species. Completion of endangered and threatened species coordination with Federal and state programs will be coordinated as part of the Clean Water Act Section 404 regulatory process for implementing the preferred restoration alternatives.

#### **4.9 Cumulative Effects of Preferred Alternatives**

The two proposed restoration sites will restore approximately two acres of salt marsh habitat, which represents a relatively small area of the larger Chelsea Creek and Belle Isle Inlet estuaries. The Belle Isle Marsh area is composed of approximately 275 acres of salt marsh, salt meadow and tidal flats and the Chelsea Creek system is well over 3 miles long and also possess a few hundred acres of tidal flats, salt marsh and subtidal habitat. Although the two projects will provide site specific enhanced aquatic functions and values, effects to the larger estuaries and surrounding uplands would be quite minor and difficult to quantify.

Both Chelsea Creek and Belle Isle Inlet were impacted throughout the industrial era (between late 1800's through the 1960's) with channel deepening, marine transportation facilities, dense upland development and impervious surfaces. Future industrial impacts in the reasonably foreseeable future are expected to be quite minimal due to existing state and federal regulatory and management programs, further insuring that restoration activities will survive and not be adversely impacted by development. The completion of the two identified salt marsh restoration projects is not expected to significantly effect (either positively or negatively) either the Chelsea or Belle Isle regions, but in conjunction with other salt marsh restoration projects and existing salt marshes, will over time benefit the natural resources of this area and those resources impacted by the oil spill.

#### **4.10 Summary of Preferred Restoration Alternatives and Costs**

The Trustees have selected compensatory restoration alternatives which they believe will enhance the natural recovery of resources injured by the *T/V Posavina* oil spill, and/or will provide additional resource services to compensate the public for interim losses pending natural recovery. The Trustees believe that the two preferred projects, the Mill Creek Salt Marsh Restoration Project and the BIFCO Salt Marsh Restoration Project, will adequately address the injuries and interim service losses resulting from the *T/V Posavina* oil spill. In addition to the costs of implementing the preferred restoration alternatives, the Trustees are also recovering the costs associated with two years of restoration monitoring. Table 2 presents the total estimate of all costs, including the estimated costs for implementing the preferred restoration alternatives and the Trustees' cost for two years of post-construction monitoring.

<b>Table 1</b>		
<b>SUMMARY OF PREFERRED <i>T/V Posavina</i> OIL SPILL RESTORATION PROJECTS AND COSTS</b>		
<b>Resource/Service</b>	<b>Preferred Restoration Project</b>	<b>Total Cost to RP</b>
Marine Community and Wetlands	Mill Creek Salt Marsh Restoration	\$35,000
Marine Community and Wetlands	Belle Isle Fish Co. Salt Marsh Restoration	\$55,000
<b>Total Estimated Cost of Restoration Projects</b>		<b>\$90,000</b>
<b>Total Estimated Post-Restoration Monitoring</b>		<b>\$ 10,000</b>
<b>Total Restoration and Oversight Costs Payment by RP to Trustees</b>		<b>\$100,000</b>

## **5.0 PREPARERS, AGENCIES, AND PERSONS CONSULTED**

### **5.1 Agencies and Persons Consulted**

#### Federal Agencies

U.S. Army Corps of Engineers, Concord, MA  
 U.S. Fish and Wildlife Service, Concord, NH  
 National Marine Fisheries Service, Gloucester, MA  
 U.S. Environmental Protection Agency, Boston, Ma  
 Natural Resource Conservation Service, Hadley, MA

#### State Agencies

Executive Office of Environmental Affairs  
 Massachusetts Department of Environmental Protection  
 Massachusetts Department of Environmental Management  
 Massachusetts Office of Coastal Zone Management  
 State Historic Preservation Office  
 Massachusetts Wetlands Restoration Program

#### Local Agencies

Chelsea Conservation Commission  
 Chelsea City Council  
 Chelsea Housing Authority  
 Boston Conservation Commission  
 Boston Department of Parks and Recreation  
 Boston City Council

## **6.0 COMPLIANCE TABLE**

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### **6.1 Compliance with Environmental Federal Statutes**

#### Federal Statutes

1. Preservation of Historic and Archeological Data Act of 1974, as amended, 16 USC 469 et seq.

Compliance: Project will be coordinated with the State Historic Preservation Officer. Consultation will be incorporated into the Section 404 and 401 permitting process.

2. Clean Air Act, as amended, 42 USC 7401 et seq.

Compliance: Public notice of the availability of this report to the US Environmental Protection Agency is required for compliance pursuant to Sections 176C and 309 of the Clean Air Act. Consultation will be incorporated into the Section 404 and 401 permitting process.

3. Clean Water Act of 1977 (Federal Water Pollution Control Act Amendments of 1970 33 U.S.C. 1251 et seq.

Compliance: A Section 404(b)(1) Evaluation and Compliance Review will be undertaken by the US Army Corps of Engineers. An application shall be filed for State Water Quality Certification pursuant to Section 401 of the Clean Water Act.

4. Coastal Zone Management Act of 1982, as amended, 16 U.S.C. 1451 et seq.

Compliance: A CZM consistency determination shall be provided to the State for review and concurrence that the proposed project is consistent with the approved State CZM program. CZMA consistency determination is incorporated into the Clean Water Act Section 404 and 401 permitting process noted above.

5. Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq.

Compliance: Coordination with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) will be completed pursuant to Section 7 of the Endangered Species Act. Consultation is incorporated into the Sec. 404 and 401 permitting process noted above.

6. Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661 et seq.

Compliance: Coordination with the FWS, NMFS, and the State fish and wildlife agencies signifies compliance with the Fish and Wildlife Coordination Act.

7. National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470 et seq.

Compliance: Coordination with the State Historic Preservation Office will be completed and signify compliance. Consultation is incorporated into Sec. 404 and 401 permitting process noted above.

8. National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321 et seq.  
Compliance: Preparation of an Environmental Assessment signifies partial compliance with NEPA. Full compliance shall be noted at the time of Finding of No Significant Impact or Record of Decision is issued. The Trustees have integrated this Restoration Plan with the NEPA process to comply, in part, with those requirements. This integrated process allows the Trustees to meet the public involvement requirements of OPA and NEPA concurrently. The Final RP/EA will accomplish compliance by summarizing the current environmental setting, describing the purpose and need for the restoration actions, identifying alternative actions, assessing the preferred actions' environmental consequences, and summarizing opportunities for public participation in the decision process.

Project-specific NEPA documents will be prepared as part of the Section 404 permitting process.

9. Rivers and Harbors Act of 1899, as amended, 33 U.S.C. 401 et seq.

Compliance: The project will simultaneously apply for and receive Clean Water Act (Section 404) and Rivers and Harbors Act of 1899 during the permitting process. Consultation is incorporated into the Sec. 404 and 401 permitting process.

10. Watershed Protection and Flood Prevention Act as amended, 16 U.S.C. 1001 et seq.

Compliance: Floodplain impacts will be considered prior to selection of final projects plans.

11. Magnuson-Stevens Act Fishery Conservation and Management Act, as amended, 16 U.S.C. 1801 et seq.

Compliance: Coordination with the National Marine Fisheries Service and preparation of an Essential Fish Habitat (EFH) Assessment signifies compliance with the EFH provisions of the Magnuson-Stevens Act. Consultation is incorporated into Sec. 404 and 401 permitting process.

12. Information Quality Guidelines issued Pursuant to Public Law 106-554.

Compliance: As the lead natural resources trustee, NOAA developed and confirms that this information product meets its Information Quality Act guidelines, which are consistent with those of the U.S. Department of the Interior and the Office of Management and Budget.

13. Marine Mammal Protection Act, 16 U.S.C. 1361-1326, 1371-1384 note, 1386-1389, 1401-1407, 1411-1418, 1421-1421h.

Compliance: Activities associated with these projects will not have an adverse effect on marine mammals. Consultation is incorporated into Sec. 404 and 401 permitting process.

14. Oil Pollution Act of 1990 (OPA), 33 U.S.C. 2701-2706, et. Seq., 15 C.F.R. Part 990

Compliance: OPA establishes a liability regime for oil spills that injure or are likely to injure natural resources and/or the services that those resources provide to the ecosystem or humans. OPA provides a framework for conducting sound natural resource damage assessments that achieve restoration. The process emphasizes both public involvement and participation by the Responsible Parties. The Trustees have conducted this assessment in accordance with OPA regulations.

15. Migratory Bird Treaty Act, 16 U.S.C. 703-712 et seq.

Compliance: The Migratory Bird Treaty Act affirms and implements four bilateral international conventions with Canada, Mexico, Japan, and Russia explicitly for the protection of bird resources shared between the United States and the four treaty partners. Under the Act, it is unlawful for a person to take (i.e. kill, capture, wound, trap, etc.), import, export, possess, buy, sell, purchase, or barter for any migratory bird or its feathers, parts, nests, and eggs or any product made from migratory birds, unless a permit is obtained for such actions. Activities associated with this project will not require obtaining a Migratory Bird Treaty Act permit.

#### Executive Orders

1. Executive Order 11593, Protection and Enhancement of the Cultural Environment, 13 May 1971

Compliance: Coordination with the State Historic Officer will signify compliance. Consultation is incorporated into the Sec. 404 and 401 permitting process.

2. Executive Order 11990, Protection of Wetlands, 24 May 1977.

Compliance: Public notice of the availability of this report for public review fulfills the requirements of Executive Order 11990, Section 2 (b). Consultation is incorporated into Sec. 404 and 401 permitting process.

3. Executive Order 11988, Floodplain Management, 24 May 1977 amended by Executive Order 12148, 20 July 1979.

Compliance: Public notice of the availability of this report or public review fulfills the requirements of Executive Order 11988, Section 2(a) (2). Consultation is incorporated into the Sec. 404 and 401 permitting process.

4. Executive Order 12898, Environmental Justice, 11 February 1994.

Compliance: Not applicable, the project is not expected to have a significant impact on minority or low income population, or any other population in the United States.

5. Executive Order 13007, Accommodation of Sacred Sites, 24 May 1996

Compliance: Not applicable unless on Federal lands, then agencies must accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and avoid adversely affecting the physical integrity of such sacred sites.

6. Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. 21 April, 1997.

Compliance: Not applicable, the project would not create a disproportionate environmental health or safety risk for children.

#### Executive Memorandum

1. Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing NEPA, 11 August, 1980.

Compliance: Not applicable if the project does not involve or impact agricultural lands.

## **7.0 REFERENCES**

- 1.) General Laws of Massachusetts, Chapter 21E, Massachusetts Oil and Hazardous Material Release and Prevention Act.
- 2.) SCAT Report, *T/V Posavina* Shoreline Cleanup Assessment Team (SCAT) Shoreline Cleanup Recommendations and Segment Signoffs, July 12, 2000.
- 3.) General Laws of Massachusetts, Chapter 301CMR 12.00, 1993 Areas of Critical Environmental Concern.

## **8.0 ADMINISTRATIVE RECORD**

- 1) SCAT Report, *T/V Posavina* Shoreline Cleanup Assessment Team (SCAT) Shoreline Cleanup Recommendations and Segment Signoffs, July 12, 2000.
- 2.) Environmental Notification Form, Massachusetts Environmental Policy Act, 301 Code of Massachusetts Regulations 11.00, Remediation and Salt Marsh Restoration at Belle Isle Inlet, April 24, 2002.
- 3.) Draft Site Plan, 54 Locke Street (Mill Creek Restoration Project), Prepared by USDA/NRCS and the BSC Group, May 9, 2003.
- 4.) Five-Star Restoration Challenge Grant Proposal, Mill Creek Restoration 2000, March 2, 2001.

## **APPENDIX A. FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

### **Final Damage Assessment and Restoration Plan/Environmental Assessment For the T/V Posavina Oil Spill Chelsea River, Chelsea and Boston, Massachusetts**

The National Oceanic and Atmospheric Administration (NOAA) is the lead Federal agency for the National Environmental Policy (NEPA) compliance for the Final Damage Assessment and Restoration Plan Environmental Assessment (DARP/EA) to restore natural resources injured by the June 8, 2000, vessel collision and oil spill in the Boston and Chelsea, Massachusetts. This plan was developed in cooperation with the Massachusetts Executive Office of Environmental Affairs and the U.S. Department of the Interior (U.S. Fish and Wildlife Service) as cooperating trustees.

A draft of this document was available for public review and comment for 30 days starting July 1, 2003. A notice announcing the availability of the Draft DARP/EA and the period for public review was published in the Boston Globe. This notice also invited the public to propose other restoration alternatives and to comment on the alternatives proposed by the Trustees. All comments received were considered by the Trustees before finalizing this DARP/EA.

This Final DARP/EA presents two project proposals: salt marsh restoration at Mill Creek (\$40,000.00), and salt marsh restoration at Belle Isle Inlet (\$60,000.00).

To comply with the requirements of NEPA, the Trustees analyzed the effects of the alternatives proposed by the Trustees on the quality of the human environment. NEPA's implementing regulations direct federal agencies to evaluate the potential significance of proposed actions by considering both context and intensity. For the actions proposed in this Final DARP/EA, the appropriate context for considering potential significance of the action is local, as opposed to national or worldwide. With respect to evaluating the intensity of the impacts of the proposed action, NEPA regulations (40 C.F.R. § 15-8/27) suggest consideration of ten factors. These are addressed in the Final DARP/EA and summarized below.

1. *Likely impacts of the proposed projects:*

Both projects address the injury of biological loss of salt marsh, unconsolidated sediment substrate and algae covered hard substrates found in the Chelsea River.

The Mill Creek project will enhance the functions and values of a salt marsh by removing accumulated stormwater sediments on the marsh surface and the direct removal of invasive vegetation. The Belle Isle project will result in the restoration of area of salt marsh that was filled with construction debris. Once salt marshes are filled or clogged with stormwater sediments they lose much of their important functions they perform, such as providing fish and bird habitat. The direct, long-term ecological impacts of both projects are beneficial in that each promotes formation of functioning salt marsh habitat. Because the land adjacent to both will have some level of public access, the projects will also result in enhanced human values associated with bird watching.

Neither of these projects is expected to require substantial long-term maintenance.

Short-term impacts include noise and exhaust from use of heavy equipment used for cutting invasive plants and hauling sediments from the salt marsh. Work at both sites will be done during the day only, and will be scheduled to avoid spring high tides to minimize turbidity in adjacent waters. Work on these projects may result in minimal and short duration disturbances, if any, to both humans and wildlife in the project area.

2. *Likely effects of the project on public health and safety:*

There are no foreseeable effects on human health and safety other than possible accidents related to heavy machinery operation.

3. *Unique characteristics of the geographic area in which the projects are to be implemented:*

The areas in which these projects will take place present no unique characteristics that make distinct from the other local areas of salt marsh.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial:*

Both projects have been available for public review and generated only minor response. Neither is likely to be highly controversial.

5. *Degree to which possible effect of implementing the project are highly uncertain or involve unknown risks:*

Both types of projects have been done elsewhere so no great uncertainties or risks are expected.

6. *Precedential effect of the project on future actions that may significantly affect the human environment:*

Since both types of projects have already been done elsewhere, there is no precedential effect.

7. *Possible significance of cumulative impacts from implementing this and other similar projects:*

Both projects are quite small in scale and effects are very localized, so cumulative impacts are not significant.

8. *Effects of the projects on Historic Places, or likely impacts to significant cultural, scientific, or historic resources:*

Both projects are being coordinated with the State Historic Preservation Officer and with federal and state agencies responsible for natural resources to ensure there are no likely impacts to significant cultural, scientific, or historic resources.

9. *Degree to which the project may adversely affect endangered or threatened species or their critical habitat:*

Both projects are being coordinated with federal and state agencies responsible for natural resources to ensure that there are no likely impacts to endangered or threatened species or their critical habitat.

10. *Likely violations of environmental protection laws:*

Both projects have been planned to be in compliance with all applicable environmental protection laws, and no violations are likely or expected. In addition, both projects will be implemented in compliance with all permits required by the state and federal regulatory agencies.

In each project, the effects were judged to be beneficial though not significant as defined by NEPA.

Both projects will be implemented in compliance with all permits by the state and federal regulatory agencies.

DETERMINATION:

Based upon an environmental review and evaluation of the Final Damage Assessment and Restoration Plan/Environmental Assessment (DARP/EA) to restore natural resources injured by the June 8, 2000, vessel collision and oil spill in Boston and Chelsea, Massachusetts, I have determined that the proposed action does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969, as amended. Accordingly, an environmental impact statement is not required for these projects.

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William T. Hogarth, Ph.D.  
Assistant Administrator for Fisheries  
National Marine Fisheries Service  
National Oceanic and Atmospheric Administration

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Date

