

CHAPTER 2: THE RESTORATION PROCESS

2.1 Legal and governmental context

The New Bedford Harbor Trustee Council's responsibility to restore the injured natural resources of the New Bedford Harbor Environment results from legal actions brought under CERCLA. CERCLA also provides authority to the Environmental Protection (EPA) Agency to conduct cleanup activities to reduce the threat to human health and the environment. Monetary settlements with parties responsible for releasing PCBs and other hazardous materials into the Harbor Environment provide funds for use by the Trustee Council to accomplish restoration activities and the EPA for cleanup activities. The court actions, cleanup of hazardous materials and restoration of injured natural resources fall under the jurisdiction of the state and federal government. This section explains the legal and statutory requirements which guide the restoration process.

2.1.1 Natural resources damage assessment and restoration

Once a "release" or contamination of the environment occurs, several steps are required before restoration of injured natural resources can be undertaken. The type and quantity of the contaminant release, geographic location, weather conditions, and response authorities' ability to respond determine the first actions taken to control, contain or clean up the release. A damage assessment is undertaken to determine the extent of damage to natural resources, the environmental effects, and the amount of money needed to: (1) respond to the incident; (2) to assess the damages; and (3) restore the natural resources. The party or parties potentially responsible may take an active role in this process and provide resources to assist the cleanup and restoration. In some cases, it is necessary to seek civil penalties in court against the responsible parties to recover funding for the damage caused.

The restoration phase begins with planning. Using information from the damage assessment, the affected resources are examined and there is consideration of the appropriate actions needed to correct the injury to natural resources or the services they provide. All reasonable alternatives are considered and public input is sought before decisions are made on actual restoration projects. Once implemented, restoration projects are monitored to determine their success or whether there are negative impacts caused by projects.

New Bedford Harbor was one of the first cases brought under CERCLA. The court case was initiated about 40 years after the initial release of contaminants, although the release continued to occur through most of that period. There was no immediate response. The damage assessment conducted was not an exhaustive study of the effects of contamination but rather a means of determining general injuries due to short timeframes and the procedures in effect at that time.

2.1.1.1 Definitions

Several key words or phrases form the basis for restoration planning and are important to understanding what is required under law. The following terms apply to natural resource damage assessment and restoration. Other commonly used terms and acronyms are found in Appendix A.

Acquisition of the equivalent -- the substitution for an injured resource with a resource that provides the same or substantially similar services, when such substitutions are in addition to any substitutions made or anticipated as part of response actions and when such substitutions exceed the level of response actions determined appropriate to the site pursuant to the National Contingency Plan (defined below). (43 CFR Part 11.14)

Baseline -- the condition or conditions that would have existed at the assessment area had the discharge of oil or release of the hazardous substance under investigation not occurred. (43 CFR §11.14(e))

CERCLA -- the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986.

Consent decrees -- legal documents filed with the Federal District Court, and entered as orders of the Court, by which the agreements between the Trustees and the responsible Parties are spelled out.

EPA -- the United States Environmental Protection Agency.

Facilities -- the manufacturing plants and associated structures and land of the Aerovox facility located at 740 and 742 Belleville Avenue, New Bedford, and the Cornell Dubilier Electronics, Inc. (CDE) facility located at 1605 East Rodney French Blvd., New Bedford, Massachusetts. (Consent decrees)

Hazardous substance -- a hazardous substance as defined in section 101(14) of CERCLA. (43 CFR §11.14(u))

Injury -- a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil or release of a hazardous substance, or exposure to a product of reactions resulting from the discharge of oil or release of a hazardous substance. As used in this part, injury encompasses the phrases "injury," "destruction," and "loss." (43 CFR § 11.14(u)) Note: CERCLA does not include oil, natural or synthetic gas within its definition of hazardous substance. M.G.L. c.21E does include oil within its definition of hazardous substance.

National Contingency Plan or "NCP" -- the National Oil and Hazardous Substances Contingency Plan and revisions promulgated by EPA, pursuant to section 105 of CERCLA and codified in 40 CFR Part 300. (43 CFR §11.14(y))

Natural resources -- land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the exclusive economic zone), any State or local government, any foreign government, or any Indian tribe. (42 USC §9601 (16))

Natural resource damage assessment or damage assessment -- the process of collecting, compiling, and analyzing information, statistics, or data through prescribed methodologies to determine damages for injuries to natural resources as set forth in this part. (43 CFR §11.14 (aa))

New Bedford Harbor Environment or Harbor Environment -- means the area encompassed by the Acushnet River watershed which extends west into Dartmouth, east into Acushnet and Fairhaven, and from the north extending south to include the New Bedford Reservoir and the City of New Bedford into Buzzards Bay extending out to the area designated as Fishing Area III. The watershed is defined as the entire surface drainage area that contributes water to the Acushnet River. (Consent decrees)

Remedy, remediation, remedial action or cleanup -- are the actions taken to stop ongoing, or prevent further, degradation of the environment.

Replacement -- the substitution for an injured resource with a resource that provides the same or substantially similar services, when such substitutions are in addition to any substitutions made or anticipated as part of response actions and when such substitutions exceed the level of response actions determined appropriate to the site. (43 CFR §11.14(ii))

Responsible party or parties -- a person or persons who is the owner of a vessel or facility responsible for the release of contamination into the environment. With respect to the New Bedford Harbor Superfund Site, the responsible parties are AVX Corporation; Aerovox Incorporated; Belleville Industries Incorporated; Cornell-Dubilier Electronics Inc.; and Federal Pacific Electric Company. (43 CFR 11.14(kk) and Consent decrees)

Restoration -- are the actions that return injured natural resources and/or services to their baseline or comparable condition. (43 CFR §11.14(II)) With respect to the Trustee Council, any actions including planning, implementation, administration and oversight, which serve to restore, replace, acquire the equivalent or provide substitutes for natural resources or natural resource services injured, destroyed or lost as a result of the release of hazardous substances into the New Bedford Harbor Environment. (Consent decrees)

Services -- the physical and biological functions performed by the resource including the human uses of those functions. These services are the result of the physical, chemical, or biological quality of the resource. (43 CFR §11.14(mm))

Site -- an area or location, for purposes of response actions under the NCP, at which oil or hazardous substances have been stored, treated, discharged, released, disposed, placed, or otherwise came to be located. (43 CFR §11.14(oo)) Note: CERCLA does not include oil, natural or synthetic gas within its definition of hazardous substance M.G.L. c.21E does include oil within its definition of hazardous substance..

Trustee or natural resource trustee -- any Federal natural resources management agency designated in the NCP and any State agency designated by the Governor of each State, pursuant to 42 USC §9607(f)(2)(B), that may prosecute claims for damages under section §9607(f)(1) or §9611(b); or an Indian tribe, that may commence an action under §9626(d). (43 CFR § 11.14(rr))

2.1.1.2 Statutory authority

2.1.1.2.1 CERCLA

CERCLA is the principal federal statute specifying federal and state response actions to past and current releases of hazardous materials into the environment. CERCLA was enacted in 1980 with a major amendment occurring in 1986 (The Superfund Amendment and Reauthorization Act of 1986, or "SARA"). CERCLA also provides the means to compensate governments for clean up costs and damages to natural resources. CERCLA gives the President authority to act on behalf of natural resources affected by the release or contamination.

Under CERCLA, the party responsible for the release is also responsible for the clean up and restoration. When the responsible party is unwilling or unable to provide an adequate response, authority is provided to EPA (for discharges and releases in the inland zone), working with the U.S. Coast Guard (for discharges and releases in the coastal zone) and state agencies, to respond to and clean up the hazardous release. The responsible party is liable for all costs associated with the cleanup and restoration. If this is not possible, the Superfund can be used. The Superfund is a revolving trust fund resulting from tax proceeds from the sale of oil, certain chemicals, and certain imported substances, as well as recoveries from court cases.

NCP regulations implement CERCLA. The NCP designates federal and state trustees to act for the natural resources under their jurisdiction that were injured or damaged by the hazardous release. The members of the New Bedford Harbor Trustee Council are the Commonwealth of Massachusetts (represented by the Secretary of Environmental Affairs) and the two federal agencies with statutory authority over the natural resources in the New Bedford Harbor environment: 1) U.S. Department of Commerce (DOC) (represented by the National Oceanic and Atmospheric Administration (NOAA); and 2) the U.S. Department of the Interior (DOI) (represented by the U.S. Fish and Wildlife Service (USFWS)).

2.1.1.2.2 Court case & settlement

In 1976, EPA conducted a New England-wide PCB survey, which included New Bedford Harbor. EPA determined that the high levels of PCBs detected in New Bedford Harbor sediments warranted further investigation. During the next five years, field studies conducted by EPA and the Commonwealth of Massachusetts identified PCBs and heavy metals in the sediments and marine life throughout a 1,000-acre area north of the Hurricane Barrier in New Bedford Harbor, and in parts of Buzzards Bay.

In 1977, testing of edible fish tissue revealed PCB levels in excess of the U.S. Food and Drug Administration 5-ppm guideline (Note: current guideline is now 2-ppm). As a result, the

Massachusetts Department of Public Health (MDPH) issued a health warning and closed areas of New Bedford Harbor and Buzzards Bay to fishing.

In 1983, EPA added the site to the National Priorities List of hazardous waste sites eligible for action under the Superfund program. The Massachusetts Department of Environmental Protection also designated New Bedford Harbor as its priority Superfund site.

In 1983, complaints were filed in federal district court in Boston alleging causes of action under CERCLA against Aerovox Incorporated, Belleville Industries, AVX Corporation, Cornell-Dubilier Electronics (CDE) and Federal Pacific Electric Company (FPE), for injuries to natural resources that had resulted from releases of PCB that occurred during the time that they owned or operated the facilities.

The district court issued eight opinions over the course of this case, with another opinion issued by the First Circuit Court of Appeals.¹ In April 1992, a National Wildlife Federation (NWF) appeal of the Aerovox and Belleville settlement was dismissed by the First Circuit for lack of standing. In June 1992, the Trustees entered a settlement with the NWF, pursuant to which NWF voluntarily dismissed its pending appeal of the First Circuit decision and agreed not to challenge the settlement with FPE and CDE. Also in June 1992, the case against Aerovox and Belleville was resolved for \$13.15 million. Of this amount, \$10 million paid for response costs; \$500,000 went to NOAA for damage assessment costs; and \$2.5 million was placed in the Court Registry (maintained by the U.S. District Court) for natural resource damages and restoration.

In July 1992 the settlement with AVX, Inc. became final. The total settlement was \$66 million. Of that amount \$59 million was designated for clean-up; \$250,000 went to NOAA for past assessment costs; and \$6.7 million went into the Court Registry for past natural resource damage assessment costs.

The settlement with the two remaining defendants, FPE and CDE, was entered in October 1992. Pursuant to this decree, NOAA was reimbursed approximately \$65,000 plus accrued interest; \$10 million was placed into the Court Registry for natural resource damages and restoration; and an additional \$10 million was placed into a joint registry account with EPA, to be used for response or natural resource damages, depending upon selection of the final remedy by EPA.

The total settlement, with interest, for natural resource damages was approximately \$20.2 million. Interest earned through investment in the Court Registry Investment System, this amount has grown to \$22.8 million.

¹ _____ In re Acushnet River & New Bedford Harbor, and are found at: 675 F. Supp. 22 (D.Mass. 1987)("Acushnet I"); 712 F. Supp. 994 (D.Mass. 1989)("Acushnet II"); 712 F. Supp. 1010 (D. Mass. 1989)("Acushnet III"); 712 F. Supp. 1019 (D. Mass. 1989)("Acushnet IV"); 716 F. Supp. 676 (D. Mass. 1989)("Acushnet V"); 722 F. Supp. 888 (D. Mass. 1989)("Acushnet VI"); 722 F. Supp. 893 (D. Mass. 1989) ("Acushnet VII"); 725 F. Supp. 1264 (D. Mass. 1989)("Acushnet VIII"); National Wildlife Federation (Appellant/Intervenor) v. United States and AVX Corp. et al., No. 91-1895 (1st Cir. April 21, 1992)

2.1.2 Trustee Council

Under CERCLA section 9607(f)(1), natural resource trustees include 1) federal agencies responsible for the protection or management of natural resources and/or management of federally owned land; 2) state trustees designated by the Governor; and 3) Indian tribes. Of all possible state and federal Trustees, the three New Bedford Harbor Trustees are the subset who have jurisdiction over natural resources that were injured by PCBs.

The New Bedford Harbor Trustee Council was established by the Court as part of the settlement of the actions against the responsible parties, and specifies the three Trustees -- the Commonwealth of Massachusetts, the U.S. Department of the Interior, and the U.S. Department of Commerce.

2.1.2.1 Membership

Commonwealth of Massachusetts

The Commonwealth's designated Trustee is the Secretary of Environmental Affairs, head of the Executive Office of Environmental Affairs. Assisting the Office are the Massachusetts Coastal Zone Management Office; Department of Fisheries, Wildlife, and Environmental Law Enforcement; and the Department of Environmental Protection. These offices provide assistance in the areas of environmental protection, wetlands, fisheries, wildlife, and coastal management.

A state's trust interests are defined as "natural resources, including their supporting ecosystems, within the boundary of a state or belonging to, managed by, or controlled by, or appertaining to such state..." (40 CFR §300.605)

U.S. Department of the Interior

DOI's lead agency for New Bedford Harbor is the U.S. Fish and Wildlife Service with assistance provided by DOI's Office of the Solicitor and Office of Environmental Policy and Compliance. DOI's trustee interests include:

- migratory birds
- anadromous fish
- endangered species
- marine mammals
- federally owned minerals
- federally managed water resources
- resources for which an Indian tribe would otherwise act as trustee
- federally owned or managed lands
 - national parks and monuments
 - national wildlife refuges
 - federal water projects

U.S. Department of Commerce

NOAA has been designated as the Department of Commerce's lead agency responsible for damage assessment and restoration. NOAA's lead agency for restoration is the National Marine Fisheries Service (NMFS) assisted by NOAA's Office of General Counsel and the NOAA Damage Assessment and Restoration Program. NOAA's trust interests include:

- marine fishery resources and their supporting ecosystems
- anadromous fish
- endangered marine species
- marine mammals
- National Marine Sanctuaries and Estuarine Research Reserves

2.1.2.2 Structure

Each trust agency designates a Trustee Representative (Trustee) to represent its trust interests. These Trustees may, in turn, appoint delegates to represent them when they cannot be present. Each Trustee is also provided legal advice through its respective agency's legal counsel.

The Trustees may appoint up to two ex-officio (non-voting) members from their respective State or federal agencies or sub-divisions. The U.S. Department of Justice and the Massachusetts Office of the Attorney General may each designate one ex-officio member. The Trustee Council may invite up to three individuals from the public or non-governmental environmental organizations to serve as ex-officio members to the Trustee Council.

Assisting the Trustees are a Technical Advisory Committee (TAC) which provides technical and scientific advice; a Financial Oversight Committee providing financial, accounting and investment advice; the Community Restoration Advisory Board (CRAB), a group of individuals chosen to provide a community perspective; and various work groups. The Trustees have appointed a Coordinator and Outreach Coordinator to support their efforts.

Trustee Council meetings are generally open to the public and time is provided for comment. To allow for formal participation and greater access, the Trustees appointed the CRAB to assist restoration planning by providing advice to the Trustees and information to the community (Appendix B). The composition of the CRAB is intended to reflect the following Harbor interests, occupation, and demographics:

- recreational fishing
- commercial fishing
- shipyards
- fish houses or seafood dealers/supply houses
- business
- environmental groups or interests
- river and harbor abutters
- historical perspective
- merchant shipping
- minority perspective

- recreational interest
- education

From a list of volunteers, individuals were selected who best represented these interests. An additional member was appointed by each of the four communities to represent the interests of that community.

2.1.2.3 Responsibility

Trustee responsibilities are specified in the NCP (40 CFR §300.615). Their responsibilities include carrying out a damage assessment to quantify the effects of contamination on natural resources; developing and implementing a plan to restore, rehabilitate, replace or acquire the equivalent of injured natural resources; and requesting legal authorities (U.S. or state attorney general) to seek compensation for the damages assessed and the costs for planning. In developing a restoration plan, the Trustees must insure that the proposed actions are consistent with the intent of CERCLA and must comply with other applicable law.

2.1.3 U.S. Environmental Protection Agency remediation process

Under CERCLA, natural resource trustees are not responsible for cleaning up spills or releases. This responsibility has been designated to EPA and the U.S. Coast Guard. This responsibility includes protection of human health as well as the environment. For the New Bedford Harbor Superfund Site, EPA decides on the methods and timing of clean-up, assisted by ACOE and the Massachusetts Department of Environmental Protection (MDEP). Such decisions can impact restoration activities, and the Trustee Council monitors EPA's activities.

Restoration options and activities are dependent on cleanup plans and success. Questions such as the degree of cleanup necessary, where cleanup actions will occur, what resources will be affected, and timing all play a large role in the restoration decision process. At many Superfund Sites, restoration occurs after the remedy has been completed. The New Bedford Superfund Site is large in scope with very high contamination levels. The site and remedy is complicated by other factors such as a high population density relatively close to the site, an active commercial and recreational waterfront, and the difficulty of performing large-scale toxic site cleanup underwater. This has led to delays in determining and implementing remedies for the contaminated material. The following section briefly summarizes the progress EPA has made to date.

2.1.3.1 Hot Spot

EPA selected a remedy for the most contaminated area of the harbor, known as the "Hot Spot", in a Record of Decision (ROD) in April 1990. Under this plan, roughly 10,000 cubic yards of sediment with PCB levels of 4,000 parts per million or more were to be dredged, and then "de-watered" (decanted) and incinerated on a site at the foot of Sawyer Street in New Bedford. This remediation was to begin in February 1993 and was expected to take 18 months.

Community opposition to the incineration portion of the ROD was widespread; therefore, siting work for the incinerator was stopped. A facilitated community forum (New Bedford Harbor Superfund Site Forum) was established with the purpose of developing an acceptable

alternative (if available) to incineration. The forum began meeting in December 1993. Through the efforts of the forum, EPA may decide to reopen the ROD and to begin exploring alternative technologies.

In April 1994, ACOE began Hot Spot dredging using a cutterhead dredge in the Upper Estuary portion of the site. Efforts were concentrated in a 5 acre site in the vicinity of the Aerovox plant. The dredge removed material to a depth of 1.5 to 2 feet. Once dredged, material was carried by floating pipeline and deposited in an engineered containment basin, or CDF on Sawyer Street. The material was then dewatered and stored under a floating cover. Water drawn off the sediment was treated to remove PCBs and heavy metals and returned to the harbor.

The Hot Spot phase of the dredging concluded in September 1995 after removing approximately 14,000 cubic yards of sediment. With this volume, an estimated 300 tons of PCBs were removed from the upper estuary. Another 160 million gallons of seawater collected through dredging operations was treated and returned to the harbor. The total cost, including construction, for the Hot Spot dredging was approximately \$28 million. (EPA 1995)

The Hot Spot sediments remain in the Sawyer Street CDF. The Site Forum has been reviewing alternative technologies for treating the contaminated sediments. The treatability study process began in 1994 and has resulted in a focus on three primary technologies: 1) solidification/stabilization; 2) contaminant destruction; and 3) contaminant separation and destruction. The results of the treatability studies have been published in a Hot Spot Feasibility Study Addendum. (Foster Wheeler, 1997)

2.1.3.2 Proposed Cleanup for ROD II

On January 17, 1992, EPA released a Proposed Plan to cleanup a portion of the site encompassing all of the Acushnet River Estuary and areas within the inner and outer New Bedford Harbor. The proposed remedy involved dredging roughly 118 acres of contaminated sediment from the Harbor with PCB concentrations levels exceeding 50 ppm, and 500 ppm in the marsh. Dredged sediments would be permanently stored in confined disposal facilities on the banks of the harbor. The second phase of the Harbor cleanup was expected to take approximately six years to complete.

In May 1992, in response to Trustee comments on the Proposed Plan, EPA proposed the Addendum Proposed Plan for the Upper Bay for additional Harbor clean-up in areas south of the Hurricane Barrier. This Plan proposed dredging two areas where PCB concentrations greater than 10 ppm have been found, and capping a third such area at the New Bedford Wastewater Treatment Plant outfall.

The Proposed Plan was revised to address the comments received and presented in November 1995. In the Upper Estuary, EPA proposed to dredge approximately 415,000 cubic yards of sediments containing greater than 10 ppm PCBs. A saltmarsh on the Fairhaven side would have areas containing more than 50 ppm PCBs dredged. Material from the dredging would be stored in CDFs along the shore and in a cove just north of Sawyer Street. In the Inner Harbor, material with PCB concentration greater than 50 ppm would be dredged and stored in a CDF in the North Terminal area. The two areas south of the Hurricane Barrier would also be dredged at the 50 ppm action level.

Community opposition over the proposed siting of a CDF in the cove north of Sawyer Street prompted EPA to reconsider siting options. This cove is adjacent to a residential area and playground, and long-term storage there of contaminated sediments raised concerns among local residents.

EPA issued a revised Plan in November 1996. The Plan contained many of the elements of the 1995 version but proposed alternative CDF sites to the cove. Under the Plan approximately 450,000 cubic yards of PCB-contaminated sediment would be dredged and placed in four CDFs (A-D). For the area north of Coggeshall Street, dredging would remove sediments with PCB levels above 10 ppm. Sediments with PCB levels above 50 ppm would be dredged in the saltmarshes and the area between Coggeshall Street and the Hurricane Barrier. As with previous proposals, water drained from the sediments would be treated before release in the harbor. The CDFs would be capped with an impermeable cover. (EPA 1996)

As cleanup proceeds over the next decade or so, the Trustee Council will need to periodically reexamine the New Bedford Harbor Restoration Plan, and modify or revise it as necessary.

2.2 Restoration planning

Two primary Federal statutes apply to restoration planning. These are CERCLA and NEPA. Massachusetts also requires that the Massachusetts Environmental Policy Act (MEPA) be followed to the extent that restoration involves state agency action, financial assistance or, in certain instances, dispositions of state land. Consistent with these acts the Trustees must develop a restoration plan to document and guide future restoration actions and insure that decisions on restoration projects are made after consideration of all reasonable alternatives and public comment.

CERCLA requires restoration planning to take place prior to implementation of restoration projects. CERCLA states:

“Except in a situation requiring action to avoid an irreversible loss of natural resources or to prevent or reduce any continuing danger to natural resources or similar need for emergency action, funds may not be used under this Act for the restoration, rehabilitation, or replacement or acquisition of the equivalent of any resources until a plan for the use of such funds for such purchases has been adopted by affected Federal agencies, Governor or Governors of any state ... after adequate public notice and opportunity for hearing and consideration of all public comment.” (CERCLA § 96II(I))

Restoration projects may be implemented to respond to an emergency that may affect natural resources. In such an instance, the intent is to implement actions as quickly as possible to prevent or reduce imminent harm. Emergency actions do not require the development of a restoration plan. However, when there is no emergency, an approved restoration plan is required. The public must be provided the opportunity to comment and any comment received within the comment period must be considered before such a plan is approved by the Trustees.

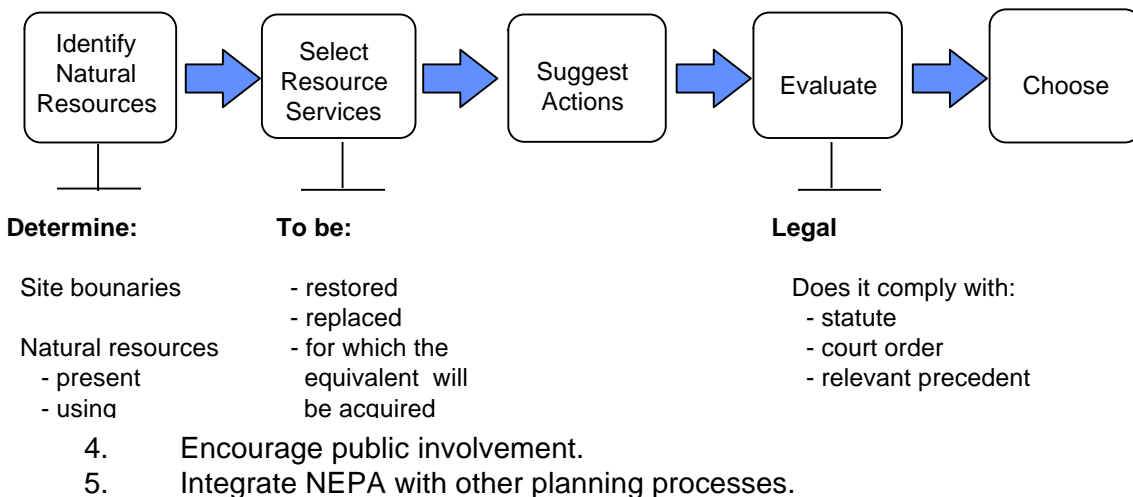
The situation in New Bedford Harbor is not considered to be an emergency in the context of the statute. While the impacts to natural resources are alarming, the long-term duration of the

contamination precludes the need for immediate action. Quick action would benefit the natural resources, but concerted restoration planning may provide even more benefits by identifying the most urgent restoration needs and the types of projects that can best address those needs. The restoration planning process also allows the public to have a say in the types of projects under consideration.

NEPA requires that an environmental impact statement (EIS) or environmental assessment (EA) be prepared and approved before major Federal actions are undertaken. NEPA's goals are to:

1. Ensure that decisions are based on an understanding of the environmental consequences of actions.
2. Restore environmental damage.
3. Address all reasonable alternatives to minimize the impacts.

Figure 2.1
Restoration Plan Development



The Massachusetts Environmental Policy Act takes a similar approach; the document used is called an environmental impact report (EIR).

In all cases, alternatives are developed and analyzed. The information is then put before the public; comments are invited; and a decision is rendered before projects are implemented. In an attempt to eliminate duplication and recognizing the common requirements of these acts, the Trustee Council has prepared one document which combines the requirements of CERCLA, NEPA, and MEPA.

Figure 2.1 summarizes the methodology used to develop restoration alternatives:

2.2.1 Overview of approach

As has been mentioned previously, information on the cleanup levels and location must be considered in restoration decisions. Given the types of issues confronting the cleanup and its magnitude, it is likely that many years will elapse before the cleanup is complete. Rather than wait for such an occurrence, the Trustees decided to proceed with restoration planning before cleanup is complete. This approach requires the Trustees to proceed cautiously and to review and update the restoration plan as more information becomes available or actions are completed.

The Trustee Council will implement restoration projects in stages using available information from the cleanup process. Restoration projects that would not be affected by cleanup activities could begin in the near-term. This allows restoration to begin sooner and should result in greater benefits to the Harbor Environment. Additional solicitations and funding rounds would occur when cleanup actions are achieved. Examples of opportunities for additional solicitations include the issuance of Records of Decision for Harbor cleanup, completion of cleanup in specific areas, and when the entire cleanup is completed.

To assist this process, the Trustees have chosen to develop a programmatic environmental impact statement. The approach is to document the Trustee Council's goals, objectives and general project areas, and then work within an initial scope defined by what can be done now. Possible future actions can be identified but an analysis may not be possible given various unknowns. Rather, a generalized analysis will be performed with the specifics to be provided in environmental assessments on a project by project basis.

2.2.2 Injury Determination

Restoration decisions are driven by the extent of injury to the natural resources and their users and the financial settlement that was based on those injuries. The original legal complaints filed by the Commonwealth of Massachusetts and the United States in federal district court identified injured resources and related economic impacts to area industry and residents.

Data has been collected to document the extent of injury. PCB contamination in waters, sediments, and living resources has diminished ecosystem biodiversity, reduced reproductive capabilities, and increased mortality in resident species of finfish and shellfish. PCBs have also accumulated or biomagnified across trophic levels, with impacts to birds and other predators.

EPA has documented injury to marine sediment, the water column, fish and shellfish, surface water, aquatic biota including 28 species in the Harbor, lobster and winter flounder (EBASCO, 1990). Massachusetts Division of Marine Fisheries documents injury to lobsters, shellfish (soft-shell clam and oysters), bottom dwelling and bottom feeding fish (eels, winter flounder, windowpane flounder). (Kolek and Cuervals, 1981)

The Trustees have identified the following injuries which can be best addressed through remediation and restoration activities:

- Reduced health of lobster, shellfish, finfish, and other organisms in New Bedford Harbor and adjacent areas;
- Diminished fishing opportunities in an area known for commercial and sport fishing;
- Reduced natural resource services because of impacts to public health from consuming seafood and participating in water or beach-contact recreation; and
- Development options in the New Bedford Harbor Environment are limited because of dredging and disposing of contaminated materials.

Affected User Groups

Affected users include all groups associated with injured resources or their services within the New Bedford Harbor Environment. Human uses of the Harbor that have been affected by the injury to natural resources include commercial fishing, recreational fishing, water-based activities (boating, swimming, wading, and sunbathing), walking, viewing, picnicking, bird watching, transportation, and existence value, the value of knowing the Harbor is usable for recreation, walks and vistas.

On behalf of the Trustees and the public NOAA conducted three damage assessment studies of impacts to the lobster fishery, real estate market, and recreational bathing. The original complaints, the three NOAA studies, and the court record document the extent of injury to user groups. The record confirms that harvestable resources, their prey, their habitat, and associated human users have been affected by PCB contamination.

Diminished biological productivity and closed commercial and sport fishing and shellfishing can be translated into a direct economic loss for the local community. Contaminated sediment has delayed necessary navigational and port dredging, rebuilding local infrastructure (bridges), and removing debris like derelict vessels from harbor waters. Elevated contaminants limit recreational opportunities in the estuary and harbor.

More complete information on the extent of contamination, the injured natural resources, impacted uses or services, and the economic losses sustained can be found in Section 3.5.

2.2.3 Goal of restoration

The main goal of restoration of the New Bedford Harbor Environment is to restore the natural resources which have been injured, destroyed or lost by release of hazardous substances into the New Bedford Harbor Environment.

Consistent with the requirements of CERCLA, the focus of the goal is the injured natural resources. The injured marine life, wildlife, birds, plants, and their supporting ecosystem are to be restored to their baseline levels. Given that the contamination occurred over many years, the determination of absolute baseline may be difficult to attain.

In an effort to reach this goal, the Trustee Council will seek opportunities to:

- Improve the health of living resources (such as finfish, shellfish, birds, and their prey);

- Restore degraded habitats essential to those living resources (such as vegetated wetlands, mudflats, waters, harbor sediments);
- Replace human uses compromised by contamination (fishing, recreation, and others); and
- Reestablish community confidence and pride through outreach programs, improved physical access, reopened fishing areas, enhanced aesthetics, and other components of the harbor fabric.

The object of restoration is to compress the timeframe of natural recovery. An August 1992 TAC meeting considered how concerted restoration might supplement natural recovery from storms, sedimentation, and chemical cycling. Several scientists estimated that it might take about 100 years for the Harbor Environment to reach some level of cleanliness acceptable to contact and consumptive uses. However, a well-orchestrated restoration program should compress that schedule into several decades.

2.2.4 Commitments

As a secondary goal of restoration, the Trustee Council is committed to use restoration activities to develop public awareness of the ecological and economic state of the Harbor Environment, how the deterioration and pollution of the environment affects citizens' everyday life, and how the Harbor Environment can be further enhanced through community involvement after the New Bedford Harbor Trustee Council's actions are complete.

The Trustee Council recognizes the importance of community involvement and the role the community can play in a successful restoration. In order to have an informed community, there must be a process of education. The Trustee Council will strive to provide information and access to restoration planning and activities and include the public whenever possible.

Restoration of injured natural resources will bring about public opportunities as the services provided by the natural resources are restored. With restoration will come economic benefits. As public confidence is restored in the Harbor as a clean and safe environment, greater use of the Harbor should result in economic rewards.

In support of its goals and commitments, the Trustee Council will do the following:

- 1) Select a suite of restoration projects in a logical, methodical and defensible manner. These projects will be developed with special attention to the needs, concerns, questions and comments of individuals in the communities of the New Bedford Harbor Environment.
- 2) Rigorously monitor and document project selection, development and execution to ensure that restoration proceeds in a timely and effective fashion.
- 3) Work with the community to receive advice on restoration options and to offer advice on ways for outside organizations to act with the Trustee Council for the benefit of the New Bedford Harbor Environment.

Success would be measured through a vigorous monitoring program beginning before remediation and continuing until after the last restoration action. Ideally the monitoring program should separate recovery into natural and enhanced components enabling the Trustees to document the effects of the restoration efforts.

2.2.5 Selection criteria

In order to select the most appropriate projects for inclusion in the restoration plan, the Trustee Council established the following selection criteria.

1. Projects must restore the injured natural resources and associated activities of the area.

Projects will be evaluated on whether they restore, replace or acquire the equivalent natural resources that were injured as a result of the release of hazardous materials, including PCBs, in the New Bedford Harbor Environment. This is the specific guidance from CERCLA and all projects must meet this criteria before consideration of the remaining criteria. Restoration projects must address a natural resource injury whether through direct restoration of the resource or through restoration of the service that resource provided.

2. Priority will be given to projects within the New Bedford Harbor Environment, however, projects within the affected marine ecosystem that will have a direct, positive impact on the Harbor Environment will be considered.

Project ideas that are outside of the New Bedford Harbor Environment will be considered, provided that they restore injured natural resources within the New Bedford Harbor Environment. This can occur for species that feed or spend a life stage within (i.e., egg, larvae, fry or spawning), or seasonally enter the Harbor Environment but move out into Buzzards Bay or the Atlantic Ocean. Examples include bird populations, herring, alewives, eels, and crustaceans such as lobster.

3. Projects should ultimately enhance the public's ability to use, enjoy, or benefit from the Harbor Environment.

In addition to a project's potential for restoring natural resources, it will be evaluated on the basis of its potential to enhance the public's ability to utilize the Harbor Environment.

4. Priority will be given to those projects that give the largest ecological and economic benefit to the greatest area or greatest number of people affected by the injury.

Projects should provide the greatest good, and will be evaluated on the basis of whether they provide positive benefits to a more comprehensive area or population. Project ideas that benefit a particular individual rather than a group of individuals would be ranked lower under this criterion.

5. Projects should enhance the aesthetic surroundings of the Harbor Environment to the greatest extent possible, while acknowledging the ongoing industrial uses of the harbor.

The extent that a project recognizes the multiple uses of the Harbor and its impacts on those uses will be evaluated as well as its ability to enhance the overall beauty of the Harbor Environment. The harbor is an urban, mixed-use area which includes residential, commercial, recreational, shipping and industrial interests. Projects must recognize these harbor uses but also use available opportunities to improve the overall Harbor Environment for both natural resources and the public.

6. Ecological or economic effects of the selected projects should be identifiable and/or measurable, so changes to the New Bedford Harbor Environment can be documented.

Projects will be evaluated with respect to discrete, quantifiable results, so that success or failure can be determined. All projects will be monitored to determine whether expected results are being achieved or whether unexpected impacts are being caused.

7. Preferred projects are those that employ proven technologies with high probability of success.

Projects will be evaluated on their likelihood of success based upon the method being proposed. Factors to be considered include whether the proposed technique or action is applicable to the project, whether it has been used before, and whether it was successful.

8. Projects should be cost effective.

Preferred projects are those which have a high benefit to cost ratio; in some cases, projects may simply be too expensive for the Trustee Council to undertake.

9. Projects should provide an opportunity for community involvement that can continue even after the Trustee Council's actions have ended.

Projects will be evaluated on whether the public can continue to be involved after the Trustee Council has concluded its part of the work. The Trustee Council has no permanent funding; once the settlement monies have been expended, the Trustee Council will cease operations.

2.2.6 Restoration priorities

Before specifying restoration projects, the Trustee Council identified priority areas based on the damage assessment and other documentation of injury. Priorities were based on the resource types injured, as follows:

1) marshes or wetlands

Wetlands are an important habitat component which provide food, shelter, and nursery areas to a variety of animals and sea life. A functioning wetland can filter waste material improving water quality in the surrounding area. High levels of PCBs are present in wetlands on the Fairhaven side of the river, with potential effects on the flora and fauna of these wetlands, as well as other species that depend on them.

2) recreation areas

Through the release of contaminants, recreational opportunities were lost. This included, but was not limited to, beaches and parkland. Access to the Harbor was curtailed because of the possible harmful affects of being in or near the water, or by eating affected seafood.

3) water column

Though the majority of PCBs reside in the sediment, PCBs are still introduced to and present in the water column through chemical and mechanical exchange between the waters and sediments, as well as PCB residue remaining in the New Bedford sewage system.

4) habitats

Habitat is the complex of geographic features, hydrologic conditions, and living organisms within an ecosystem that provide food, nesting and resting areas, and shelter for fish and wildlife. Habitat was negatively impacted through the release of PCBs into the Harbor Environment. Restoration, enhancement, or replacement of habitat has the potential to substantially improve the abundance and health of a wide variety of living resources in the NBH Environment

5) living resources

Numerous species, including shellfish, marine fish, anadromous fish, and birds have been directly affected by PCBs. Species-specific restoration actions will focus on the affected resources.

6) endangered species

The primary endangered species of concern is the roseate tern, a sea bird present in the affected environment. PCBs have affected the reproductive and development functions of this species as well as of the common tern. These species reside in Buzzards Bay and spend time in the New Bedford Harbor Environment when they feed, and as a consequence, ingest PCBs leading to death and other effects.

By identifying restoration priorities, the Trustee Council was able to focus attention on the specific groups natural resources needing restoration. These priorities focus on the trust interests of the trustee agencies.

2.2.7 Scoping process: Development of a restoration plan

The following sections document the development of the restoration plan, including the efforts of the Trustee Council to develop alternatives, how the alternatives were analyzed, and how decisions are made. The types of issues that shaped this process and their outcome are identified.

2.2.7.1 Define process

Ideally, restoration planning would occur soon after a hazardous spill or contaminant release. Cleanup and restoration could then follow in turn. In the case of New Bedford Harbor, neither of these events occurred soon after the release. The case was one of the first brought under

CERCLA and was settled before a full damage assessment with restoration option development occurred. Cleanup options have not been finalized adding to uncertainty over what the potential cleanup will entail, possible impacts on restoration projects, and because of this, whether, and to what extent restoration should proceed at this time.

Keeping these concerns in mind, the Trustee Council embarked on a concerted approach to develop alternatives with public involvement. The alternatives would be included in the restoration plan/EIS. What follows is a description of the process by which alternatives were developed for the initial round of restoration activities. It is anticipated that future rounds will occur under the process defined in Section 5.4.

2.2.7.2 Workshop

The Trustee Council hosted a restoration workshop in Fairhaven, Massachusetts in June 1993. The purpose of the workshop was to bring together the Trustee agencies and local officials to discuss and develop a range of restoration alternatives. During the course of the workshop, the group discussed restoration plan goals which included maximizing environmental values with the money available, the importance of having an overall goal, and the consideration of economic and social factors. Alternative strategies for approaching restoration were developed; these included historic habitat restoration, maximization of habitat diversity, or taking a specialized approach appropriate to the area.

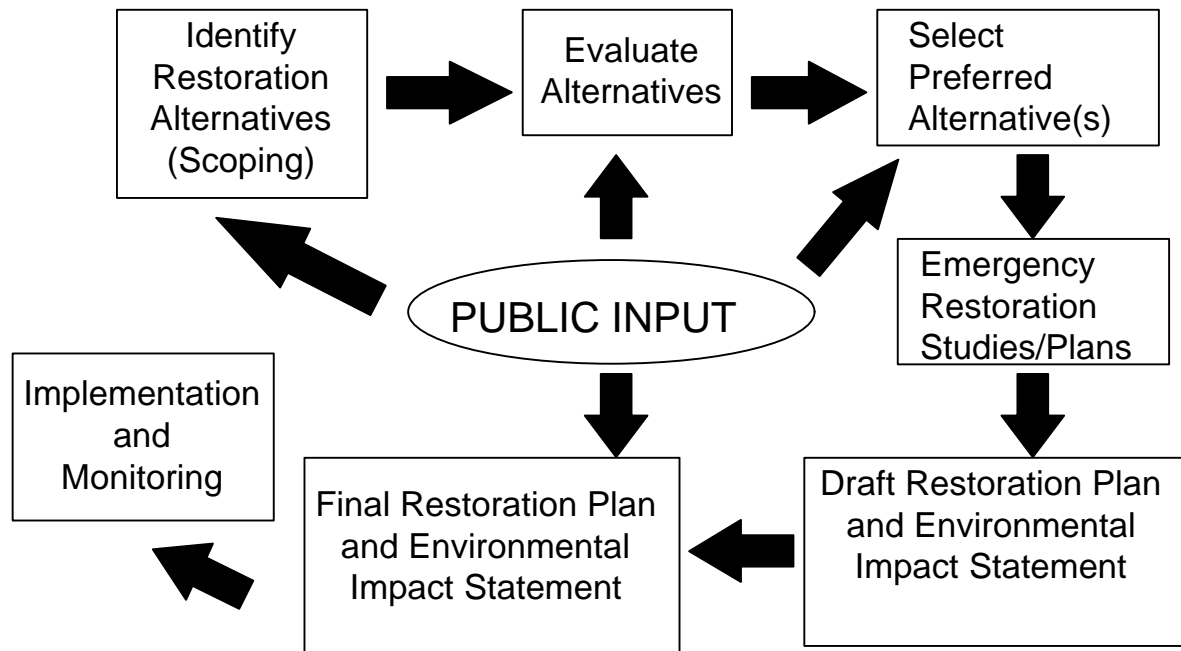
Background discussions focused on 1) site history; 2) the physical environment of the Harbor; 3) determination of injury and damages; 4) what is known about the contaminants and the effects; 5) legal context; 6) geographic scope; 7) EPA cleanup actions; and 8) natural resources present and their extent of injury. The purpose was to develop a common understanding of the political and legal history of the site, understand the technical data for the area, and attempt to reach a consensus as to where restoration planning should go.

The workshop discussed restoration alternatives for shellfish, lobsters, marine fish, and wetlands. Specific alternatives included:

- 1) Creating artificial reefs to increase utilization of finfish. Included in discussions were the use of clean derelict vessels which could be placed in deeper water areas. There were concerns about attracting PCB laden fish out of the Harbor thus spreading the contamination.
- 2) Dredging to increase utilization of the Harbor.
- 3) Increasing public use of the harbor through the construction of boat ramps.
- 4) Repairing or building fish runs around dams on the Acushnet River to allow anadromous fish such as alewives and blueback herring to return to historic areas.
- 5) Replanting or seeding submerged aquatic vegetation beds such as eelgrass to provide nursery habitat and stabilize the sediment.

There was an overall consensus that the alternatives must fit within the needs of the community as well.

Figure 2.2
Development of a Restoration Plan - Public Participation



The workshop also discussed whether restoration planning could proceed without cleanup decisions in place. The participants entertained the idea that restoration could occur in phases to allow some projects to move forward. A need was identified to educate and include the public in restoration planning; therefore, the workshop participants decided that public outreach should begin immediately.

2.2.7.3 Public information activities

CERCLA requires public notice, public hearing and consideration of comment before a restoration plan can be approved (CERCLA §9611(l)). The Trustee Council recognizes and encourages full public participation in the restoration planning and implementation process. Contamination impacts result in direct injury to the natural resources but also in injury to the public through the loss of economic revenue and enjoyment of the resource.

As can be seen in Figure 2.2, there are several opportunities for formal public involvement.

The public is encouraged to suggest restoration alternatives or ideas. The local community has the best knowledge of the needs of the area. When these are applied within the constraints of CERCLA, restoration alternatives result. The public can assist in evaluation of alternatives either directly as an advisor to the Trustee Council or by providing comment in writing or at public hearing. Once preferred alternatives are chosen and the RP/EIS drafted, the public is provided an opportunity under the National Environmental Policy Act and CERCLA to comment. Involvement does not end there.

The public can assist in implementing projects and volunteer opportunities will be available. Moreover, many projects will require monitoring after completion to see if the work was

effective and whether the expected results are being achieved. The public can play a key role and may even take over the maintenance and operation of specific projects. It is the hope of the Trustee Council that once the Council's work is finished, the public will take responsibility for continuing the work which has been implemented.

2.2.7.3.1 Notice of Intent to Prepare and Environmental Impact Statement

On February 28, 1995, the Trustee Council published in the *Federal Register* (60 FR 10835) (Appendix B) a "Notice of Intent to Prepare an Environmental Impact Statement" for the restoration of the New Bedford Harbor Environment. The notice initiated the formal public scoping process for the RP/EIS. Given the complexity of the restoration and the comparatively large geographic scope, the Trustee Council determined that an EIS was the proper means to determine impacts to the environment. This also provided the public with greater opportunity for participation through suggesting various restoration alternatives. The notice announced a series of public scoping meetings and requested comments. The next section summarizes the results of those meetings.

2.2.7.3.2 Public information meetings

An informed public can contribute a great deal to restoration planning. The public needs to understand restoration concepts, legal requirements (ie: use of settlement funds), and the roles of the various groups.

In February/March of 1995, the Trustee Council held public information (scoping) meetings to introduce the public to restoration concepts and requirements. An informational meeting was held in each of the four affected communities (Acushnet, Dartmouth, Fairhaven and New Bedford) surrounding the harbor, and separate briefings were conducted for the Superfund Site Forum, the Harbor Development Commission, the New Bedford Seafood Industry Coalition, municipal officials, and the media. Material presented at the meetings included information on the Trustee Council, the court case against responsible parties and the resulting settlement, restoration concepts, statutory requirements, and National Environmental Policy Act requirements. The following is a summary of each.

New Bedford

Approximately 50 people were present at the New Bedford meeting, including city and town officials. Support was expressed for using restoration monies to assist in the construction of the secondary wastewater treatment plant which completed and operating in August 1996. EPA suggested that a trust fund be established to fund short term projects, that a park be constructed adjacent to the wastewater treatment plant, and offered support for other short term projects such as repairing herring runs, shellfish transfers, wetland restoration and shoreline clean-up. Other suggestions included clearing derelict vessels and constructing a soccer field to replace a field on Sawyer Street; written suggestions encompassed planting trees on public lands, establishing a harbor patrol unit to assist monitoring and enforcement, and funding modifications to the Fairhaven wastewater treatment plant.

Dartmouth

The Dartmouth meeting was attended by 2 individuals. Suggestions were received to modify the Hurricane Barrier by creating additional openings to increase tidal flow, to extend the Fairhaven outfall through one of the openings, to eliminate or modify combined sewerage overflows, and to install a bubble curtain just north of the Hurricane Barrier to contain hazardous releases, aerate the harbor, and prevent ice formation.

Acushnet

Approximately 20-25 people attended the Acushnet meeting; the discussion focused on repairing fish ladders at the three dams on the Acushnet River, north of Wood Street.

Fairhaven

The Fairhaven meeting was attend by approximately 35 people. As in Acushnet, there was support for repairing the fishways, establishing shellfish relays, enhancing tidal flow to a marsh in Fairhaven, as well as monitoring after projects are completed.

A common theme of the meetings was the public desire to use restoration funds as soon as possible to bring benefits to the area now rather than later.

2.2.7.4 Legal guidance

The restoration planning process is prescribed by law. Funding comes from settlement monies under the control of the U.S. District Court, District of Massachusetts. To request funding, the Trustee Council must seek approval from the Court and provide justification for the funding. First, however, the request must be approved by the U.S. Department of Justice (DOJ) and the Massachusetts Office of the Attorney General (Massachusetts AG). In deciding whether to fund a particular project, the Trustee Council, DOJ, Massachusetts AG, and the Court look to the guidance provided by CERCLA, the consent decrees for the settled cases, and case law or opinions from other CERCLA cases.

The Trustee Council is responsible for making the first-level determination on whether a particular restoration idea or project is allowed under CERCLA and the Consent Decrees. CERCLA and the Consent Decrees require that restoration activities restore, replace or acquire the equivalent of the resources that were injured, and define the area where this may take place, but remain silent on which restoration projects are allowed. When it is unclear whether particular restoration projects are legally allowed, the Trustees seek legal guidance from their counsel, who in turn can seek guidance from DOJ and/or Massachusetts AG.

A result of the public information/scoping meetings, and other Trustee Council discussions, were a series of legal questions for which guidance was required before restoration planning could proceed.

Restoration before Cleanup

The Trustees had been asked to consider implementing short-term restoration projects before cleanup decisions were made. Restoration planning efforts are more difficult when there are no cleanup decisions in place and CERCLA does not speak directly to this issue. Realizing this and in response to inquiries, the Trustees sought guidance from DOJ.

The advice received, and applied by the Trustee Council, is as follows:

- 1) Projects must be consistent with the restoration plan being developed.

While the actual restoration plan had not been written, the expected scope of the plan was being developed through the Restoration Workshop, work by the Trustee Council and its committees, and by the comments received at the public information meetings. Restoration goals, geographic scope, selection criteria and proposed project areas were adopted.

- 2) Projects must not be undone or negatively impacted by EPA's remediation work, either now or in the future.

EPA's prior and current remediation plans give an indication of the general areas where cleanup activities will occur. EPA has completed cleanup of the Hot Spot and has presented proposals for the Harbor. The proposals defined areas being considered for cleanup and proposed locations of confined disposal facilities (CDF). For the next phase of the cleanup, areas to be remediated will be dredged, and the material will be deposited in CDFs along the shore. These locations are obvious areas to avoid for restoration activities at this time. Discussion of navigational dredging is occurring and the Trustees will avoid these areas as well.

Areas for restoration that are not likely to be directly affected by the cleanup include the Outer Harbor (except for isolated areas of contamination), Clark's Cove, the Acushnet River north of Saw Mill Pond, shoreline areas on the eastern side of the Harbor south of Coggeshall Street, and other areas within Buzzards Bay.

- 3) Sufficient funds must be retained to accomplish meaningful and necessary restoration work after EPA's cleanup is finished.

The Trustee Council received a recommendation from the TAC to set a funding limit for short-term restoration projects. The TAC suggested that 10-15% (\$2.1 - 3.15 million) of the natural resource damages restoration fund be used for short-term restoration. If this total were disbursed, and no other major disbursements occurred, this amount would be replenished within 2-3 years at the current rate of interest.

The suggested amount will allow several projects to be funded but at the same time allow the majority of the money to be retained for post-cleanup work. If long-term restoration was delayed, the full amount could be available through the addition of interest payments.

The Trustee Council decided to wait before setting a limit on the amount of money for short-term projects. This allows the Trustees to select projects on merit rather than exclude projects that exceed the spending limit.

Sewer Related Work

Another area where the Trustee Council sought legal advice with respect to potential restoration projects was whether restoration settlement funds could be used for sewer related

work. While the initial request sought funding to help construct the New Bedford wastewater treatment plant, subsequent request were also made by Dartmouth and Fairhaven. The Trustee Council recognized the worth of the project in terms of benefits to natural resources and the community through an improvement in water quality, but questioned whether settlement funds could or should be spent on a cleanup required under a separate statute, the Clean Water Act. The legal guidance received was that restoration settlement funds may not be used to fund projects that were required by a separate consent decree, court order, statute or regulation. The use of other settlement monies to pay for an independent prior obligation is not proper. The Trustee Council adopted this guidance as policy. The guidance and subsequent policy was and is not restricted to any particular project, but certainly applies to, and restricts funding for, sewer related projects.

2.2.7.5 Request for Restoration Ideas

Responding to public requests for a process to submit ideas, and continuing the scoping process to develop alternatives, the Trustee Council issued a “Request for Restoration Ideas” (RFI) in the *Federal Register* (60 FR 52164, October 5, 1995) and the *Massachusetts Environmental Monitor* (October 23, 1995). Groups (agencies, communities, academia, etc.) or individuals who had ideas for restoring the injured natural resources were requested to formally submit their ideas for consideration. Individuals who had previously submitted unsolicited ideas were requested to resubmit them under the RFI. Unlike a request for proposals, the applicants were not submitting requests for funding to implement a specific project, however, it was explained that after review and acceptance by the Trustee Council, the ideas could lead to a request for proposals or other procurement action. Applicants were advised that ideas would become public and that proprietary information should not be provided.

In submitting ideas, applicants were provided forms on which they could provide brief descriptions of their idea, its methodology and merits. The applicants provided explanations of how their idea would meet the selection criteria (Section 2.2.4). Budget information was requested, but was not required.

A total of 56 ideas were submitted. The following provides information on the source, cost, and focus of the ideas submitted:

Submitted by:	
City/town government	18
State/federal agencies	13
Groups/individuals	25
Number of ideas received from:	
Acushnet/Dartmouth/Fairhaven/New Bedford	36
Other areas	20
Total cost if implemented:	\$76,232,564

The specific ideas received, follow:

Marshes/Wetlands

1. Restoration of Padanaram Salt Marsh, Dartmouth, MA
2. Restoration of Nonquit Salt Marsh, Dartmouth, MA

Recreational Areas

1. Rogers Street boat ramp
2. Taber park
3. Riverside Park Belleville Avenue recreational marine park
4. Boat ramp, fishing pier, parking area (Dartmouth)
5. Sportfishing piers (Dartmouth, Fairhaven, New Bedford)
6. Acushnet River recreation/preservation district

Water Column

1. A living machine for water purification and habitat restoration in New Bedford Harbor
2. Bayview sewer project
3. Sol-E-Mar area sewer project
4. Rogers Street/Clarks Cove storm drain
5. East Clark's Point pumping station
6. Cove Road pumping station
7. Removal & disposal of PCB contaminated grit from main interceptor (from Pearl Street to Cove Street)
8. Eliminating toxic chlorine discharge from Fairhaven wastewater treatment plant
9. New Bedford hurricane barrier eastern box culvert
10. Relocation of Fairhaven sewerage outfall: hurricane barrier modification
11. Bubble curtain installation: New Bedford barrier gate opening
12. Pumpout vessel for marine sanitary devices

Habitats

1. Constructed reefs for lobster and fish habitat enhancement
2. Artificial reef creation using abandoned fishing vessels
3. Eelgrass habitat restoration
4. Artificial reef

Living Resources

1. Fisheries restoration for Dartmouth Areas II and III
2. Upper Sconticut Neck/Priest's Cove shellfish restoration and sewer work
3. Restoration and management of the New Bedford area shellfishery
4. Massive seeding of large juvenile bay scallops in New Bedford harbor area
5. Hatchery startup assistance with Taylor Seafood
6. Acushnet aquafarm development
7. Shellfish restoration Town of Acushnet
8. Restoration of the Acushnet River herring run (2 ideas)
9. Anadromous fish restoration on the Weweantic River

Endangered Species

1. Restoration and management of tern populations.
2. Buzzards Bay tern restoration and stabilization project
3. Tern restoration - Penikese Island

Other

1. Removal of Native American artifacts
2. Padanaram Harbor dredging
3. New Bedford Police Department Harbor Unit
4. Land conservation - Sconticut Neck marshes and coastline
5. Build a dam at the I-195 bridge with possible dewatering pump
6. Design and development of the New Bedford Aquarium complex
7. Amos Pratt - House 1810
8. Wood Street - North
9. Herman Melville Shipyard cleanup

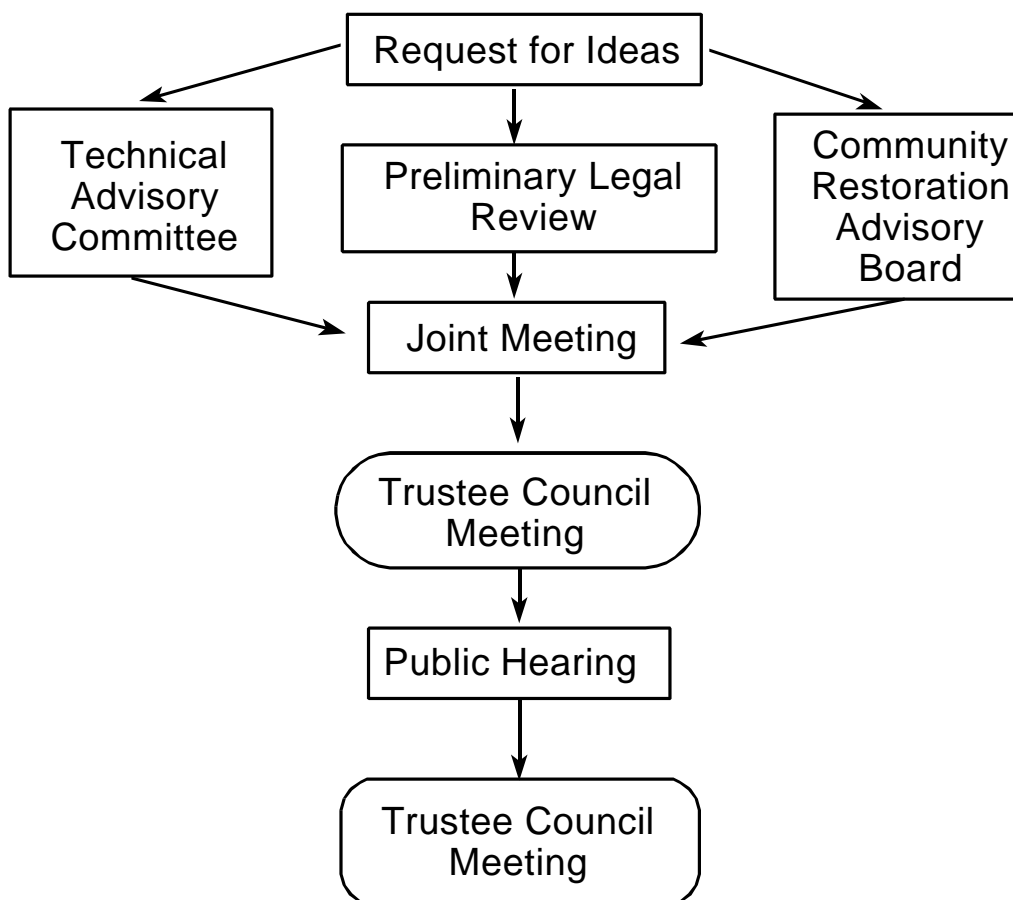
Studies/Plans

1. Wetlands restoration planning and implementation: New Bedford Harbor Environment
2. Salt marsh restoration
3. Planning for nitrogen removal from the Fairhaven wastewater treatment plant
4. Long-term monitoring and restoration of shellfish habitats
5. Terrestrial ecological restoration habitat inventory, categorization and mapping project
6. Stock assessment of shellfish and predators in New Bedford, Fairhaven and Dartmouth, and market research for the products
7. New Bedford Harbor avian monitoring and restoration project
8. New Bedford/Fairhaven harbor master plan
9. Restoration management/visualization model of New Bedford harbor ecosystem
10. City of New Bedford - from brownwaters to green

Evaluation

Figure 2.3 shows the process by which ideas were evaluated, comments received and decisions made.

Figure 2.3
Request for Ideas Process



The ideas underwent three concurrent reviews, legal, technical and public.

The legal review was conducted by the Trustee Council’s legal counsel to determine whether the ideas were acceptable under CERCLA and the consent decrees resulting from the settled cases against the responsible parties. All 56 ideas were reviewed, but this review did not judge the technical merit of an idea, nor did it rank the ideas. Those judged unacceptable were not eliminated from consideration by the technical or public review. Studies were judged separately since they might not directly restore a resource, but instead, might provide further information needed for restoration planning.

The TAC, assisted by other technical staff within the trustee agencies, reviewed the ideas. The 56 ideas were categorized by restoration priority (marshes/wetlands, recreation areas, etc.). Rather than have each reviewer evaluate all 56 ideas, ideas were assigned to reviewers based upon the reviewer’s area of expertise. Reviewers did not review their own submissions. Weighted point scores were assigned using the selection criteria and total points tallied.

Comments were provided and suggestions made as to whether the idea could be implemented earlier rather than later or whether further information or action was needed. The top scoring ideas for each restoration priority were then determined.

The CRAB evaluated all 56 ideas. CRAB members did not review their own ideas or the ideas submitted by the organization or community they represented. In reviewing the ideas, the CRAB considered whether the idea could be implemented earlier, before the cleanup occurred. Majority votes were used to select the preferred ideas.

At the end of the evaluation process, the three groups met to develop recommendations to the Trustee Council on which ideas should be pursued. It was the first time each group shared its results with the others. The results were compared and discussions held on the ideas for which there was disagreement. At the conclusion, it was decided that a joint recommendation would be made for those ideas for which there was agreement as well as separate recommendation by both the CRAB and TAC for ideas which either group favored.

The recommendations were as follows:

Marshes/Wetlands

- Restoration of Padanaram Salt Marsh, Dartmouth, MA (CRAB/TAC)
- Restoration of Nonquit Salt Marsh, Dartmouth, MA (TAC)
- Wetlands restoration planning and implementation: New Bedford Harbor Environment (TAC)

Recreational Areas

- Riverside Park Belleville Avenue recreational marine park (CRAB/TAC)
- Taber Park (CRAB)
- Sportfishing piers (Dartmouth, Fairhaven, New Bedford) (TAC)

Water Column

- Hurricane barrier eastern box culvert (CRAB/TAC)
- Bubble curtain installation: New Bedford barrier gate opening (CRAB)

Habitats

- Eelgrass habitat restoration (TAC)

Living Resources

- Restoration/management of the New Bedford area shellfishery (CRAB/TAC)
- Restoration of the Acushnet River herring run (CRAB/TAC)

Endangered Species

- Buzzards Bay tern restoration and stabilization project (TAC)

Other

- Land conservation - Sconticut Neck marshes and coastline (CRAB/TAC)
- New Bedford/Fairhaven harbor master plan (CRAB)
- Design and development of the New Bedford Aquarium complex (CRAB)

Public presentations/review

A Trustee Council meeting was held on April 9, 1996, to receive the recommendation of the Council's advisory groups and to hear presentations from individuals and organizations that had submitted ideas. The advisory group recommendations were made public and explanation was provided on why specific ideas were favored. The meeting also provided an opportunity for the applicants to explain their ideas and for the Trustees and their advisors to ask questions. Fifteen ideas were presented at this meeting.

This meeting initiated a 30-day public comment period, from April 9, 1996 to May 9, 1996, during which the public was invited to review the ideas and provide written comment. During the comment period an opportunity was provided for idea authors to meet with the Trustee Council's legal counsel to discuss questions regarding the legal determination of whether or not settlement funds could be used to fund their ideas.

A public hearing on April 30, 1996, attended by approximately 100 people, was held to provide an opportunity for the public to comment on individual ideas. Comments were presented on several of the ideas. The two ideas receiving the most support were a feasibility study for an aquarium complex in New Bedford, and a park in the vicinity of Belleville Avenue and Riverside Park. Other ideas receiving favorable comment included shellfish restoration and management, salt marsh restoration, construction of Taber Park, funding for a harbor master plan, funding for wastewater pump stations, tern restoration, funding for archeological work on Native American artifacts, restoration of fish runs on the Acushnet River, construction of sportfishing piers, and a modeling study of the New Bedford Harbor ecosystem.

Trustee Council preferred alternatives

After evaluating the ideas received, considering the recommendations of its advisors, and reviewing the public comment received, the Trustee Council met on May 14, 1996 to decide on which of the 56 ideas to pursue for possible implementation. This also concluded the initial scoping process for the first round of ideas. The Trustees recognized that further technical or legal analysis needed to be done along with discussions with project proponents which could lead to changes in the scope or the idea or determine that the idea was not feasible. After discussion, the Trustees agreed unanimously to pursue the following ideas:

1. Padanaram Salt Marsh Restoration
2. Nonquitt Salt Marsh Restoration
3. Restoration & Management of Tern Populations
4. Taber Park
5. Restoration and Management of New Bedford Area Shellfishery
6. New Bedford/Fairhaven Harbor Master Plan
7. Land Conservation - Scotcut Neck Marshes and Coastline
8. Wetlands Restoration Planning and Implementation: New Bedford Harbor Environment
9. Herring Run Restoration
10. Hurricane Barrier Box Culvert
11. Riverside Park Belleville Avenue Recreational Marine Park
12. Eelgrass Habitat Restoration

The Trustees also addressed the issue of how much money should be spent on early projects. For multi-year project ideas, the Trustees expressed their desire to fund only the first two years, monitor their success and then make a later determination to continue funding once more information is available on EPA's cleanup plans.

These project ideas are considered to be the preferred alternatives. An analysis of these ideas can be found in Chapter 4.

2.2.8 Determination of baseline for monitoring

PCB contamination of New Bedford Harbor has occurred since the 1940's. The Harbor is an industrialized, mixed-use area with other sources of contamination. As will be described in Chapter 3, it is likely that there were pollution sources going back to the earliest time of settlement. The Trustee Council acknowledges that the cleanup and restoration efforts cannot address all of the impacts on the harbor. The focus must be on the impacts caused by the release of PCBs and other hazardous materials from the facilities. In order to better understand the state of the Harbor Environment, the Trustees issued a contract to determine the historical natural resources and uses of the harbor as well as the existing natural resources. This information has been incorporated into Chapter 3. This will assist the Trustees in determining where restoration should occur, how extensive it should be, and when it will be achieved.

To determine current status and health of the harbor shellfish resources, the Trustee Council has funded the Massachusetts Division of Marine Fisheries to conduct a shellfish assessment and sanitary survey. This work will provide information on the abundance of the shellfish resource within the inner harbor, its range, variety and the degree of PCB or other contamination present. The results, could lead to increased utilization and restoration of other areas.

Where existing information on the natural resources of New Bedford Harbor is available, it has been incorporated into Chapter 3 of this document. Where necessary information is lacking, the Trustee Council may fund additional studies.