DRAFT RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT:

Old Southington Landfill Superfund Site
Southington, Connecticut
and
Solvents Recovery Service Superfund Site
Southington, Connecticut

Prepared by

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1.0 Introduction and Authority/Purpose and Need for Action

This Draft Restoration Plan and Environmental Assessment (RP/EA) has been developed by the U.S. Fish and Wildlife Service (USFWS) to identify and evaluate alternatives to restore natural resources injured at or as a result of the discharge of hazardous substance(s) from the Old Southington Landfill Superfund Site and the Solvents Recovery Service Superfund Sites (Sites). Both of these Sites are located in Southington, Connecticut in the Quinnipiac River watershed (Figure 1). Therefore, a combined restoration initiative is proposed. This will combine restoration settlement funds from both Sites, allowing for a larger, more effective and meaningful restoration effort. This document describes proposed restoration actions and provides the public with an opportunity to participate in the restoration planning process.

Executive Order 12580 and 40 CFR § 300.600 designate the Federal and state trustees for natural resources. The Secretary of the Department of the Interior (DOI) is the designated Federal trustee for certain natural resources including, but not limited to, migratory birds, some marine mammals, anadromous fish, federally endangered and threatened species and their respective habitats, and Federal lands managed by DOI. The Secretary of the Interior has designated the Northeast Regional Director, Region 5 of the USFWS to act as the Authorized Official on behalf of DOI for the Sites. The Executive Order and Federal Regulation provide that each state is the designated trustee for all natural resources within its boundaries. The governor of each state designates the state agency or agencies that will act as the natural resource trustee(s) for his/her state. The Governor of Connecticut has designated the Connecticut Department of Energy and Environmental Protection (CTDEEP) as the state's natural resource trustee. Thus, the USFWS and the CTDEEP are the natural resource trustees (Trustees) for the Sites.

Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, natural resource trustees are authorized to assess and recover compensation for injury to and/or loss of natural resources resulting from a release of a hazardous substance(s).

At the Old Southington Landfill Superfund Site (Landfill Site), the USFWS determined that erosion and remedial activities resulted in the permanent destruction of approximately 0.6 acre of palustrine emergent and forested wetland habitat. In addition, about 4.4 acres of Black Pond was contaminated with elevated levels of mercury, cadmium and other metals. The degradation and loss of these wetland and open water habitats adversely affected wetland-dependent wildlife, primarily migratory birds. In a 2009 settlement with the Responsible Party, the DOI received $537,000 to implement wetland habitat restoration, including all costs associated with damage assessment, planning, restoration, and monitoring.

At the Solvents Recovery Service Superfund Site (SRS Site), the USFWS determined that hazardous waste disposed of at the site, including volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and metals, as well as remedial activities to clean up the sites, degraded, and in some cases, destroyed 1.8 acres of wetlands, including a portion of the Quinnipiac River. This resulted in impacts to migratory birds and fish. In three separate settlements with multiple parties, the DOI received a total of $289,840 to implement wetland restoration, including all costs associated with damage assessment, planning, restoration, and monitoring.

DOI deposited the settlement funds from both Sites in an interest-bearing account; the total amount of available funds for the two Sites (initial deposit plus accrued interest minus funds withdrawn for past damage assessment activities and restoration planning) is currently approximately $830,000.

Prior to expending funds for restoration, CERCLA requires the Trustees to develop a publicly reviewed restoration plan [(42 USC § 9611(i)]. DOI Natural Resource Damage Assessment Regulations (43 CFR Part 11) require that the restoration plan list a reasonable number of possible alternatives for restoration, rehabilitation, replacement, and/or acquisition of equivalent resources and the services lost to the public associated with each injured resource (43 CFR §§11.93 and 11.81). In addition, this document constitutes the environmental assessment as defined under the National Environmental Policy Act (NEPA) (40 CFR Part 1502.10), and addresses the potential impact of proposed restoration actions on the quality of the physical, biological, and cultural environment.

2.0 Public Involvement, Notification and Review

This RP/EA is intended to inform the public of potential restoration actions and to solicit their input. CERCLA requires the Trustees to notify the public and any Federal, state, or local agencies with special interests or expertise relating to the RP/EA.

In partial fulfillment of this requirement, the USFWS held a public information meeting on March 21, 2012. The USFWS described the restoration planning process, guidelines for submitting restoration project ideas, the process for evaluating and selecting projects, and the anticipated schedule for project implementation. The public was asked to provide project ideas by May 18, 2012. Three project ideas were submitted during the comment period. Two wetland restoration projects were identified: one in Meriden and another along the Quinnipiac River in Southington. In addition, a suggestion to improve a public canoe trail and update an interpretive guide to the trail was submitted for consideration. Each of the projects is evaluated under the Restoration Alternatives portion of the RP/EA (Section 4.0).

To further incorporate public input, the USFWS is seeking public comment on the RP/EA. A public notice of the availability of the RP/EA was published in the Meriden Record-Journal. The RP/EA is available for review at the following location:

Southington Library
255 Main St.
Southington, CT 06489
(860) 628-0947

In addition, copies of the RP/EA may be obtained from the U.S. Fish and Wildlife Service at the following address:

U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, New Hampshire 03301
Contact: Molly Sperduto
Phone: 603-223-2541, Fax: 603-223-0104
email: molly_sperduto@fws.gov

or online at: http://www.fws.gov/newengland.

Interested parties who wish to comment on the RP/EA must do so in writing by January 31, 2013. Whenever possible, comments should reference specific pages (or sections) in the RP/EA. Comments, suggestions or additional alternatives relating to the RP/EA should be as detailed and specific as possible. Comments should be sent to the attention of Molly Sperduto at the above address.

The Trustees intend to review and consider all comments received prior to issuing a Final RP/EA. The Final RP/EA will include summaries of all comments received, the Trustees' responses to comments, and any clarifications and/or revisions.

3.0 Affected Environment and Summary of Natural Resource Injuries

The Sites are located in the Quinnipiac River Watershed in Southington, Connecticut, approximately 15 miles southwest of the City of Hartford. The Landfill Site is due east of Old Turnpike Road and approximately one mile south of the center of Southington (Figure 1). It is connected to the Quinnipiac River by an unnamed stream, which flows west approximately one mile from the Landfill Site to the river. Industrial and commercial properties border the Landfill Site to the west and south, and residential properties are located to the north. Its eastern edge is bordered by Black Pond and its associated wetlands. The pond and adjacent wetlands are approximately 9.5 acres in size.

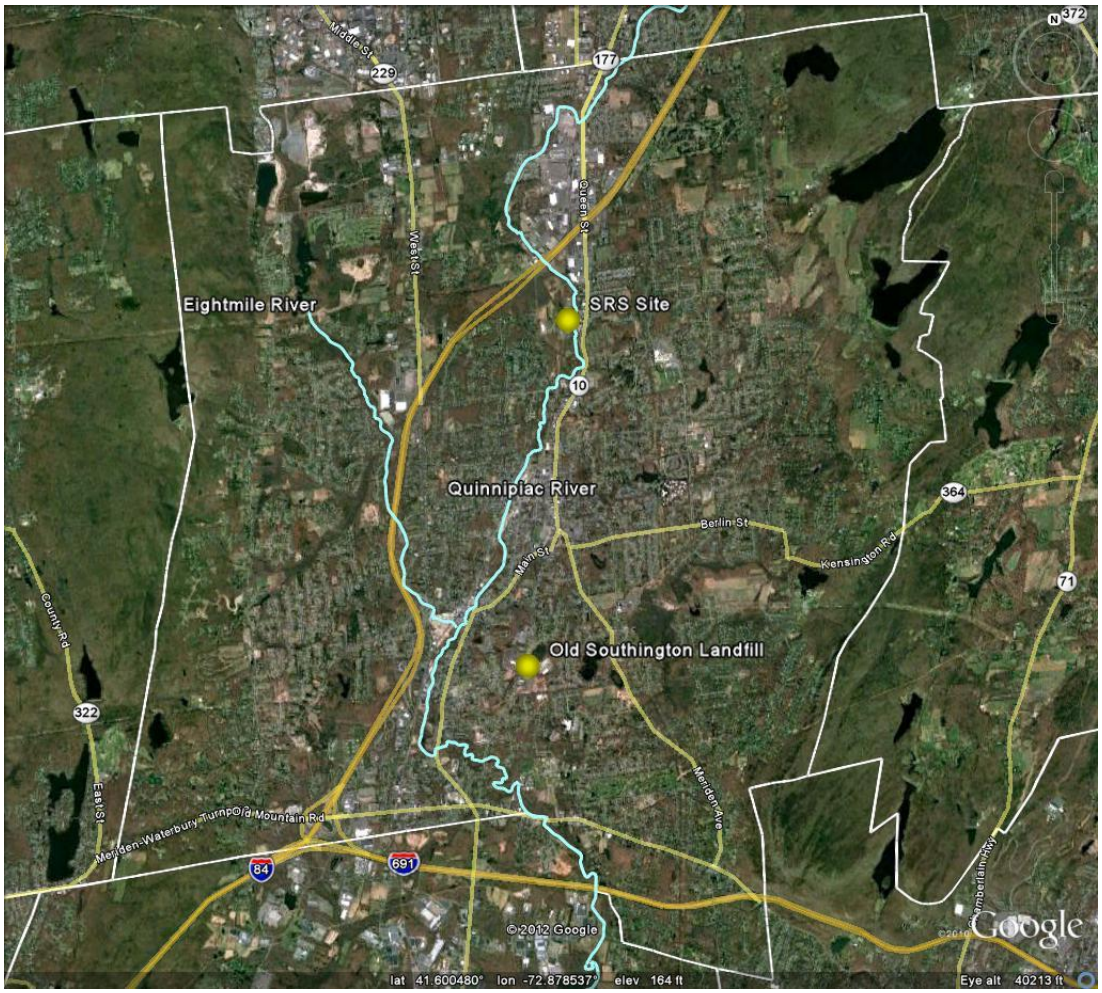

Figure 1. Town of Southington with depiction of Superfund Sites and the Quinnipiac River.

Between 1920 and 1967, the Landfill Site was operated as a municipal and industrial landfill. The northern part of the landfill was used primarily for the disposal and burning of wood and construction debris, while the southern area was utilized for municipal, commercial, and industrial wastes.

In 1967, the Town of Southington closed the Landfill Site and placed an approximately 2-foot-thick soil cover over the landfill. The property was subdivided, and developed into residential, industrial, and commercial properties. After groundwater wells revealed contamination from volatile organic compounds (VOCs), the Landfill Site was formally listed on the National Priorities List (NPL) in 1984. Additional sampling revealed sediments, and surface waters in on-site wetlands and adjacent to Black Pond were also contaminated with VOCs and metals.

The SRS Site is located south of Lazy Lane and lies a short distance from Route 10 (Figure 1). The Quinnipiac River and associated wetland areas comprise the eastern border of the property. Directly south of the Site is the Town of Southington's Curtiss Street Well Field, a 28-acre parcel that contains two inactive production wells. Residential areas are situated to the west of the Site.

The SRS Site facility specialized in recovering waste industrial solvents and blending them for use as a fuel additive. The facility was in operation for approximately 36 years, between 1955 and 1991. Until 1967, waste sludge from the distillation process was deposited in two unlined lagoons on the Site. Use of the lagoons was discontinued in 1967, and wastes were then burned in an open pit or disposed off-site. Due to spills and past operating practices, soils, groundwater, wetlands, and the adjacent Quinnipiac River were contaminated with VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. By 1983, the SRS Site was placed on the National Priorities List (NPL), and in 1991, the SRS Site facility was officially closed.

Site-related contamination and remedial activities at the two Sites have caused the loss or degradation of freshwater wetlands. Contaminated surface water and sediments likely resulted in adverse impacts to aquatic organisms (i.e., reduced diversity and/or abundance). As a result, the quality of the foraging habitat for birds, fish and other wetland-dependant species was reduced. In addition, these species likely were directly impacted by ingesting contaminated surface water, sediment and food sources. Removal actions at the Sites also destroyed palustrine and open-water wetlands that provided breeding and feeding habitat for several species of migratory songbirds.

Trust resources potentially impacted from contamination and the degradation and/or destruction of wetland habitat include numerous species of migratory birds. Bird species that inhabit the Sites include warblers (American redstart, common yellowthroat, yellow warbler), herons (great blue and green), sparrows (song sparrow, swamp sparrow), hawks (red-tailed hawk, red-shouldered hawk), swallows (barn swallow, tree swallow), finches (American goldfinch, cardinal), woodpeckers (common flicker, hairy woodpecker), flycatchers (Eastern kingbird, least flycatcher, Eastern phoebe, Great crested flycatcher), kingfishers (belted kingfisher), ducks (mallard, black duck, wood duck), blackbirds (red-winged blackbird) and geese (Canadian goose).

The American eel, a migratory fish, is also at risk. Although fish surveys have not been conducted along the Quinnipiac River adjacent to the Sites, data collected from 1990-1998 by the CTDEEP indicate that the American eel is present in the Quinnipiac River downstream (approximately one mile) from the Sites (CT DEP 1998). Other migratory fish are not presently found in the Quinnipiac River in Southington due to dams which prevent up- and downstream migration.

In DOI's natural resource damages settlements with the Responsible Parties for the two sites, they concluded that a total of 6.8 acres of wetland habitat had been degraded or destroyed due to site-related contamination. At the SRS Site, nearly two acres of wetlands, including a portion of the Quinnipiac River, were impacted. At the Landfill Site, approximately 5.0 acres of wetland habitat within and surrounding Black Pond were degraded. To compensate for this loss and the associated impacts to migratory birds and wetland-dependant wildlife, DOI received approximately $830,000 to implement habitat restoration activities.

4.0 Restoration Alternatives

The Trustees' primary goal is to implement a restoration project that compensates for adverse impacts to wildlife that resulted from contaminant releases from the two Sites. This may include returning a resource to its prior condition, rehabilitating or replacing a resource, and/or acquiring other resources to compensate for those which were lost as a result of the release of hazardous substances. The restored habitat/resource should be similar in type to the habitat/resource impacted in order to provide similar resource/services. Projects should also be located near the impacted areas, preferably within the Quinnipiac River watershed.

4.1 Criteria for Identifying and Selecting Alternatives

Trustees are required to consider a reasonable number of possible restoration alternatives (43 CFR §11.81) and to evaluate the benefits and effects of each alternative. The following factors were used to evaluate the alternatives:

- the cost to carry out the alternative;
- the technical feasibility and likelihood of success of the alternative;
- the extent to which each alternative benefits more than one natural resource and/or service;
- sustainability of the alternative;
- the extent of adverse environmental, social or economic impacts as a result of implementing the alternative;
- consistency with ongoing remedial work;
- consistency with relevant Federal, state or local laws;
- the extent to which the alternative compliments community goals; and
- the extent to which the alternative results in leverage of additional resources.

The proposed alternative is described in Section 4.2.8. The proposed alternative includes several different restoration alternatives that the USFWS believes would best compensate for injuries to natural resources resulting from releases of hazardous substances at the Sites. Additionally, the proposed alternative has two funding tiers based on the relative merits of each project. Projects in Tier 1 will be prioritized for funding; however, uncertainties regarding costs or project feasibility may result in the implementation of a project from Tier 2. Projects within Tier 2 have been ranked according to the evaluation criteria. Not all projects in Tier 2 are guaranteed funding.

4.2 Restoration Alternatives

Based on the criteria and on NEPA guidance, the Trustees evaluated the following specific potential projects. Preliminary budgets have been developed for each project based on estimated potential costs derived from our experience with similar projects.

4.2.1 Alternative 1: No Action (NON-PREFERRED)

Federal regulations require the consideration of this option. Under this Alternative, no restoration, rehabilitation, replacement, or acquisition actions would occur to compensate for resources injured due to contamination or remediation of contamination from the Sites. There is no cost to this alternative; however the goal of restoring injured resources would also not be realized. There are no societal or economic benefits that normally might result from restoration activities. For all of these reasons, this alternative is not preferred.

4.2.2 Alternative 2: On-Site Wetland/Riverine Restoration (NON-PREFERRED)

On-site wetlands are frequently considered for restoration. At the SRS Site, the majority of contaminated wetland sediments were remediated and restored by the U.S. Environmental Protection Agency (EPA), as part of the site cleanup (USEPA 2005). Some river sediments were not remediated due to lower levels of contamination that generally did not exceed ecological probable effects concentrations. Adverse impacts associated with removal of these sediments were determined to outweigh the limited ecological benefits. In addition, natural attenuation, via transport and deposition of cleaner upstream sediments over residual contamination, is expected to result in less bioavailability to ecological receptors over time.

At the Landfill Site, wildlife habitat was impacted by contamination within Black Pond and along its shoreline. EPA remedial efforts resulted in the removal of contaminated sediments and containment of source area contamination, thereby preventing future impacts to the pond and adjacent wetlands. EPA also conducted restoration of the remediated areas to return them to functional wildlife habitat.

The USFWS sought additional opportunities to conduct restoration at the two sites, but found no good quality options, primarily due to the limited open space available. For this reason, and since EPA remediated and restored the majority of impacted wetlands, on-site restoration is not preferred.

4.2.3 Alternative 3: Quinnipiac River Aquatic Restoration (PREFERRED – Tier 1)

Project Description

The Quinnipiac River originates just west of Hartford and flows in a southerly direction, reaching Long Island Sound 43 miles later at New Haven. The Quinnipiac is the largest of the coastal watersheds in Connecticut and flows through some of the most densely populated areas of the State (Southington, Cheshire, Meriden, Wallingford, North Haven, and New Haven).

During the industrial revolution, many dams were constructed in Connecticut rivers, including the Quinnipiac River. Dams fragment rivers and result in adverse ecological impacts, including reduced circulation, altered flow regimes, accumulation of pollutants, increased temperatures, and prevention of aquatic species, such as migratory fish, from accessing upstream habitats.

The CTDEEP Inland Fisheries Division seeks to restore river hydrology and runs of diadromous fish species to their historic range within the State when possible. The CTDEEP has conducted an evaluation of State rivers, existing runs, and upstream habitat, and determined the best candidates for diadromous fish restoration projects. One such high priority candidate is the Quinnipiac River. Historically, the Quinnipiac River provided spawning habitat for diadromous fish such as American shad, gizzard shad, alewife, blueback herring, sea lamprey, white perch, striped bass, sea-run brown trout, and American eel.

Today, due to a decline in use, several dams on the river have been breached, washed away, or removed. Currently, there are only five remaining dams along the Quinnipiac River's 43-mile length (from downstream to upstream) (Figure 2).

The first dam is the Wallace Dam, which is located in Wallingford, 16.6 miles upstream of the mouth of the river. The CTDEEP and the Quinnipiac River Watershed Association recently built a fishway at this first barrier on the river (Figure 3). The fishway was completed earlier this year and is currently passing fish.

The second dam, Britannia Spoon Company Dam (also in Wallingford), has been subject to disrepair for many years. As of about eight years ago, the entire river breached the dam and flows around the north end of the spillway. This site is now passable to fish.

Located 5.4 miles upstream of Wallace Dam is the third dam (Hanover Dam). The City of Meriden recently completed a Denil fishway at this dam as part of a dam repair project and the CTDEEP is assisting with its operation.

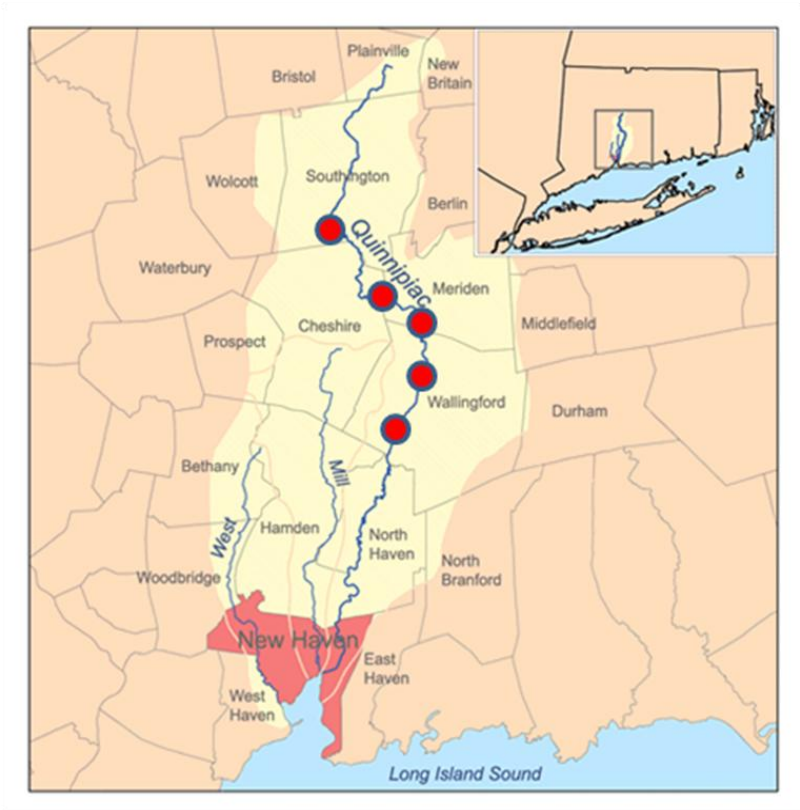

Figure 2. Quinnipiac River Watershed, showing 5 existing dam locations.

Figure 3. Construction of fishway at Wallace Dam in Wallingford. Photo by Harry Haakonsen.

The fourth dam, Carpenters Dam (Figure 4), is a breached structure on the Meriden/Cheshire town line. Fish likely pass over this structure at some flows, however many may not pass due to the high flow velocity. This structure also represents a hazard to boaters and swimmers.

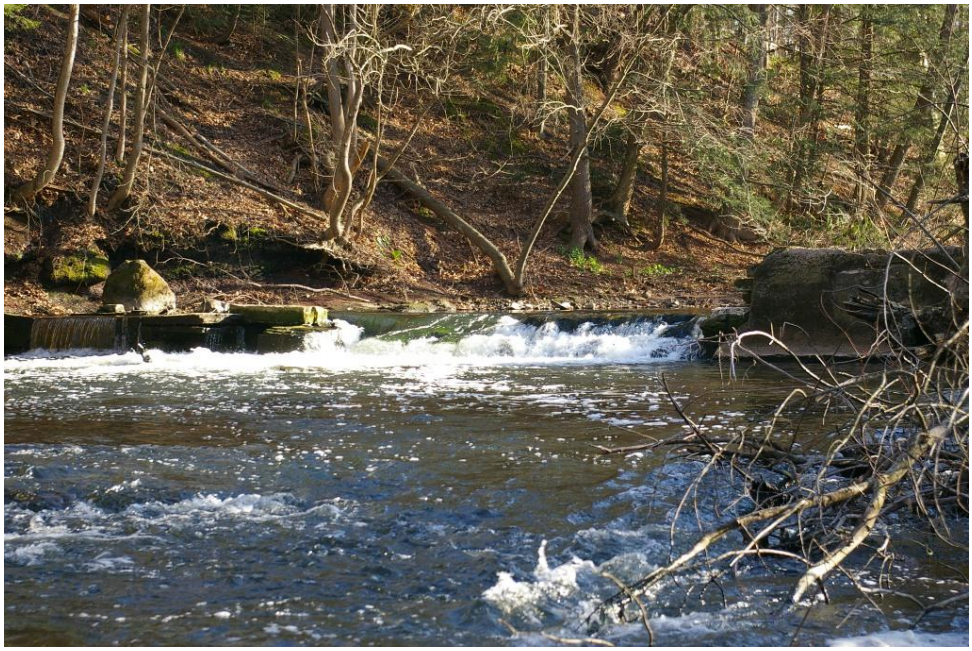

Figure 4. Carpenters Dam in Meriden.

The fifth dam, Clarks Brothers Dam (Figure 5), is the last remaining impediment to fish. It is located 4.6 miles upstream of the Hanover Dam. This is a small (approximately 4 feet high) stone dam with a concrete cap and no longer serves any apparent purpose.

The Clarks Brothers Dam and the Carpenters Dam (at some flows) mark the end of diadromous fish migration on the river, preventing fish from accessing the remaining 16.6 miles of habitat in the headwaters (including 4.7 additional river miles of habitat on the tributary Eightmile River). If fish could get past the Carpenters Dam and the Clarks Brothers Dam, the entire mainstem of the Quinnipiac River, except for the last mile or so where the amount of available habitat is insignificant, as well as the majority of the Eightmile River, would be opened to diadromous fish as well as other resident species.

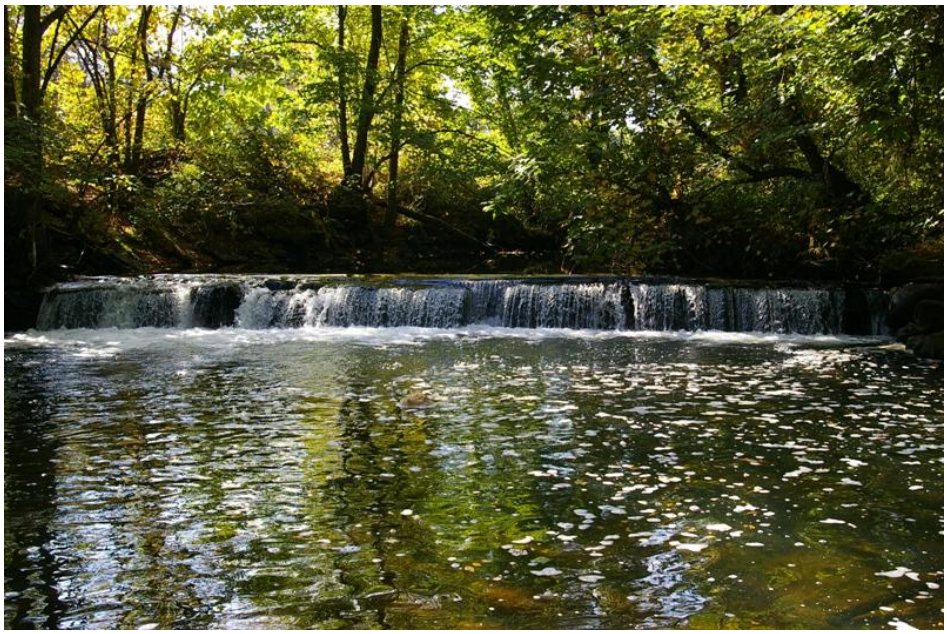

Figure 5. Clarks Brothers Dam limits instream migration of fish and other aquatic organisms.

Restoring diadromous fish runs could be accomplished through several methods, including installation of fishways, or the breaching or removal of existing structures. Removal of the dams would have the greatest overall benefit to the environment by restoring the diadromous fish runs and the instream migration of resident fish species, as well as by restoring the hydrology of the river. The area immediately upstream of the Clarks Brothers Dam regularly leaves its banks and floods the adjacent bowling alley parking lot. The removal of the dam will help alleviate flooding. This will also increase water quality, as residue from the parking lot will less frequently wash into the river. Sediment transport will be restored in the area surrounding the dams and restored flows are likely to increase oxygen content of the water and decrease the temperature of the water. In addition, removal of the dams would eliminate the hazard posed to boaters and swimmers.

The proposed project is to restore diadromous fish to the Quinnipiac River. If feasible, dam removal would be the preferred approach to achieve passage, as it would provide additional ecological benefits, including improved water quality, flow and connectivity. To evaluate how to best restore fish to the Quinnipiac River, the proposed project would proceed in a phased approach as described below, addressing both the Carpenters Dam and the Clarks Brothers Dam.

1. Hire an experienced engineering firm to conduct an engineering study of both dams (this will be accomplished through a competitive bid process).

The study will include:

a. Inventory and description of existing conditions including topographical and bathymetrical surveying, hydraulic conditions, sediment quantity and quality (including sampling and laboratory analysis to document any contamination), and property ownership. Assessment of historical resources shall also be conducted (possibly by another firm).

b. Determination of whether or not the preferred approach of removal is feasible. If not, design of a fishway may be implemented.

c. Develop preliminary plans for the preferred alternative. Such plans will include water control, access, method of demolition, areas for material stockpiling, identification of disposal areas for all demolition materials and excavated sediments, stabilization of remaining structures and riverbanks as appropriate, hydraulic analysis to demonstrate suitability of new river profile to pass fish, pass floodwaters, and impact on downstream areas, restoration of work sites including removal of access roads, regrading banks, restoring damaged pavement, and revegetation of critical areas.

d. Subsequent to agency review and comment, develop final plans suitable for permitting and bidding.

2. Apply for all necessary permits (with help from engineering firm, per contract) and submit final plans.

3. Develop bidding documents (with help from engineering firm, per contract).

4. Hire through a competitive bid process an experienced contractor to implement the designed action.

5. Provide construction oversight (with help from engineering firm, per contract).

Project Budget

	Carpenters Dam	Clarks Brothers Dam
Design (Item 1, above)	$100,000	$100,000
Permitting (fees & contractual)	$ 10,000	$ 10,000
Dam removal	$200,000	$100,000
Construction oversight	$ 20,000	$ 10,000
Sub-total	$330,000	$220,000
Contract administration (20%)	$ 66,000	$ 44,000
Total	$396,000	$264,000
Grand Total	$660,000	

Project Evaluation

This alternative will restore segments of the Quinnipiac River that were directly impacted from contamination at the Sites. Restoration of diadromous fish to these areas of the river will benefit a number of other species, as migrating and spawning fish will provide an important food source to organisms higher on the food chain, such as migratory birds feeding and nesting along the river. Should dam removal be feasible, it would enhance water quality, flow and connectivity of riverine habitat for all aquatic organisms utilizing the river.

Dam removal is a feasible restoration option. In-house expertise is available from fisheries biologists and engineers within the CTDEEP and the USFWS to help ensure that restoration is successful. Similar projects are being implemented throughout Connecticut and New England, thus it is expected that restoration of diadromous fish and the riverine habitat can also be accomplished in the Quinnipiac River. If it is determined that dam removal is not possible, various fish passage options will need to be evaluated to choose the best restoration option. Sustainability of fish passage will depend on the restoration option that is selected. Dam removal or breaching would provide passage in perpetuity, whereas a fish passage structure would require maintenance and have a more limited period of service.

The immediate project, including assessing existing conditions and preparing a feasibility and design for achieving fish passage, will not result in environmental or socioeconomic consequences. Implementation efforts may result in adverse consequences that will be identified and minimized during the permitting process.

The project is consistent with USFWS and CTDEEP efforts to restore diadromous fish species. It also complements and supports restoration efforts of The Nature Conservancy, the Northeast Association of Fish and Wildlife Agencies and the Quinnipiac River Watershed Association.

The cost to carry out the alternative is not certain, however, based on similar efforts in other areas of New England, it is expected that a total of not more than $660,000 would be needed to restore diadromous fish at the two dams. This cost is relatively low considering that more than 16 miles of river will be opened to diadromous fish and the connectivity of the river will also be restored for resident fish.

Due to the extensive area of the watershed that will benefit from the restoration of diadromous fish and the enhanced water quality and water flow that would result from dam removal, this alternative has the greatest potential environmental benefit. This alternative also benefits portions of the river directly impacted by the SRS Site. The relative cost of the alternative is reasonable and there are likely to be few adverse environmental or socioeconomic impacts. For all of these reasons, this alternative is a preferred Tier 1 project.

4.2.4 Alternative 4: Eightmile River Fisheries Restoration (PREFERRED – Tier 2)

Project Description

The Eightmile River is the largest tributary of the Quinnipiac River. It flows about 4.7 miles from Grannis Pond (Figure 6), which is a 30-acre dam controlled pond in northwest Southington, to the Quinnipiac River near Plantsville. The Eightmile River includes a large amount of high quality fish habitat, particularly for the diadromous species targeted for restoration by the CTDEEP.

Figure 6. Outlet from Grannis Pond to the Eightmile River.

The Forestville Fishing Club owns Grannis Pond and approximately 100 acres surrounding the pond. The club is committed to maintaining their lands in a pristine state to preserve wildlife habitat and promote fishing and hunting, and they are very supportive of the concept of a fishway. The club currently manages the water level of the pond to support a warmwater fishery.

A variety of different species of fish utilize Grannis Pond, including largemouth bass, smallmouth bass, chain pickerel, yellow perch, calico bass, fat head minnows, golden shiners, bluegill, and roaches. Coldwater species, including brown, rainbow and brook trout also utilize the pond, as do suckers and occasionally eels.

If fish passage is achieved at the Carpenters and the Clarks Brothers Dams, diadromous fish will begin to move upstream in the Eightmile River to spawn, as there are no barriers to migratory fish above the Clarks Brothers Dam. Based on size and depth, Grannis Pond appears to provide high quality spawning and nursery habitat for river herring (alewife and blueback herring). Sea lampreys, and American eels would also likely spawn in the pond if barriers were reduced or removed.

The current dam on Grannis Pond is approximately five feet tall and prevents instream migration of most fish species (although suckers have been observed to migrate up the face of the dam). It would currently block the passage of river herring under many stages of streamflow, but it would be relatively inexpensive to install a fishway capable of providing passage to targeted diadromous species and many resident species.

This project would entail designing and constructing a means to pass diadromous fish in and out of Grannis Pond. The process would be similar to that for the Carpenters Dam and the Clarks Brothers Dam removal, but simpler due to the small size of the dam:

1. Consult with CTDEEP fisheries biologists and USFWS hydraulic engineers to develop a conceptual plan for a fishway at the dam.

2. Consult with the CTDEEP Dam Safety Program to determine if a permit would be required for such a fishway. If not, consult with the Town of Southington, Inland Wetlands Commission to determine what it would require for plans to accompany a permit application.

3. Hire an experienced surveying company through a competitive bid process to produce a topographical survey map of the dam and surrounding area, including all property boundaries and utilities.

4. Develop an engineering design for the fishway, including water control, access, method of excavation into the existing spillway, design of fishway to be constructed, identification of disposal areas for all demolition materials, hydraulic analysis to demonstrate suitability of the fishway to pass fish, pass floodwaters, and impact on downstream areas, restoration of work sites, including removal of access roads, restoring damaged pavement, and revegetation of critical areas.

5. Subsequent to agency review and comment, develop final plans suitable for permitting and bidding.

6. Apply for all necessary permits and submit final plans.

7. Develop bidding documents.

8. Hire an experienced contractor to implement the designed action.

9. Provide construction oversight.

10. Develop Operation and Maintenance Plan for owner.

11. CTDEEP staff will continue to provide technical oversight into the operation and maintenance of the fishway into the future.

Project Budget

Surveying and design	$18,000
Permitting	$ 2,000
Fishway construction and oversight	$20,000
Total Cost:	$40,000

Project Evaluation

The Eightmile River Fisheries Restoration Project would provide river herring and other diadromous fish with access to 30 acres of spawning habitat in the upper watershed. To jumpstart restoration, the CTDEEP would stock Grannis Pond for several years with pre-spawned river herring so that out-migrating young fish would be imprinted to the pond. In four years, these adults would seek to return to the pond to spawn. This will create a run of fish that will want to ascend the tributary, utilizing all 4.7 miles of the Eightmile River below the dam and approximately 2.2 miles above the dam. Access to the spawning habitat in Grannis Pond would help to restore diadromous fish to the entire Quinnipiac River watershed. In addition, the production of juvenile herring would provide significant food to other fish, birds, mammals, and reptiles that live in the watershed and forage on the young fish. Estimates of spawning production indicate that river herring can produce as many as 500 young/acre of spawning habitat.

To preserve the aquatic habitat in Grannis Pond, a fishway would be the preferred mechanism to pass fish above the outlet dam. The USFWS and the CTDEEP have considerable experience with designing and installing appropriate fish passage structures. These fish ladders require minimal maintenance and last for 25 to 50 years. There are no adverse environmental, or socioeconomic effects from installing a fishway. Conversely, recreational fishing is expected to improve in the watershed, and numerous species will benefit from the increased food resource. The cost to implement the project is estimated to be approximately $40,000.

Implementation of the Eightmile River Fisheries Restoration Project would significantly increase spawning habitat for diadromous fish, and this in turn would increase forage for numerous species of mammals, birds, fish and reptiles throughout the upper Quinnipiac River watershed. Species similar to those impacted from contamination at the Sites would be expected to benefit. However, this project would only be worth implementing if fish passage is achieved at the two lower dams, which currently block fish passage to the Eightmile River. Due to this current limitation, this project is ranked as a Tier 2 project and is only recommended for funding should fish passage be achieved at the two downstream dams.

4.2.5 Alternative 5: Wetland and Floodplain Habitat Restoration/Enhancement (PREFERRED – Tier 2)

Two project ideas were submitted that would result in wetland restoration or enhancement.

Project Description 1 – Invasive Species Mapping and Management

Numerous nonnative, invasive species currently degrade the ecological integrity of the Quinnipiac River. Common reed (Figure 7), Oriental bittersweet, Japanese barberry, and Japanese knotweed are a few of the invasive species that outcompete native vegetation, frequently reducing the quality of wildlife habitat. The objective of this proposal is to identify the location and abundance of invasive, nonnative species along the entire Quinnipiac River corridor in Southington. Once the extent and types of nonnative, invasive species are identified, a management plan will be developed to remove the nonnative species and restore native vegetation. Several restoration areas will be identified, landowner permission will be secured, and restoration will be implemented. It is expected that restoration will begin on publically owned lands. Volunteers would be utilized to help with restoration efforts.

Figure 7. Common reed growing along the Quinnipiac River in Southington.

Project Budget

Field Assessment and Report Preparation	
(two botanists for one field season at $25,000/each)	$50,000
Report to public/educational forums (three events)	$ 2,000
Management program - ($20,000/year for four years)	$80,000
Total Cost:	$132,000

Project Evaluation

The Invasive Species Mapping and Management Project would enhance wetlands along the Quinnipiac River in the Town of Southington. The riverine areas expected to benefit are those that were impacted from the Sites. By removing nonnative invasive species and replacing them with native species, water quality, wildlife habitat and biodiversity are expected to improve.

Control methods for nonnative species are well established (cutting, pulling, herbicide), but they require ongoing, long-term effort. Additionally, removing invasive species from riverine systems where invasive species are spread over large areas and seeds are continually redeposited is typically much more difficult than removing invasive species from small, discrete locations.

There are positive environmental benefits associated with the removal of invasive species; however, there may also be temporary consequences associated with herbicide applications.

Invasive species control efforts are relatively inexpensive; however, the cost and ultimate success are greatly dependent on the extent of the invasive species present. Since this project would first entail an assessment of the presence of invasive species, the extent is not fully known, and it is difficult to determine the likelihood of success. Reductions in invasive species are likely, but may be limited in scope or may be short-term.

While this project would directly benefit the impacted area of the river and the wildlife utilizing the riverine habitat, it is ranked as a Tier 2 project due to the limited scope and potential short-term benefit derived. The sustainability of the project is highly uncertain due to the potential for recolonization of invasive species from upstream locations.

Project Description 2 – Dogs Misery Swamp Restoration

The Dogs Misery Swamp Restoration Project idea was provided by the City of Meriden. To minimize flooding in downtown Meriden, the city recently undertook a planning effort to identify projects that would help increase floodwater storage capacity. One of the projects was to restore wetland habitat at Dogs Misery Swamp, which is located in the upper reaches of Harbor Brook, which flows into the Quinnipiac River at Hanover Pond. Dogs Misery Swamp is located in the area where Route 91 and the Merritt Parkway intersect (Figure 8).

The 30-acre swamp is an extensive forested wetland intersected by several major roadways and encroached upon by expanding development. At the end of Barr Road, two residential properties were constructed within and adjacent to the wetland. The city acquired the two properties in 2008 and they are currently proposing to restore the area by removing the residences, 240 feet of roadway, and associated debris, including fences, dog houses, etc. Removal areas will be graded and seeded with upland or wetland seed mix, depending on the resultant elevation. Approximately 1.5 acres of habitat will be restored; this will be comprised of both upland and wetland areas. Additionally, two small areas of wetland that currently support common reed will be excavated, treated with herbicide, and re-seeded with a wetland seed mix.

The result of this project will be to restore both upland and wetland habitat in the Dogs Misery Swamp and to limit the spread of the nonnative invasive common reed to other areas of the wetland. The project will also increase flood storage capacity in the upper watershed by removing existing impervious surfaces associated with the roadway and houses.

Project Budget

Removal of 0.3 acre of concrete pavement	$ 60,000
Removal of debris associated with two residences	$ 40,000
Grading and planting restored areas	$ 30,000
Removal of invasive, nonnative species	$ 20,000
Available matching funds (City of Meriden)	($ 37,500)
Total Cost:	$112,500

Project Evaluation

The Dogs Misery Swamp Restoration Project would directly restore upland and wetland habitat within the greater Quinnipiac River Watershed. Wildlife species similar to those that were harmed at the Sites are expected to utilize the restored habitat at Dogs Misery Swamp. These include amphibians such as frogs and salamanders, and birds, such as flycatchers, warblers and thrushes. However, due to the restoration site's downstream location and limited size, it is likely to have a limited benefit to wildlife impacted at the Sites.

Figure 8. Dogs Misery Swamp

The proposed wetland and upland restoration project is highly feasible and sustainable. The restoration area should be monitored for three to five years to ensure successful removal of the invasive common reed. The project was recently permitted by the U.S. Army Corps of Engineers (ACOE) and the State; thus, it is ready for implementation. It is a priority for the city as indicated in the Harbor Brook Flood Control Project. As the project is located in a relatively isolated area at the end of a residential street, there are no negative environmental or socioeconomic effects expected. A minimal increase in property values may be gained by existing residences once the current homes are removed.

The estimated cost of restoration is approximately $100,000/acre, for a total of $150,000. The city has currently allocated $37,500 for the project, which would reduce the total needed from the NRDAR settlements to $112,500.

While the project provides a direct opportunity to restore and enhance wetlands within the watershed, the overall scale of the project is limited. The acreage is small (1.5 acres) and the diversity and types of species likely to benefit are fairly limited. The project site is also farther from the Sites than several of the other projects. The cost/acre is also relatively high compared to several of the other projects. For all of these reasons, the Dogs Misery Swamp Restoration Project is ranked as a Tier 2 project.

4.2.6 Alternative 6: Acquisition of Equivalent Resources (PREFERRED – Tier 2)

Project Description

Acquisition of equivalent resources entails the purchase and protection in perpetuity of wetland and/or upland habitats that provide resources similar to those injured by the contamination. Potential protection areas include those lands which provide habitat for migratory birds or other important natural resources such as endangered, threatened or rare species. Upland areas that help maintain the integrity of aquatic areas and are at risk of being lost due to imminent development will be considered a priority.

Acquisition of equivalent resources is frequently considered the least-preferred alternative because it results in preservation of existing resource values rather than replacement of lost resource values. However, in areas under imminent threat of development, protection can be a critical mechanism to secure and promote resource viability by preventing future direct and indirect impacts of such development.

In the eastern part of Southington (approximately two miles from the Old Southington Landfill), there is currently an opportunity to purchase a fee interest or conservation easement on a portion of a 19-acre parcel containing wetland and adjacent upland habitat. The potential for development of the interior of the property is high.

Project Budget

The value of the property is not currently known. For comparison, single family house lots of 1-2 acres in Southington are currently listed for approximately $135,000 - $210,000. The value of the property depends greatly on the number of house lots that would be permitted.

Project Evaluation

The undeveloped portion of the property is comprised of a mix of forested, open and wetland habitat types. The open areas are utilized for hay production and account for approximately five acres of the property. The remaining portion of the property contains forested uplands and wetlands surrounding Misery Brook, which traverses the center of the property (Figure 9). The property is situated near other town-owned conservation land and its protection would help to create a corridor between protected lands.

Figure 9. Misery Brook traverses the center of the property.

The property supports a variety of species due to its mix of forested, wetland and open field habitats. Bird species observed or expected to inhabit the property include thrushes (Eastern bluebird, wood thrush, American robin), warblers (common yellowthroat, yellow warbler, ovenbird), vireos (red-eyed), blackbirds (red-winged blackbird, common grackle), titmice (black-capped chickadee, tufted titmouse), flycatchers (eastern phoebe, eastern kingbird, eastern wood-pewee), woodpeckers (downy woodpecker, hairy woodpecker, northern flicker) and raptors (red-tailed and broad-winged hawks). Wading birds (herons) and waterfowl (ducks) also utilize the brook and open backwater areas. Mammals, including white-tailed deer and a variety of small rodents also use the site. The brook and adjacent wetlands provide habitat for amphibians such as green frogs and reptiles such as painted turtles.

This habitat protection project would benefit a variety of wildlife, including migratory birds and amphibians, reptiles and mammals that utilize the wetland and adjacent upland forest and open field. It would result in the permanent protection of a relatively small parcel of wildlife habitat in Southington, not far from the two Sites. The feasibility and sustainability of land protection efforts are certain and lasting and particularly important as habitat dwindles due to development.

Conservation efforts would maintain the scenic quality of the area and benefit surrounding property values. Conservation of the wetland and surrounding upland areas would prevent runoff of pollutants associated with development and help to protect water quality in the stream. The project would support ongoing community efforts to conserve land. There are no known adverse impacts associated with the project.

The cost of land protection as a restoration alternative is frequently high, especially if the land has potential for development. In this case, the funds needed to complete the purchase of the

property would likely be less than usual due to potential partnerships with the Town or conservation organizations. The reduced cost of the project due to potential partnerships and the long-term sustainability are both factors which increase the relative value of this project. Conversely, the limited geographic scope of the project results in a more limited benefit to natural resources. This limited benefit is what reduces the value of this project and results in its ranking as a preferred Tier 2 project.

4.2.7 Alternative 7: Enhancing Public Recreation and Education on the Quinnipiac River (PREFERRED – Tier 1)

Project Description

One project idea received during the public comment period was to improve and maintain the Upper Quinnipiac River Canoeable Trail. The trail runs from a boat launch at Route 322 in Southington through Cheshire and ends at the Meriden town line near Carpenters Dam. It is approximately five miles long and meanders through floodplain forests and fields.

A guide for the trail was initially prepared in 1995 (revised in 1999 and 2001) by Peter Picone with assistance from the Quinnipiac River Watershed Association to help educate people about the values of the Quinnipiac River Watershed. Specifically, the guide describes wildlife that may be observed on the river and discusses the ecology of wetlands and river dynamics, providing information about how wetlands filter pollutants and retain flood waters.

The proposed project is to update the trail guide and make it accessible in printed form at the launch, as well as for download from the web and through audio podcasts. In addition, the canoe launch needs gravel and the trail requires annual maintenance to keep it clear of logs and other debris so that it is navigable.

Project Budget

Trail guide printing costs: 3,000 copies @ $2.50/each	$ 7,500
Audio guide digitization:	$ 3,500
Gravel for canoe launch:	$ 1,000
Seasonal maintenance of canoe trail ($1,200/yr x four yrs)	$ 4,800
New trailhead/sign	$ 1,500
Total Cost:	$18,300

Project Evaluation

Enhancing pubic recreation and educating citizens about the value of the Quinnipiac River will not directly restore the natural resources that were impacted from the Sites. However, in the long term, encouraging people to access the river and teaching them about the river may indirectly benefit the resources that were impacted. As people come to learn about the wildlife that utilize the river, they often appreciate it more and may become more supportive of efforts to protect it. Through the guide, people will also learn about the benefits of protecting wetlands. Additional information could be added to help people understand how they can help reduce society's impact on the environment.

This project has no adverse environmental, social or economic impacts. It is likely to benefit the environment indirectly through education. It will also benefit people through increased access to recreational opportunities. Minimal economic benefits may result from increased recreational use of the area.

The project will support ongoing efforts by the Quinnipiac Regional Watershed Association and the Town of Southington to make the river more accessible. The town recently constructed a new boat launch off Germania Street. The updated trail guide could be expanded to include the stretch of river between Germania Street and Route 322.

The cost to prepare an updated, accessible guide and maintain the canoe trail for four years is estimated to be $18,300. For this limited amount of funds, a large audience can be educated about the Quinnipiac River and encouraged to become better stewards of the watercourse. The sustainability of the project is limited; however, by improving access to the Quinnipiac River, it is hoped that more people will enjoy the river and be interested in volunteering to maintain the canoe trail once funds are expended. Additional information can also be added to the new guide to teach people about the diadromous fish restoration project that is also proposed for implementation.

5.0 Proposed Alternative

A number of suitable, beneficial restoration alternatives were proposed to restore the natural resources impacted by the Sites. Due to the limited amount of funding available, two tiers of preferred restoration projects are proposed (Table 1).

Two projects were selected as Tier 1 preferred restoration projects and they are prioritized for implementation. First, the Quinnipiac River Aquatic Restoration Project will result in direct restoration of the aquatic environment that was impacted from the Sites. A broad variety of wildlife species will benefit, including fish, birds, reptiles, amphibians and mammals. Moreover, the restoration of diadromous fish will benefit the entire watershed. Second, Enhancing Public Recreation and Education on the Quinnipiac River is also proposed for Tier 1. This low cost project will indirectly benefit the natural resources of the watershed through education and outreach. Getting people out on the river and teaching them about the value of natural resources is a relatively inexpensive means to increase future stewardship of the watershed and to promote the Quinnipiac River restoration. The total estimated cost to

implement these two projects is $678,300. There are sufficient funds to implement each of the projects in the first tier based on estimated costs.

Projects in the second tier will be funded if any funds remain after first tier projects are implemented, or should any projects in the first tier be determined infeasible. Projects in the second tier are listed in priority order. The Eightmile River Fisheries Restoration is prioritized. This project will directly benefit the entire Eightmile River drainage area by restoring spawning and nursery grounds for diadromous fish; this in turn will benefit species that prey upon river herring. In addition, this project builds upon the diadromous fish restoration being implemented in Tier 1, providing benefits to a greater expanse of the Quinnipiac River Watershed. It is technically feasible and can be completed for relatively low cost.

The Acquisition of Equivalent Resources is prioritized next. Land acquisition will result in permanent benefits for wildlife in the watershed. The amount of habitat to benefit from land protection is smaller than the area to benefit from aquatic restoration projects and the cost of acquisition is higher; however, community support and leveraging of funds make this opportunity attractive. Furthermore, land acquisition directly protects nesting habitat for migratory birds, one of the resources impacted from contamination.

The two Wetland Habitat Restoration/Enhancement projects are lowest in priority. The Invasive Species Mapping and Management project would directly benefit areas impacted from contamination, but areas targeted for management are likely to be small and the sustainability is uncertain. The Dogs Misery Swamp project would result in direct wetland restoration; however, it would be limited (approximately 1.5 acres restored) and it is farther from the area of impact than the other proposed projects.

5.1 Cumulative Impacts of the Preferred Alternative for Restoration

The preferred alternative is to implement an aquatic restoration program for the Quinnipiac River, restoring diadromous fish and enhancing water quality and water flow in the upper 16 miles of the watershed. Additionally, enhanced public access to the river and an updated canoe trail guide will help educate people about the restoration. The preferred alternative is not expected to have a significant cumulative effect on the environment. While some short-term impacts may arise from dam removal or fishway construction efforts, overall the project will not adversely affect the environmental conditions of the restoration sites and is not expected to have significant additive effects on the environmental quality of the river.

Tier 1	Funding Requested	Key Criteria for Selection
Alternative 3: Quinnipiac River Aquatic Restoration	$660,000	- Direct benefit to impacted natural resources and overall watershed - Large area and number of species to benefit - Technically feasible and sustainable
Alternative 7: Enhancing Public Recreation and Education on the Quinnipiac River	$18,300	- Indirect benefit to impacted watershed through education - Low cost
Tier 2 (in order of priority)		
Alternative 4: Eightmile River Fisheries Restoration	$40,000	- Direct benefit to impacted watershed once Alternative 3 is implemented - Large area to benefit - Technically feasible with limited sustainability - Low cost
Alternative 6: Acquisition of Equivalent Resources	unknown	- Direct benefit to impacted watershed - Limited area to benefit - Technically feasible and sustainable - Community support, leverages other funding
Alternative 5: Wetland and Floodplain Habitat Restoration/Enhancement – Invasive Species Mapping and Management	$132,000	- Direct benefit to impacted natural resources - Limited area to benefit - Limited sustainability
Alternative 5: Wetland and Floodplain Habitat Restoration/Enhancement – Dogs Misery Swamp	$112,500	- Direct benefit to impacted watershed, though farther removed than other alternatives - Limited area to benefit - Moderate cost/acre

Table 1. Preferred Restoration Projects in Order of Priority.

6.0 Compliance with other Authorities

The following local, state, and Federal laws, regulations, and policies may affect completion of the restoration projects. Compliance with these authorities was considered as part of the restoration planning process. All project sponsors that receive NRD funding will be responsible for obtaining necessary permits and complying with relevant local, state, and Federal laws, policies, and ordinances.

6.1 Local

Inland Wetlands – Regulation of activities conducted by non-state agencies in inland wetlands are delegated to local inland wetlands and/or conservation agencies.

Site Plan Approval – Construction of facilities, structures, trails and boardwalks, excavation, and related activities will require local site plan approval through planning and zoning commissions.

6.2 State

Inland Wetlands – Activities conducted in inland wetlands are regulated through the CTDEEP Inland Water Resources Division. A municipal project using state grant funds is not exempted from local approval processes.

Floodplains – Activities conducted within designated Stream Channel Encroachment Lines (SCEL) are regulated through the CTDEEP Inland Water Resources Division. If the project is being undertaken by a state agency or through use of state funding, a Flood Management Certification will also be required.

Waterways – Activities that alter the instantaneous rate of water flow are regulated through the CTDEEP Inland Water Resources Division. This includes removal of structures (in the case of a dam removal) or modifications of structures (including culverts and bridges).

Dam Safety – Projects involving alterations to dams (including their removal) require a dam safety permit through the CTDEEP Inland Water Resources Division.

Water Quality Certification – Any project that falls under the jurisdiction of the ACOE (typically through Section 10 or Section 404) also requires a 401 Water Quality Certification through the CTDEEP Bureau of Water Protection and Land Reuse.

6.3 Federal

National Environmental Policy Act

NEPA requires that Federal agencies consider the environmental impacts of proposed actions and reasonable alternatives to those actions. The Authorized Official will determine, based on the facts and recommendations in this document and input from the public, whether this RP/EA supports a Finding of No Significant Impact (FONSI), or whether an Environmental Impact Statement (EIS) will need to be prepared.

Clean Water Act

The CWA is intended to protect surface water quality, and regulates discharges of pollutants into waters of the United States. All proposed restoration projects will comply with CWA requirements, including obtaining any necessary permits for proposed restoration actions. Restoration projects that move material in or out of waterways and wetlands, or result in alterations to a stream channel, typically require CWA Section 404 permits. Dam removal actions also require Section 404 permits. Project sponsors will be required to obtain the appropriate permits before restoration work begins.

As part of the Section 404 permitting process, consultation under the Fish and Wildlife Coordination Act, 16 USC § 661 *et seq*., generally occurs. This act requires that Federal agencies consult with the USFWS, the National Marine Fisheries Service, and state wildlife agencies to minimize the adverse impacts of stream modifications on fish and wildlife habitat and resources.

Compliance with the Rivers and Harbors Act, 33 USC § 401 *et seq.*, generally occurs as part of the Section 404 permitting process. The Rivers and Harbors Act prohibits unauthorized obstruction or alteration of navigable waters. Any required permits under the Rivers and Harbors Act are generally included with the Section 404 permitting process.

Endangered Species Act

The Federal Endangered Species Act of 1973, as amended, 16 USC § 1531 *et seq.*, was designed to protect species that are threatened with extinction. It provides for the conservation of ecosystems upon which these species depend and provides a program for identification and conservation of these species. Federal agencies are required to ensure that any actions are not likely to jeopardize the continued existence of a threatened and endangered species. No Federal threatened and endangered species are known to reside in areas that would be affected by the proposed restoration projects. However, project sponsors may be required to consult with the Endangered Species Program of the USFWS before implementation in certain cases.

In 2011, both the American eel and river herring were petitioned for listing under the Endangered Species Act. The petitions were found to be substantial in the 90-day finding and are currently in the 12-month status review phase of the listing process (50 CFR Parts 223-224 and 50 CFR Part 17). These species may become federally listed before the proposed restoration actions are undertaken. Where relevant, project sponsors may be required to consult with the Endangered Species Program of the USFWS before implementation.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918, as amended, 16 USC § 703712, protects all migratory birds and their eggs, nests, and feathers, and prohibits the taking, killing, or possession of migratory birds. The proposed restoration actions would not result in the taking, killing, or possession of any migratory birds.

Occupational Safety and Health Act

The Occupational Safety and Health Act (OSHA) of 1970, as amended, 29 USC § 651 *et seq*., governs the health and safety of employees from exposure to recognized hazards, such as toxic chemicals, excessive noise, mechanical dangers, and unsanitary conditions. All work conducted on the proposed restoration actions will comply with OSHA requirements.

National Historic Preservation Act of 1966 (16 USC 470)

Section 106 of this statute requires that Federal agencies take into account the impact that their actions (permitting, licensing, funding) may have on historic properties. “Historic property” is any district, building, structure, site, or object that is eligible for listing in the National Register of Historic Places because the property is significant at the national, state, or local level in American history, architecture, archeology, engineering, or culture. Federal agencies consult and coordinate with State Historic Preservation Officers/Tribal Historic Preservation Officers and other consulting parties to identify historic properties that may be affected by the proposed project and assess adverse effects of the actions.

6.4 Policies and Directives

U.S. Fish and Wildlife Service Mitigation Policy (Fish and Wildlife Service Manual, 501 FW 2)

It is the policy of the USFWS to seek to mitigate losses of fish, wildlife, and their habitats, and uses thereof, from land and water developments. This policy seeks to ensure “no net loss” of fish and wildlife habitat. The proposed Preferred Alternative is not expected to cause adverse impacts to wetlands, but if impacts occur, this policy may apply.

Executive Order 11988 – Floodplain Management

This 1977 Executive Order directs Federal agencies to avoid, to the extent possible, the long- and short-term adverse effects associated with the occupancy and modification of floodplains and to avoid direct or indirect support of development in floodplains wherever there is a practicable alternative.

Executive Order 11990 – Protection of Wetlands

Issued in 1977, Executive Order 11990 instructs each Federal agency to avoid, to the extent possible, the long- and short-term adverse effects associated with the destruction or modification of wetlands. It is not anticipated that the proposed Preferred Alternatives will adversely affect wetlands. However, projects that will affect wetlands will obtain appropriate regulatory permits before construction begins.

Executive Order 12898 – Environmental Justice

This Order directs Federal agencies to assess whether their actions have disproportionately adverse human health or environmental effects on minority or low-income populations. None of the projects in the proposed Preferred Alternative will adversely affect human health or the environment in minority or low-income populations.

Executive Order 13186 – Migratory Bird Protection

This Order directs Federal agencies to avoid or minimize, to the extent possible, adverse impacts on migratory birds while conducting agency actions. None of the projects in the proposed Preferred Alternative are expected to cause adverse impacts to migratory birds, other than temporary disturbances during some construction activities. Rather, some projects in the proposed Preferred Alternative will protect and enhance migratory bird habitat.

7.0 List of Preparers

Molly Sperduto, USFWS
Mark Barash, Office of the Solicitor, DOI

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

Bill Banulski, Forestville Fishing Club
Taylor Cahill, Forestville Fishing Club
Brian Ennis, City of Meriden
Steve Gephard, CTDEEP, Inland Fisheries Division
Melissa Grader, USFWS
Kate Hughes Brown, CTDEEP, Office of Long Island Sound Programs
Karen Lamino, USEPA
Don Mysling, CTDEEP, Inland Fisheries Division
David LaVallee, Town of Southington

Mary Mushinsky, Quinnipiac River Watershed Council
Ken Munney, USFWS
Peter Picone, CTDEEP, Wildlife Biologist
Almerinda Silva, USEPA
David Stygar, CTDEEP, Land Acquisition
Jim Turek, NOAA
John Warner, USFWS
Brian Waz, USFWS

9.0 Literature Cited

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U.S. Environmental Protection Agency (USEPA). 2005. Record of Decision (ROD): Solvents Recovery Service of New England, Southington, CT. September 2005.

Appendix A

U.S. Department of the Interior Approval

Draft Restoration Plan and Environmental Assessment: Old Southington Landfill Superfund Site
Southington, Connecticut
and
Solvents Recovery Service Superfund Site
Southington, Connecticut

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

The Authorized Official for the Old Southington Landfill and the Solvents Recovery Service Superfund Sites is the Regional Director for the U.S. Fish and Wildlife Service's Northeast Region.

By the signatures below, the Draft Restoration Plan and Environmental Assessment is hereby approved. This approval does not extend to the final RP/EA. The draft RP/EA shall be released for public review and comment for a minimum of 30 days. After consideration of the public comments received, the RP/EA may be revised to address such comments.

Approved:

11/28/12
Date

Wendi Weber
Regional Director
Northeast Region
U.S. Fish and Wildlife Service

Concurred:

11/30/2012
Date

Mark Barash
Senior Attorney
Northeast Region
Office of the Solicitor