

# Housatonic River Basin Draft Natural Resources Restoration Plan, Environmental Assessment and Environmental Impact Evaluation for Connecticut

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State of Connecticut,  
Department of Environmental Protection



United States Fish and Wildlife Service



National Oceanic and Atmospheric Administration



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# 1. INTRODUCTION TO THE RESTORATION PLAN, ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL IMPACT ASSESSMENT

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## 1.1 Background

The Housatonic River Basin Natural Resources Restoration Project (hereinafter, “Housatonic Project”) is a product of the natural resource damage assessment and restoration process established under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and corresponding regulations. The CERCLA provisions regarding natural resource damage assessment and restoration provide certain federal and state government entities, called Natural Resource Trustees (“Trustees”) the authority to assess injury to, or loss of natural resources and natural resource services, resulting from the release of hazardous substances into the environment. The Trustees are authorized to recover “Natural Resource Damages” (NRD), monetary compensation for the harm done to the environment, from the responsible parties. The Trustees then utilize the recovered funds to provide for the implementation of projects to restore, rehabilitate, replace, or acquire the equivalent of the injured natural resources to compensate the public. When appropriate, the Trustees may allow the responsible parties to perform restoration projects, per Trustee requirements and subject to Trustee oversight, approval, and monitoring.

Significant harm, or “injuries,” to the natural resources and services of the Housatonic River basin have occurred from the release of chemical wastes, primarily polychlorinated biphenyls (PCBs), from the General Electric Company (GE) facility in Pittsfield, Massachusetts. In 1997, GE, the responsible party, and the City of Pittsfield, the United States Government, the State of Connecticut and the Commonwealth of Massachusetts entered into negotiations with the goal of achieving a comprehensive settlement of all outstanding environmental issues, including remedial action and natural resource damages. A Consent Decree, containing the terms and a negotiated settlement, was lodged with the federal court on October 7, 1999 and approved by the court on October 27, 2000.

The Natural Resource Trustees (“Trustees”) responsible for implementing restoration pursuant to the Consent Decree are the United States, acting by and through the Fish and Wildlife Service (FWS) of the DOI and the National Oceanic and Atmospheric Administration (NOAA) of the Department of Commerce; the State of Connecticut, acting by and through its Department of Environmental Protection (CT DEP); and the Commonwealth of Massachusetts, acting by and through its Executive Office of Energy

and Environmental Affairs (EOEEA). Pursuant to the requirements of the Consent Decree, the Trustees recovered \$15 million from GE as natural resource damages. Of these damages, \$7.75 million is for restoration of natural resources and services in the geographic region of Connecticut, \$7.015 million is for restoration of natural resources and services in the geographic region of Massachusetts, and \$235,000 is for restoration of natural resources and services spanning the geographic regions of Connecticut and Massachusetts. These funds have been deposited into interest-bearing accounts held in trust by the Department of the Interior (DOI) and are to be used for compensatory restoration projects that will restore, rehabilitate, replace, or acquire the equivalent of natural resources and/or their services that were injured or lost as a result of the release of hazardous materials, including PCBs, into the Housatonic River watershed.

In January 2002, the Trustees established a Memorandum of Agreement (MOA). The MOA recognizes the common interests of the Trustees in ensuring a coordinated handling of the Natural Resource Damages obtained from GE, and the common interest of the Trustees in the restoration, replacement, enhancement and/or acquisition of natural resources equivalent to those which have been injured, destroyed or lost as a result of such releases. The MOA establishes the Housatonic River Natural Resource Trustee Council, made up of the four Trustees party to the MOA. The MOA also makes provision for two SubCouncils, one each for the geographic areas of Connecticut and Massachusetts.

The Connecticut SubCouncil (CT SubCouncil) is comprised of Trustee Representatives from CT DEP, FWS, and NOAA. The CT DEP is the Lead Administrative Trustee on behalf of the CT SubCouncil. The CT SubCouncil is responsible for administering the natural resource damages allocated to the geographic region of Connecticut for restoration projects in the Connecticut portion of the Housatonic River watershed. The decisions of the CT SubCouncil, including expenditures of the recovered damages, occur by the unanimous consent of the Trustee Representatives to the CT SubCouncil. The Trustee Work Group (TWG) was formed by the CT SubCouncil to assist in restoration planning activities. The TWG is made up of staff of the CT SubCouncil agencies and is assisted by staff of the Technical Consultant Team. The Technical Consultant Team is made up of the firms Malcolm Pirnie, Inc. and Milone and McBroom, Inc. The Technical Consultant Team was hired by the CT DEP, as authorized by the CT SubCouncil, to provide technical assistance to the CT SubCouncil.

Before the funds allocated to the geographic region of Connecticut can be used to implement natural resource restoration projects, the CT SubCouncil must develop a Natural Resources Restoration Plan ("Restoration Plan"). The Restoration Plan must evaluate a reasonable number of restoration alternatives and explain the rationale behind the choices made regarding the restoration projects selected. This document is the CT SubCouncil's draft Restoration Plan.

## **1.2 Summary of Site Injuries and Public Losses**

The release of chemical wastes, primarily PCBs, from the GE facility in Pittsfield, Massachusetts has affected aquatic organisms and their habitats in the Housatonic River basin, as well as water-related natural resources such as waterfowl and predators that consume contaminated aquatic organisms. In addition to the harm done to natural resources, natural resource services have been impaired due to the contamination. “Natural resource services” are functions or services provided by natural resources for the benefit of humans or other natural resources, such as recreational fishing for humans or nesting habitat for birds. In the case of the Housatonic River basin, there has clearly been an adverse impact on recreational fishing, particularly with regard to the prohibition on the consumption of the catch due to the harmful levels of PCBs in fish tissue. (This issue is discussed in Section 3.7 and Table 3-9.) There have also been losses of other recreational opportunities (e.g., boating and swimming) due to the actual or perceived risk associated with physical contact with the aquatic environment downstream of the GE facility in Pittsfield, Massachusetts. In Connecticut, these injuries occurred primarily in the mainstem of the Housatonic River from the Connecticut-Massachusetts border to the river’s estuary.

## **1.3 Trustee Responsibilities under Federal and State Law Regarding Restoration Planning**

According to CERCLA and its associated natural resource damage assessment regulations (43 CFR Part 11), the CT SubCouncil must prepare a Restoration Plan that describes how NRD funds collected from responsible parties will be used to address injured natural resources and services, specifically what restoration, rehabilitation, replacement, or acquisition of the equivalent resources and services will occur. Before the NRD funds can be applied toward implementing restoration projects, the public must be given the opportunity to review and comment on a draft Restoration Plan. A final Restoration Plan addresses the comments received.

The National Environmental Policy Act (NEPA) and its implementing regulations (40 CFR Parts 1500-1508) require that federal agencies fully consider the environmental impacts of their proposed decisions for major federal actions, that reasonable alternatives to the proposed action are considered; that steps are taken to mitigate environmental impacts of the preferred alternative; and, such information is made available to the public. Similarly, the Connecticut Environmental Policy Act (CEPA) recognizes the complex relationship between the natural environment and human actions. The Regulations of Connecticut State Agencies (Sections 22a-1 through 22a-1a-12) outline a process whereby, through coordination with other state, local, regional and federal governments, as well as public and private entities, a sponsoring state agency can evaluate and minimize the potential impacts of a project to the resources of the state. A major function of both processes is the determination of whether a project will have a significant effect on the environment, considering (1) direct and indirect effects; and (2)

cumulative impacts. For purposes of the Housatonic Project, the draft Restoration Plan also serves as the draft Environmental Assessment (EA) being conducted under NEPA and the draft Environmental Impact Evaluation (EIE) is being conducted under CEPA to evaluate alternatives during the planning process.

#### **1.4 Restoration Goals/Purpose of Restoration**

The overall purpose of the Housatonic Project is to restore injured natural resources and services resulting from the release of hazardous substances from the GE facility in Pittsfield, Massachusetts. Restoration efforts are intended to restore, rehabilitate, replace, or acquire the equivalent of the natural resources and services injured or lost due to the release. These compensatory activities will restore the impacted environment and compensate the public for injuries to the environment resulting from the release of hazardous substances.

Cleanup actions are being overseen by the U.S. Environmental Protection Agency (US EPA). The goal of the cleanup action is to prevent or minimize future natural resource injuries. Although the activities of US EPA are highly significant to the future health of the Housatonic River, they will not in and of themselves compensate for either past or ongoing natural resource injuries. Consequently, compensatory restoration of injured resources is being conducted by the Trustees.

Consistent with the nature and scope of the natural resource injuries, the potential restoration actions are diverse. The CT SubCouncil identified three restoration categories: Aquatic Natural Resources, Riparian and Floodplain Natural Resources, and Recreational Uses of Natural Resources. The CT SubCouncil evaluated strategies for accomplishing restoration and identified a preferred strategy. The preferred strategy is to implement projects in all three restoration categories.

The CT SubCouncil's goals are to:

- Restore, rehabilitate, replace, or acquire the equivalent of the natural resources and their services that were injured or lost as a result of the release of hazardous substances, including PCBs, into the Connecticut portion of the Housatonic River environment.
- Provide for sustainable and measurable benefits to injured natural resources and services with emphasis on implementation of physical restoration projects.
- Integrate public participation in the restoration process.
- Fund a suite of projects of various types across the three restoration categories (Aquatic Natural Resources, Riparian and Floodplain Natural Resources, Recreational Uses of Natural Resources) in roughly the same proportions.
- Avoid or mitigate adverse impacts associated with the proposed restoration projects.

## **1.5 Development of the Natural Resources Restoration Plan**

The development and implementation of the Restoration Plan is being carried out in four phases.

- Phase I- *Status: Complete* - This phase involved the development of the framework within which restoration planning would proceed. Included in this process was the development of the Restoration Planning Process Document and a Public Participation Plan. These documents were adopted by the CT SubCouncil on April 22, 2003 and July 22, 2003, respectively, after receiving public comments. A website ([www.housatonicrestoration.org](http://www.housatonicrestoration.org)) for making restoration process documents and relevant information readily available was established in this phase of the project. The final task in Phase I was the development of a scope of work for Technical Consultant Team services for Phase II. The Phase II Scope of Work was approved by the CT SubCouncil on December 16, 2003.
- Phase II – *Status: On-going* - This phase involved the development and adoption of the Restoration Plan. This included development and adoption of project Eligibility and Evaluation criteria, solicitation of project proposals, review and evaluation of those proposed projects, preparation of environmental assessments and impact evaluations for the selected alternatives, and preparation of a draft Restoration Plan for public review and comment. These tasks have been completed. Preparation of a Response to Public Comment and adoption of the final Restoration Plan by the CT SubCouncil is expected in June, 2009.
- Phase III – *Status: Future* - Awaiting adoption of the final Restoration Plan: This phase involves the implementation of the Restoration Plan. This includes the design, permitting, and construction of restoration projects; purchase of land; or such other activities as the CT SubCouncil may have determined to be appropriate to accomplish the restoration of natural resources and services injured by the releases from the GE facility.
- Phase IV – *Status: Future* – This phase will occur after implementation (Phase III) and will include any necessary evaluation or monitoring of the effectiveness of various restoration projects. Phases III and IV will depend on what projects are included in the alternative(s) selected for implementation in the Restoration Plan.

## **1.6 Coordination and Scoping**

### **1.6.1 Public Notification**

The Restoration Plan was developed in a process open to the public. The meeting schedule of the CT SubCouncil was published in advance to encourage public participation. Meetings were held when sufficient information and was available and/or activity milestones were reached. Public notices were published, in accordance with the Public Participation Plan, in newspapers throughout the watershed to announce significant events and activities related to the Housatonic Project. In addition, announcements of project activities and distribution of key documents published by the CT SubCouncil were routinely emailed to over 150 interested persons. The CT SubCouncil also created a website ([www.housatonicrestoration.org](http://www.housatonicrestoration.org)) to provide public

access to background information, CT SubCouncil member contact information, program activity updates, meeting notices, meeting minutes, draft documents for public review and comment, and final documents.

### **1.6.2 Scoping**

In compliance with CEPA requirements, a scoping notice was published in the Environmental Monitor on May 20, 2008 as well as in local newspapers and on the restoration program website. Additionally, a copy of the notice was emailed to the distribution list of interested persons prior to the June 24, 2008 public scoping meeting, which was held at the Kent Town Hall. A copy of the scoping notice is included in Appendix A. Written public comments were accepted for 42 days ending June 30, 2008. No comments were received from the public.

### **1.6.3 Summary of Public Involvement**

Throughout the development of this Restoration Plan, the Trustees have provided substantial opportunities for communication to and from the public. In addition to the Public Notification efforts described above, the Trustees have held a number of public meetings to foster communication and involvement (Appendix B). The public meetings can be divided into two categories: General and Special Focus. The public was provided advance notice of all of public meetings through filing of the schedule with the office of the Secretary of State; notice on the project web site; notice on the DEP web site; and via email to all members of the public who provided their email address to the CT SubCouncil for that purpose. These meetings were all held at the Kent Town Hall in Kent, Connecticut.

All General meetings included a Public Information Session that provided a forum for the Trustees to share information on the progress of the restoration planning and to have an open exchange of ideas and questions with the public. When there was a need for formal action by the Trustees, the Public Information Session of the general meeting was followed by a formal business meeting of the CT SubCouncil. Formal business meetings were convened immediately following the close of the Public Information Session and were also open to the public. Over the course of the plan development, there were twenty three (23) General meetings, 16 of which included a formal business meeting of the CT SubCouncil.

Special Focus meetings include those wherein the specific purpose was to receive public comment on proposed actions or documents and “workshop” meetings to provide assistance to the public in developing proposals. Five (5) Special Focus meetings were held over the course of the development of this Restoration Plan. The dates and purposes of these meetings are listed in Appendix B to this document.

An advisory group was formed by the Connecticut Commissioner of Environmental Protection in accordance with the provisions of Section VII Paragraph I of the MOA to

advise the Connecticut Trustee regarding the development and implementation of the Restoration Plan. The group, known as the Connecticut Trustee's Advisory Group (CTAG), is made up of nineteen (19) organizations that have had an active and long-standing interest in the restoration and enhancement of natural resources within the Housatonic River basin, or are representative of the geographic area affected by the PCB contamination and restoration efforts. The CTAG held meetings as the members deemed appropriate to discuss the Restoration Project and identify any comments they wished to share with the Commissioner.

#### **1.6.4 Administrative Record**

One complete administrative record is available at the CT DEP office in Hartford, Connecticut. In addition, all relevant documents, meeting minutes, and other administrative records are provided on the project website.

## 2. RESTORATION PROJECT EVALUATION

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### 2.1. Overview

As a means to integrate public participation in natural resources restoration planning and performance, the CT SubCouncil developed processes to solicit, and ultimately select, projects from interested parties (e.g., public citizens, conservation organizations, academia, and local, state and federal governments) and to obtain public input during the evaluation and selection of projects proposed for funding. These processes were developed through a series of public meetings and are described in the Housatonic River Natural Resources Restoration Process Planning Document (RPPD), available on the CT SubCouncil website.”

At the request of the public, the solicitation process was divided into two steps: a preliminary Eligibility Determination followed by a detailed proposal Evaluation. This was done to accommodate those members of the public who wished to avoid the effort and expense of preparing a detailed proposal without knowing if their project would meet the eligibility requirements of the CT SubCouncil. The first step involved a solicitation for conceptual proposals that were screened against the adopted “Eligibility Criteria” to identify “eligible projects.” The second step involved the solicitation of detailed proposals from the sponsors of the eligible projects and the evaluation of those submissions using the adopted Evaluation Criteria. Based on the merits of the proposals, the TWG published recommendations to the CT SubCouncil regarding which of the proposals should receive further consideration for NRD funding in the “Trustee Work Group Final Report to the Natural Resources Trustee SubCouncil for Connecticut on the Evaluation of Restoration Proposals and Recommendations of Proposals for Further Consideration and Detailed Analysis,” April 16, 2008.

The Technical Consultant Team subjected those proposals selected by the CT SubCouncil for further consideration to a Detailed Analysis. Based on the results of their own reviews and the input from the Detailed Analysis, the CT SubCouncil identified the projects proposed to receive NRD funds within each of the three restoration categories (i.e., Aquatic Natural Resources, Riparian and Floodplain Natural Resources, and Recreational Uses of Natural Resources). Some of the key elements of the restoration planning process are described in greater detail in the following subsections.

### 2.2. Project Eligibility and Evaluation Criteria

Development of Eligibility Criteria commenced at the April 27, 2004 CT SubCouncil public meeting, and the criteria were adopted on April 25, 2006 (Table 2-1).

Evaluation Criteria were developed for the second step of project selection. The Evaluation Criteria include technical elements and requirements to identify the best

projects for funding and to meet the requirements of the NRD Assessment and Restoration regulations. A draft Evaluation Criteria document, providing detailed descriptions of the criteria and scoring system, was presented at a public informational meeting on August 22, 2006. Public comments were requested and discussed at subsequent public meetings. The CT SubCouncil adopted the final Evaluation Criteria on October 24, 2006 (Table 2-2).

**Table 2-1: RFP Eligibility Criteria**

<b>Criterion</b>	<b>Response</b>	<b>Response Result</b>
1. Does the proposal contain the information identified by the CT SubCouncil as set out in the “Instructions for the Preparation and Submission of Restoration Project Proposals”?	YES or NO	A “NO” response may render the proposed project <i>ineligible</i> for further consideration.
2. Does the Proposed Project restore, rehabilitate, replace, and/or acquire natural resources or natural resource services equivalent to those that were injured by the release of PCBs or other hazardous substances from the GE facility at Pittsfield, MA?	YES or NO	A “NO” response renders the Proposed Project <i>ineligible</i> for further consideration.
3. Is the Proposed Project, or any portion of the Proposed Project, an action that is presently required under other federal, state, or local law, including, but not limited to, enforcement actions?	YES or NO	A “YES” response renders the Proposed Project <i>ineligible</i> for further consideration.
4. Is the Proposed Project inconsistent with any federal, state, or local law or policy?	YES or NO	A “YES” response renders the Proposed Project <i>ineligible</i> for further consideration.
5. Will the proposed project, or any portion of the proposed project, be inconsistent with any ongoing or anticipated remedial actions in the Housatonic River watershed?	YES or NO	A “YES” response renders the Proposed Project <i>ineligible</i> for further consideration.

**Table 2-2: Evaluation Criteria - Scoring System Summary**

Category	Criterion	Rating Scale	Criterion Weighing Factor	Max Points	Max Points by Category
Relevance and Applicability of Project	Location of Project	5, 4, 3, 1	10	50	180
	Natural Recovery Period	5, 3, 0	5	25	
	Sustainable Benefits	5, 3, 0	6	30	
	Magnitude of Ecological Benefits	5, 3, 1, 0	8	40	
	Magnitude of Recreational Benefits	5, 3, 1, 0	7	35	
Technical Merit	Technical/Technological Feasibility	5, 3, 0	4	20	30
	Adverse Environmental Impacts	P/F			
	Human Health and Safety	P/F			
	Measurable Results	5, 3, 0	2	10	
Project Budget	Expected Costs/ Benefits	5, 3, 0	3	15	55
	Implementation Oriented	5, 3, 0	3	15	
	Justification/Understanding	5, 3, 1, 0	3	15	
	Leveraging Additional Resources	5, 3, 1, 0	2	10	
	Comparative Cost-Effectiveness	-	-	-	
Socioeconomic Merit	Community Involvement and Diversity	5, 3, 0	2	10	30
	Adverse Socioeconomic Impacts	P/F			
	Coordination and Integration	5, 3, 0	2	10	
	Public Outreach	5, 3, 0	2	10	
Applicant Implementation Capacity	Technical Capability of Applicant	5, 3, 0	4	20	45
	Administrative Capability of Applicant	5, 3, 0	4	20	
	Project Commitments	5, 3, 0	1	5	
<b>MAXIMUM POSSIBLE SCORE</b>					<b>340</b>

### 2.3. Request for Proposals

The CT SubCouncil issued a Request for Proposals (RFP) via publication as a legal Public Notice in major local newspapers (*Danbury News Times*, *Hartford Courant*, and *New Haven Register*) on November 16, 2006. A project workshop to assist the public in responding to the RFP was held in Kent on November 28, 2006. The public could submit additional questions until December 16, 2006. All questions and the answers were published on the project web site. In response to the RFP, 92 submissions were received by the January 19, 2007 deadline.

#### 2.3.1. Eligibility Criteria Screening Results

All Project Proposals and Ideas that were submitted were evaluated according to the Eligibility Criteria shown above. Of the 92 submissions, 86 were Project Proposals, ready to be implemented by the project sponsor if funding were awarded. The remaining 6 submissions were Project Ideas, which were conceptual restoration ideas offered to the Trustees for possible further development into detailed proposals. Of the 92 proposals received by the published deadline, 74 were deemed eligible; 17 were deemed ineligible; and one (P-34) was tentatively deemed eligible. The “tentatively eligible” proposal included issues that were resolved when more detailed information was made available in the Supplemental Information stage of the project solicitation process. In addition, two proposals were received after the deadline and were not included in the evaluation or in the totals provided above.

### **2.3.2. Public Comments/ Response**

All Proposals submitted pursuant to the RFP were published on the project website ([www.housatonicrestoration.org](http://www.housatonicrestoration.org)). A draft Eligibility Report was published on February 26, 2007 for public comment. Twelve comments were received. The findings of the CT SubCouncil following application of the Eligibility Criteria to the 92 submissions and consideration of public comments received are summarized in the “Final Natural Resources Restoration Proposals Eligibility Report.” The Eligibility Report was approved by the CT SubCouncil on March 27, 2007 and posted on the project website. The results of the eligibility screening, including consideration of comments received, are summarized in Table 2-3.

### **2.4. Request for Supplemental Information**

On March 28, 2007, the CT SubCouncil issued a Request for Supplemental Information (“SI”) inviting the sponsors of the 76 eligible proposals to submit additional material detailing the relevance and applicability of their project, its technical merit, its socioeconomic merits, a project budget, and the capacity of the applicant to implement the project.

The CT SubCouncil received 53 SI submissions by the due date of June 20, 2007. Of these 53 SI submissions, 14 identified Aquatic Natural Resources, 13 identified Riparian and Floodplain Natural Resources, and 26 identified Recreational Uses of Natural Resources as the restoration category addressed by the proposal.

**Table 2-3: Eligibility Screening Summary of Projects Received in Response to RFP**

Proj. No.	Project Name	Responder	Organization	Eligibility Criteria					Elig
				1	2	3	4	5	
1	Pomperaug River Dredging	Ronald Pascoe	Pomperaug Social Club	Y	Y	N	N	N	Y
2	Housatonic River Conservation Officer	Harold McMillan	Housatonic R. Outfitters	N	Y	N	N	N	N
3	Housatonic River Survivor Trout Program	Harold McMillan	Housatonic R. Outfitters	N	Y	N	N	N	N
4	Ball Pond & Shortwoods Brooks Water Quality Improvement & Pedestrian Access	Ron Oliveri	Town of New Fairfield	Y	Y	N	N	N	Y
5	Restoration of Coarse Woody Habitat Housatonic R. Main Stem Impoundments	David Santos	CT B.A.S.S. Federation	Y	Y	N	N	N	Y
6	Housatonic & Naugatuck Watershed Trout Stocking and Stream Improvement	Robert Perella	Naugatuck/Pomperaug Ch. Trout Unlimited	Y	Y	N	N	N	Y
7	“Car-top” Boat Launches in the Town of Kent	Bart Clark, P.E.	Individual	Y	Y	N	N	N	Y
8	Blackberry River Fish Passage Restoration	Donald J. Mysling	CT DEP Inland Fisheries	Y	Y	N	N	N	Y
9	Increased Law Enforcement Patrols at Bull’s Bridge and Other Problem Areas	Michael Humphreys	CT DEP Inland Fisheries and Law Enforcement	Y	Y	N	N	N	Y
10	Housatonic Riverbank Program	Dan McGuinness	Northwestern CT Council of Governments	Y	Y	N	N	N	Y
11	“Hazmarkzoar” Identify and Mark Navigation Hazards and Environmentally Sensitive Areas on Lake Zoar	David Perriello	Lake Zoar Authority	Y	Y	N	N	N	Y
12	Wimisink Preserve Restoration and Access	Hunter Brawley	Naromi Land Trust, Inc.	Y	Y	N	N	N	Y
13	Schaghticoke Indian Reservation Car Top Boat, Canoe, Kayak Access Ramp	Joseph C. Velky	Schaghticoke Tribal Nation Env. Comm.	Y	Y	N	N	N	Y
14	STNEC Bulls Bridge Dam Dredging	Joseph C. Velky	Schaghticoke Tribal Nation Env. Comm.	Y	Y	Y	N	N	N

Proj. No.	Project Name	Responder	Organization	Eligibility Criteria					Elig
				1	2	3	4	5	
15	STNEC Schaghticoke Rd. Guardrail	Joseph C. Velky	Schaghticoke Tribal Nation Env. Comm.	Y	N	Y	N	N	N
16	Waterfowl – Woodcock Study for Habitat Creation	Joseph C. Velky	Schaghticoke Tribal Nation Env. Comm.	Y	Y	N	N	N	Y
17	Fire Dept. Dry Standpipe on Schaghticoke Rd.	Joseph C. Velky	Schaghticoke Tribal Nation Env. Comm.	Y	N	Y	N	N	N
18	Campville Fishing Access	Frank Chiamonte	Town of Harwinton	Y	Y	N	N	N	Y
19	Pomperaug River Fish Habitat Improvement	Christopher Wood, AICO	Town of Woodbury	Y	Y	N	N	N	Y
20	Southbury Town Beach Parking Improvement	Diane Schaefer	Town of Southbury	Y	Y	N	N	N	Y
21	Ballantine Park Streambank Restoration/Stabilization	Mark Cooper	Town of Southbury	Y	Y	N	N	N	Y
22	Transylvania Brook Culvert Crossing at E. Flat Hill Rd.	Mark Cooper	Town of Southbury	Y	Y	N	N	N	Y
23	Ecological Inventory & Protection of Critical Housatonic & Naugatuck Tributaries	Paul Stacey	CT DEP Bureau of Water Protection & Land Reuse	Y	Y	N	N	N	Y
24	Salmon Kill Restoration & Enhancement	Kirt Mayland, Esq.	Trout Unlimited	Y	Y	N	N	N	Y
25	Riverbend Park	Kirt Mayland, Esq.	Trout Unlimited	Y	Y	N	N	N	Y
26	Expansion of Survivor Trout Program	Michael Piquette	CT Council of Trout Unlimited	Y	Y	N	N	N	Y
27	Housatonic River Trout Stocking	Harold McMillan	Housatonic River Outfitters	N	Y	N	N	N	N
28	Picket District Park Pedestrian Link	Patricia Murphy	New Milford	Y	Y	N	N	N	Y
29	Reservoir Park Spillway Restoration & Rejuvenation	Patricia Murphy	New Milford	Y	Y	Y	Y	N	N
30	Youngsfield Park Riverwalk & Greenway	Patricia Murphy	New Milford	Y	Y	N	N	N	Y
31	Sega Meadows Park River Enhancement	Patricia Murphy	New Milford	Y	Y	N	N	N	Y

Proj. No.	Project Name	Responder	Organization	Eligibility Criteria					Elig
				1	2	3	4	5	
32	Hidden Treasures Park Fish Ladder and Kayak Raceway at Bleachery Dam	Patricia Murphy	New Milford	Y	Y	N	N	N	Y
33	Habitat Restoration on Housatonic River – Control of Non-native Invasive Plants (Phragmites)	Greg Chasko	CT DEP Wildlife Division	Y	Y	N	N	N	Y
34	Laurel Brook Farm Roofed Composting System	Robert Jacquier	Laurel Brook Farm	Y	?	N	N	N	?
35	Ousatonic Fish and Game East Aspetuck River Recreational Restoration Project.	Mark Hanrahan	Ousatonic Fish & Game Protective Assoc. Inc.	N	Y	N	N	N	N
36	Housatonic Impoundments Riparian Habitat Restoration and Assistance Program	Laurence J. Marsicano	Candlewood Lake Authority	Y	Y	N	N	N	Y
37	Recreational Easements & Riparian Buffer Zones for Housatonic Basin Streams	Beth Brothers	CT DEP Land Acquisition & Management	Y	Y	N	N	N	Y
38	Audubon Carse Brook Wetlands Restoration	Scott Heath	Audubon Sharon	Y	Y	N	N	N	Y
39	Audubon Barn & Nature Center Restoration	Carolyn Hughes	Audubon Center at Bent of the River	Y	Y	N	N	N	Y
40	Housatonic Valley River Trail	Mark Cummings	USDA/NRCS King's Mark	Y	Y	N	N	N	Y
41	Restoration and Enhancement of Critical Fish Thermal Refuges in the Housatonic River	Jason Vokoun	University of Connecticut	Y	Y	N	N	N	Y
42	Housatonic River Bikeway	Sean Hayden	NW Conservation District	Y	Y	N	N	N	Y
43	Housatonic River Integrated Recreation Guide	Sean Hayden	NW Conservation District	Y	Y	N	N	N	Y
44	Indian Fields Wildlife Preserve	Sean Hayden	NW Conservation District	Y	Y	N	N	N	Y
45	Road Maintenance & Water Quality Protection	Sean Hayden	NW Conservation District	Y	Y	Y	N	N	N
46	Housatonic River Riparian Assessment and Erosion Repair	Sean Hayden	NW Conservation District	Y	Y	N	N	N	Y
47	Handicapped Parking and Fishing Access – Lover's Leap SP	Patrick Hackett	Friends of LLSP	Y	Y	N	N	N	Y

Proj. No.	Project Name	Responder	Organization	Eligibility Criteria					Elig
				1	2	3	4	5	
48	Shoreline Stabilization at Lovers' Leap SP	Patrick Hackett	Friends of LLSP	Y	N	N	N	N	N
49	Kayak Ramps at Lovers' Leap SP	Patrick Hackett	Friends of LLSP	Y	Y	N	N	N	Y
50	Fiddlehead Estates Acquisition & Restoration	August A. Palmer III	Town of Oxford	N	Y	N	N	N	N
51	Jackson Cove Park Restoration	August A. Palmer III	Town of Oxford	N	Y	N	N	N	N
52	Restoration/ Rehabilitation Greenway on the Still R and Housatonic R Corridor	Mark Cummings	USDA/NRCS King's Mark	Y	Y	N	N	N	Y
53	Stream Survey and Habitat Fragmentation Inventory and Restoration Upper Housatonic Basin	Bill Hyatt	CT DEP Inland Fisheries	Y	Y	N	N	N	Y
54	Upper Housatonic Riparian Vegetation, Shoreline and Recreational Access Improvements	Caprice Shaw	Housatonic Valley Association	Y	Y	N	N	N	Y
55	Housatonic Riparian Restoration and Aquatic Habitat Improvement, Kent	Caprice Shaw	Housatonic Valley Association	Y	Y	N	N	N	Y
56	Fish Ladder Repair and Riparian Vegetation Restoration, Cornwall	Caprice Shaw	Housatonic Valley Association	Y	Y	N	N	N	Y
57	Conservation of the Frost and CL&P Riverfront Properties in Sharon, CT	Elaine LaBella	Housatonic Valley Association	Y	Y	N	N	N	Y
58	Removal or major breach of the North Canaan/Salisbury Dam	Elaine LaBella	Housatonic Valley Association	Y	Y	N	N	N	Y
59	Church Street Dam Removal	Kim Barbieri	City of Torrington	Y	Y	N	N	N	Y
60	Toro Fields River Access & Pedestrian Crossing	Mark Lavoie	City of Torrington	Y	Y	N	N	N	Y
61	Lake Lillinonah State Boat Launch Renovations	R. Michael Payton	CT DEP Boating	Y	Y	N	N	N	Y
62	Pond Brook (Lake Lillinonah) State Boat Launch Renovations	R. Michael Payton	CT DEP Boating	Y	Y	N	N	N	Y

Proj. No.	Project Name	Responder	Organization	Eligibility Criteria					Elig
				1	2	3	4	5	
63	Improvements to Kettletown SP	Nathan Hale	CT DEP Parks	Y	Y	N	N	N	Y
64	Housatonic River and Tributaries Survey		The Nature Conservancy	Y	N	N	N	N	N
65	Salmon Creek/ Housatonic R Land Protection		The Nature Conservancy	Y	Y	N	N	N	Y
66	Canaan Dam Passage	Dan McGuinness	Northwestern CT Council of Governments	Y	Y	N	N	N	Y
67	Mitchell Farm Preservation	Tom Crider	Southbury Land Trust	Y	Y	N	N	N	Y
68	Taunton Lake Habitat Restoration	Patricia Barkman	Taunton Lake Association	N	Y	N	N	N	N
69	“phosgone” Remove Phosphates from 5 Treatment Plants that Empty into Lake Zoar	David Perrielo	Lake Zoar Authority	Y	Y	Y	N	N	N
70	Halfway River Fishery Access	Herbert Rosenthal	Town of Newtown	Y	Y	N	N	N	Y
71	Lake Lillinonah Park	Rob Sibley	Town of Newtown	Y	Y	N	N	N	Y
72	Walnut Tree Hill Park	Rob Sibley	Town of Newtown	Y	Y	N	N	N	Y
73	Housatonic R Riparian Buffer & Wetland Restoration	Mark Young	Westervelt Ecological Services	Y	Y	N	N	N	Y
74	Salmon Creek Riparian Buffer Restoration	Mark Young	Westervelt Ecological Services	Y	Y	N	N	N	Y
75	Blackberry R & Tributaries Riparian Buffer Restoration	Mark Young	Westervelt Ecological Services	Y	Y	N	N	N	Y
76	Beacon Falls Riverfront Park System	Susan A. Cable	Town of Beacon Falls	Y	Y	N	N	N	Y
77	Still River Wetland Enhancement	Greg Bollard	Friends of the Lake, Inc.	Y	Y	N	N	N	Y
78	Lake Lillinonah Sediment Control & Sand Bar Enhancement	Bryan Piepho	Lake Lillinonah Authority	Y	Y	N	N	N	Y
79	Lake Lillinonah Emergent Growth Vegetation	Bryan Piepho	Lake Lillinonah Authority	Y	Y	N	N	N	Y
80	Aquatic & Floodplain Restoration in the Upper Housatonic R (Derby to Canaan)	Ethan Nadeau	Biodrawiversity	Y	N	N	N	N	N
81	Eichler’s Cove Park	Rob Sibley	Town of Newtown	Y	Y	N	N	N	Y

Proj. No.	Project Name	Responder	Organization	Eligibility Criteria					Elig
				1	2	3	4	5	
82	L Zoar & L Lillinonah Water Quality & Riparian Restoration	Rob Sibley	Sibley Environmental Services	Y	Y	N	N	N	Y
83	Pootatuck R Stormwater Remediation	George Benson	Town of Newtown	Y	Y	Y	N	N	N
84	Audubon Pedestrian Bridge & Riparian Habitat Restoration	Carolyn Hughes	Audubon Center at Bent of the River	Y	Y	N	N	N	Y
85	Milford Point Plover & Tern Habitat Restoration	Andrew C. French	Stewart B. McKinney NWR	Y	Y	N	N	N	Y
86	Hunter Haven Waterfront Reclamation	David W. Killeen	Town of Stratford	Y	Y	N	N	N	Y
87	Schreiber Acquisition	Suzanne Barkyoumb	CT DEP Land Acquisition	Y	Y	N	N	N	Y
88	A. T. South Gate Parking Upgrade	Gary Nasiatka	CT DEP Parks	Y	Y	N	N	N	Y
89	Kent Falls Housatonic R Access Trail	Gary Nasiatka	CT DEP Parks	Y	Y	N	N	N	Y
90	Housatonic Meadows Interpretive Amphitheater	Gary Nasiatka	CT DEP Parks	Y	Y	N	N	N	Y
91	O'Sullivan's Island Peninsula Riverbank Restoration & Enhancement	Arthur Bogen	Valley Council of Governments	Y	Y	N	N	N	Y
92	Restoration Systems' Housatonic Restoration Program	Adam Riggsbee, PhD	Restoration Systems, LLC	Y	Y	N	N	N	Y

#### 2.4.1. Evaluation Criteria Analysis

Each SI submission was subjected to a two-step evaluation and analysis. First, the SI submittals were examined against the Evaluation Criteria, the results of which were used to identify a subset of the submittals warranting further consideration for funding (a.k.a., the “Short List”). Second, the projects warranting further consideration underwent a Detailed Analysis to more thoroughly examine the feasibility and costs of the projects.

To apply the Evaluation Criteria to the SI submittals, review teams consisting of staff of the Trustee Agencies and the Technical Consultant Team with expertise in the subject area of the proposed projects, developed numeric scores for each proposal for use by the CT SubCouncil in its deliberations. Afterwards, the TWG held a “consensus meeting” to discuss the merits of the SI submittals and ultimately identify which proposals should be recommended to the CT SubCouncil as warranting further consideration. The Technical Consultant Team participated in this meeting, providing assistance in interpreting the proposals and contributing to the discussions of proposal merits. Input obtained from other Trustee Agency technical staff outside of the TWG was also discussed and

considered. Based on these discussions, the TWG developed recommendations for which projects under each of the three restoration categories warranted further consideration.

The draft summary report of Evaluation Criteria results was released on December 14, 2007 for public review and comment. The draft report was discussed at a Public Informational Session held on January 22, 2008. After considering the comments received, the TWG recommended to the CT SubCouncil that 31 of the 53 submitted SI proposals warranted further consideration in the Detailed Analysis phase. The “Trustee Work Group Final Report to the Natural Resources Trustee SubCouncil for Connecticut on the Evaluation of Restoration Proposals and Recommendations of Proposals for Further Consideration and Detailed Analysis” was published on April 16, 2008 (available on the project website). The CT SubCouncil approved the Evaluation Report and authorized the Detailed Analysis of those projects on April 22, 2008. The Evaluation Report included projects in each of the restoration categories: Aquatic Natural Resources (8), Riparian and Floodplain Natural Resources (8), and Recreational Uses of Natural Resources (15) (Table 2-4). The total of NRD funds requested in these 31 projects was \$11,528,578. Three non-substantive errata addressing technical and editorial corrections to the Evaluation Report were published on May 7, 2008 and posted on the project website.

#### **2.4.2. Public Comment/ Response**

During the public comment period for the Evaluation Report (December 14, 2007 to January 22, 2008), the CT SubCouncil received a total of 66 comment letters and emails. The CT SubCouncil and the TWG also heard comments at the December 18, 2007 and January 22, 2008 public meetings in Kent, Connecticut. A Response to Comments was published as Appendix A to the April 16, 2008 Evaluation Report.

As a result of public comment, one additional proposal (P-52 Restoration / Rehabilitation Greenway on the Still River Corridor) was submitted for Detailed Analysis. No proposals were removed based on public comment. However, one proposal was withdrawn by the Sponsor (P-87 Schreiber Acquisition, Oxford - 140 Acre Portion). Where public comment raised questions regarding project feasibility that the TWG believed warranted further evaluation, appropriate recommendations to this effect were added to the proposal review summary/conclusions.

#### **2.4.3. Detailed Analysis**

The Detailed Analysis included an independent comparative analysis to determine the relative merit of each project under consideration. Information supplied by the Respondent/sponsor was critically reviewed to assess its validity. Site visits and research of additional background information to support the detailed evaluation were performed when appropriate. The detailed analysis included an in-depth, independent evaluation of potential cost, environmental and social impacts, compatibility with or relationship to current Federal, State or local environmental plans, programs and policies, and evaluation

of feasibility of the project. The feasibility component addressed both the technical and the regulatory issues that may determine if the project is viable. More specifically, the feasibility component relates to the physical, ecological, and regulatory issues that may influence whether or not the project is likely to be permitted or permissible as well as the likelihood that the project would achieve the stated goals. The analysis included an evaluation of what on-going maintenance may be required for each project alternative as well as a consideration of potentially available complementary funding sources.

The results of the Detailed Analysis are presented in Section 4, “Alternatives Analysis.”

**Table 2-4: Proposals for Detailed Analysis Sorted by Restoration Category**

<b>Proj. No</b>	<b>Title</b>	<b>NRD Funds Requested</b>
<b>AQUATIC NATURAL RESOURCES</b>		
5	Restoration of Coarse Woody Habitat in Housatonic Mainstem Impoundments	\$46,050
6	Housatonic and Naugatuck Trout Stocking and Stream Restoration	\$7,500
8	Blackberry River Fish Passage Restoration	\$500,000
9	Increased Law Enforcement Patrols at Bull's Bridge Trout and Bass Management Area, and Other Problem Areas	\$75,000
21	Ballentine Park Streambank Restoration/Stabilization Project	\$180,000
22	Transylvania Brook Culvert Crossing at East Flat Hill Road	\$480,000
24	Trout Unlimited Salmon Kill Restoration and Enhancement	\$617,260
56	Fishway Repair and Riparian Vegetation Restoration, Cornwall	\$36,544
<b>Subtotal</b>		<b>\$1,942,354</b>
<b>RIPARIAN AND FLOODPLAIN NATURAL RESOURCES</b>		
16	Schaghticoke Indian Reservation Waterfowl and Migratory Bird Study for Habitat Creation	\$1,680
30	Young's Field Park Riverwalk and Greenway	\$180,000
33	Wetland Habitat Restoration on the Lower Housatonic River Through the Control of the Non-Native Invasive Plant, Phragmites	\$963,313
38	Audubon Carse Brook Wetland Restoration	\$36,000
44	Indian Fields Wildlife Preserve	\$348,500
57	Conservation of the Frost and CL&P Riverfront Properties in Sharon, CT	\$740,468
65	Salmon Creek/Housatonic River Land Protection Project	\$557,810
67	Mitchell Farm Preservation Project: Pootatuck Hill Parcel	\$500,000
<b>Subtotal</b>		<b>\$3,327,771</b>
<b>RECREATIONAL USES OF NATURAL RESOURCES</b>		
4	Ball Pond and Short Woods Water Quality Improvement and Pedestrian Access	\$650,000
7	Car Top Boat Launch at North Kent Road	\$385,000
12	Wimisink Preserve Restoration and Access	\$100,000
13	Schaghticoke Indian Reservation Car Top Boat, Canoe, Kayak Access Ramp	\$8,054
18	Campville Fishing Access	\$110,000
28	Pickett District Park Pedestrian Link	\$92,950
31	Sega Meadows Park River Enhancement Project	\$75,217
37	Recreational and Conservation Easements for Housatonic Basin Streams	\$2,812,580
40	Housatonic Valley River Trail	\$56,020
52	Creating a "Restoration/Rehabilitation" Greenway on the Still River Corridor to the Housatonic River	\$139,900
54	"The Bend" (aka Garbage Hole) Riparian Vegetation, Shoreline and Recreational Access Improvements	\$222,586
70	Halfway River Fishery Access	\$326,400
76	Beacon Falls Riverfront Park System	\$180,000
86	Hunter Haven Waterfront Reclamation Project	\$774,746
91	O'Sullivan's Island Peninsula Fishing and Habitat Enhancement	\$325,000
<b>Subtotal</b>		<b>\$6,258,453</b>

## 3. AFFECTED ENVIRONMENT

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Both NEPA and CEPA require that the Trustees consider the potential impacts of their actions on the environment. In this usage, the term “environment” is used broadly to include the “natural environment” as well as the “human environment” and infrastructure that might be impacted by the proposed actions. This section presents a description of the environment in which the various projects will likely be implemented as well as a general description of the potential impacts to be evaluated. The discussion of the potential impacts of the various projects is presented in Section 5.

### 3.1. Housatonic River Watershed

The Housatonic River originates in Massachusetts and flows 149 miles, through the Connecticut towns of North Canaan, Salisbury, Canaan, Sharon, Cornwall, Kent, Sherman, New Milford, Bridgewater, Brookfield, Southbury, Oxford, Newtown, Seymour, Monroe, Shelton, Derby, Orange, and Stratford, before discharging into Long Island Sound at Milford.

The Housatonic River has a watershed that encompasses 1,948 square miles in Connecticut and Massachusetts (Figure 3-1). In Connecticut, the Housatonic River valley has narrow walls that are flanked by steep hills. The northwestern portion, with nutrient rich floodplains, supports agricultural uses. At the pumped storage hydroelectric facility, the “Rocky River Power Station” in New Milford, water is diverted uphill through a penstock to Candlewood Lake. In addition to being the first pumped storage hydroelectric station to be constructed in the United States (1926), Candlewood Lake, spanning 5,400 acres, is the largest pump storage reservoir in the country.

Three mainstem hydroelectric dams on the Housatonic River in Bridgewater, Monroe and Derby form three nearly contiguous reservoirs. The Shepaug Dam forms Lake Lillinonah (1,900 acres), the Stevenson Dam impounds Lake Zoar (975 acres), and the Derby Dam forms Lake Housatonic (328 acres).

Below the Derby Dam, the Housatonic River transitions to an estuary. In this lower 12-mile section, the river is tidal, supporting wetlands and salt marshes that provide important habitat for plants, birds, shellfish, finfish, and other aquatic life.



**Figure 3-1: The Housatonic River watershed.**

The Housatonic River has eight major tributaries that are located partially or entirely within Connecticut. They are as follows:

- The Blackberry River originates in Norfolk, Connecticut and meanders approximately 10 miles west to its confluence with the Housatonic River in North Canaan, Connecticut. Most of the Blackberry River's 28 square mile watershed lies within Connecticut.
- Salmon Creek originates in Salisbury and is formed by the confluence of Factory Brook and Spruce Swamp Creek. It then flows southeast for approximately seven miles to its confluence with the Housatonic River located on the Salisbury/Canaan town line. The Salmon Creek watershed is approximately 12 square miles and is located entirely in Connecticut.
- The Konkapot River begins at Lake Buel in New Marlborough and Monterey, Massachusetts and flows south to its confluence with the Housatonic River located in Ashley Falls, Massachusetts. Approximately two miles of its 14 total miles flows through Connecticut. The Konkapot River watershed area within Connecticut is approximately four square miles.
- The Tenmile River flows south from Dutchess County, New York and has a watershed of approximately 210 square miles. The last 0.63 miles of the Tenmile River lies within Connecticut and joins the Housatonic River at Gaylordsville.

- The Still River flows in a northerly direction beginning in Danbury and discharges into the Housatonic River in New Milford. The total length of the river is approximately 25 miles. The Still River has a watershed of approximately 72 square miles, with a majority of the watershed located in Connecticut.
- The Shepaug River begins near Goshen, Connecticut and flows south for approximately 35 miles before entering the Housatonic River at the Bridgewater and Southbury border. It has a watershed of approximately 156 square miles located entirely in Connecticut.
- The Pomperaug River begins in Woodbury, Connecticut and enters the Housatonic River in Southbury. Its length is approximately 14 miles, and its watershed is approximately 89 square miles, located entirely in Connecticut.
- With a contributing watershed of 312 square miles, the Naugatuck River is the Housatonic's largest tributary. It has a length of 39 miles and is located entirely in Connecticut. It begins in Torrington and enters the Housatonic River in Derby.

### **3.2. Socioeconomic Environment**

Fifty-one towns, three cities, and one borough are located wholly or partially in the Housatonic River watershed. As of July 1, 2007, the estimated total population within the Connecticut portion of the Housatonic River watershed is approximately 1 million people (U.S. Census Bureau 2008). The City of Waterbury has the largest population (107,174) and the Town of Canaan has the smallest (1,094). Population trends between the 2000 census and 2007 population estimates vary among the 55 municipalities. Population decreases are primarily attributed to economic change, as many industrial and manufacturing facilities have closed or left the area.

The northern third of the watershed in Connecticut is predominately rural. The central third includes a mix of rural, industrial, commercial, and residential land uses. The southern third is predominantly urbanized and characterized by cities such as Naugatuck, Seymour, Derby, Stratford, and Milford.

Several components of socioeconomic and environmental benefits were reviewed during the project screening process, including the potential benefits or impacts to human health and safety, aesthetics, recreation, employment opportunities, and education. These are presented in Section 5.

### **3.3. Land Use Policy**

The *Conservation and Development Policies Plan for Connecticut (2005–2010)* (“State Plan”) is a statement of the State's growth, resource management, and public investment policies. The State Plan provides a policy and planning framework for the administrative and programmatic actions and capital and operational investment decisions of state government, which influence the future growth and development of Connecticut.

The State Plan is developed and updated by the State Office of Policy and Management in accordance with Sections 16a-24 through 16a-33 of the Connecticut General Statutes.

The policies of the State Plan are intended to guide the planning and decision-making process of state government relative to: (1) human resource needs; (2) economic growth, environmental protection and resource conservation; and (3) state agency coordination so as to accomplish long-term effectiveness and economies in the expenditure of public funds.

The State Plan sets out six statewide growth management principles as follows:

1. Redevelop and revitalize regional centers and areas with existing or currently planned physical infrastructure.
2. Expand housing opportunities and design choices to accommodate a variety of household types and needs.
3. Concentrate development around transportation nodes and along major transportation corridors to support the viability of transportation options.
4. Conserve and restore the natural environment, cultural and historical resources, and traditional rural lands.
5. Protect and ensure the integrity of environmental assets critical to the public health and safety.
6. Promote integrated planning across all levels of government to address issues on a statewide, regional, and local basis.

The *Conservation and Development Plan Locational Guide Map* apportions the state into land categories according to each area's characteristics and suitability for different forms of development or conservation activities. A discussion of each of these classifications, along with a list of projects located within them, follows.

*Conservation Areas* – Conservation Areas represent a significant portion of the state and a multitude of resources. Conservation Areas include flood fringe areas that are, or may be, regulated in accordance with the National Flood Insurance Program, Connecticut's Stream Channel Encroachment Line Program, or the Coastal Area Management Program as areas subjected to the 100-year flood but not included in floodways. Historic preservation areas are also included in Conservation Areas, as are public water supply watersheds.

State policy seeks to manage, for the long-term public benefit, the lands contributing to the state's need for food, fiber, water, and other resources; open space; recreation; and environmental quality and to ensure that changes in use are compatible with the identified conservation values. Thirteen projects are located within conservation areas (Table 3-1).

*Preservation Areas* – Preservation Areas are defined as existing rivers and water bodies; tidal and inland wetlands; Class I type aquifer and reservoir lands not in water utility ownership; habitats of state endangered, threatened, and special concern species; natural and archeological areas of regional and statewide significance; agricultural land where development rights have been acquired; floodways within the 100-year flood zone; and open space areas designated in local plans and approved by local legislative bodies. Eleven projects are located within preservation areas (Table 3-2).

**Table 3-1: Projects Located Within Conservation Areas**

<i>Proj. No.</i>	<i>Working Name</i>	<i>Town</i>
4	Ball Pond & Short Woods Brooks WQ Imp. & Pedestrian Access*	New Fairfield
8	Blackberry River Fish Passage Restoration *	North Canaan
13	Schaghticoke Indian Res. Car Top Boat Ramp *	Kent
22	Transylvania Brook Culvert Crossing	Southbury
24	Trout Unlimited Salmon Kill Restoration & Enhancement*	Salisbury
30	Youngs Field Park Riverwalk & Greenway	New Milford
44	Indian Fields Wildlife Preserve*	New Milford
54	The Bend Riparian Vegetation, Shoreline & Recreational Access*	Cornwall
57	Conservation of the Frost & CL&P Riverfront Properties	Sharon
65	Salmon Creek / Housatonic River Land Protection Project*	Salisbury
67	Mitchell Farm Preservation Project	Southbury
70	Halfway River Fishery Access*	Newtown
76	Beacon Falls Riverfront Park System	Beacon Falls

\*Indicates only a portion of this project site is located within this designation.

**Table 3-2: Projects Located within Preservation Areas**

<i>Proj. No.</i>	<i>Working Name</i>	<i>Town</i>
4	Ball Pond & Short Woods Brooks WQ Imp. & Pedestrian Access*	New Fairfield
5	Restoration of Coarse Woody Habitat	Newtown
6	Streambank Improvement and Trout Restoration*	Roxbury
7	Car Top Boat Launch*	Kent
24	Trout Unlimited Salmon Kill Restoration & Enhancement*	Salisbury
28	Pickett District Park Pedestrian Link	New Milford
33	Wetland Habitat Restoration	Shelton
40	Housatonic Valley River Trail	Brookfield
44	Indian Fields Wildlife Preserve*	New Milford
52	Greenway on the Still River Corridor*	Brookfield
54	The Bend Riparian Vegetation, Shoreline & Recreational Access*	Cornwall

\*Indicates only a portion of this project site is located within this designation.

Existing Preserved Open Space – Existing Preserved Open Space represents areas in the state with the highest priority for conservation and permanent use as open space. State policy supports the permanent continuation of these areas as public or quasi-public open space, while discouraging the sale and structural development of such areas unless they are consistent with the open space functions served. Twelve projects are located within existing preserved open space areas (Table 3-3).

**Table 3-3: Projects Located Within Existing Preserved Open Space Areas**

<i>Proj. No.</i>	<i>Working Name</i>	<i>Town</i>
6	Streambank Improvement and Trout Restoration*	Roxbury
7	Car Top Boat Launch*	Kent
8	Blackberry River Fish Passage Restoration *	North Canaan
12	Wimisink Preserve Restoration & Access	Sherman
13	Schaghticoke Indian Res. Car Top Boat Ramp *	Kent
16	Schaghticoke Indian Res. Waterfowl & Migratory Bird Study	Kent
18	Campville Fishing Access	Litchfield
21	Ballantine Park Streambank Restoration/Stabilization	Southbury
38	Audubon Carse Brook Wetland Restoration	Sharon
52	Greenway on the Still River Corridor*	Brookfield
86	Hunter Haven Waterfront Reclamation Project	Stratford
91	O'Sullivan's Island Peninsula Fishing & Habitat Enhancement	Derby

\*Indicates only a portion of this project site is located within this designation.

Regional Center – Regional Centers encompass land areas containing traditional core area commercial, industrial, transportation, specialized institutional services, and facilities of regional significance, as well as census tracts with a population density greater than 7,500 per square mile as determined from the 2000 Census of Population and Housing. State policy seeks to concentrate economic development in major urban centers, promoting infill development and intensification where appropriate. It is also intended to promote stability of urban communities and to support staged, orderly growth of urban development. No projects have been proposed within a regional center.

Rural Community Centers – Rural Community Centers promote concentration of mixed-use development such as municipal facilities, employment, shopping, and residential uses within a village center setting. One project, P-56 - Fishway Repair and Riparian Vegetation Restoration Project in Cornwall is located in a Rural Community Center.

Rural Lands – Rural Lands are those areas outside any other Guide Map category. State policies regarding rural lands seek to discourage structural development that exceeds carrying capacities for on-site water supply and sewage disposal. Rural Land uses must be consistent with their adjacent rural character. Uses that cannot provide this consistency are more appropriately located in Rural Community Centers. Three projects (P-31, P-65 and P-70) are located within Rural Land designated areas (Table 3-4).

**Table 3-4: Projects Located Within Rural Lands**

<i>Proj. No.</i>	<i>Working Name</i>	<i>Town</i>
31	Sega Meadows Park River Restoration Project	New Milford
65	Salmon Creek / Housatonic River Land Protection Project*	Salisbury
70	Halfway River Fishery Access*	Newtown

\*Indicates only a portion of this project site is located within this designation.

### 3.4. Recreation

The Housatonic River and its tributaries provide a variety of recreational opportunities, including swimming, boating, canoeing/kayaking, sculling, fishing, camping, cross country skiing, hiking and picnicking. The river includes Class I, II, III, and IV rapids. A considerable number of project proposals are focused on improving recreational qualities near and on the river and its tributaries. A brief discussion of existing open space land and state-owned boat launches within the watershed follows.

#### 3.4.1. Open Space Lands

Approximately 112,151 acres of the total land area within the Housatonic River watershed in Connecticut (~9 percent) is classified as open space. The greatest percentages of open space lands are DEP-owned and privately held lands (Table 3-5). The northern towns of Salisbury, Cornwall, Kent, Sharon, and Canaan have the largest amount of preserved open space and municipally controlled property.

**Table 3-5: Ownership of Open Space Within the Housatonic River Watershed**

<i>Classification</i>	<i>Area (percentage)</i>
Private Open Space	40%
Municipal Open Space	11%
DEP Land	44%
Federal Land	5%
<i>TOTAL</i>	<i>100%</i>

Both state and municipal lands play a critical role within the Housatonic River watershed. There are 230 state-owned properties within the watershed, some of which have been designated as preserves, state parks, flood control lands, and water access lands. Of these state-owned properties, the state parks comprise the most acreage (Table 3-6). Municipal lands, on the other hand, are more limited in size within this watershed and consist primarily of cemeteries, recreational fields, wildlife preserves, and conservation areas.

Private open space lands comprise a large proportion of the open space lands in the watershed. Many of these areas are owned and maintained by organizations such as the Nature Conservancy, the Audubon Society, and municipal land trusts.

Federal open space lands are limited within the Housatonic River watershed and are predominantly associated with the large flood control impoundments, wildlife refuges, and National Park Service lands associated with the Appalachian Trail.

**Table 3-6: State Parks Consisting of More Than 1,000 Acres of Land Within the Housatonic River Watershed**

Canaan Mountain Natural Area Preserve
Housatonic State Forest
Macedonia Brook State Forest
Mattatuck State Forest
Mohawk State Forest
Naugatuck State Forest
Paugnut State Forest
Paugussett State Forest
Roraback Wildlife Area
Wyantnock State Forest

**3.4.2. Boat Launches**

There are 27 recorded boat launches within the Housatonic River watershed (Figure 3-2); 25 are owned by the CT DEP (Table 3-7), and two by municipalities. Additional municipal and private boat launches exist in the watershed (e.g., Falls Village Recreation area operated by FirstLight Power Company).

**Table 3-7: State Owned Boat Launches**

<i>Launch Name</i>	<i>Location</i>	<i>Type</i>
Housatonic River Boat Launch	Milford	Trailer
Lake Housatonic (Indian Well) Boat Launch	Shelton	Trailer
Lake Kenosia Boat Launch	Danbury	Trailer
Lake Zoar Boat Launch	Southbury	Trailer
Candlewood Lake (Lattins Cove) Boat Launch	New Fairfield	Trailer
Ball Pond Boat Launch	New Fairfield	Trailer
Lake Lillinonah (Pond Brook) Boat Launch	Newtown	Trailer
Lake Lillinonah Boat Launch	Bridgewater	Trailer
Candlewood Lake (Squantz Cove) Boat Launch	Danbury	Trailer
Squantz Pond Boat Launch	New Fairfield	Trailer
Hatch Pond Boat Launch	Kent	Car Top
Bantam Lake Boat Launch	Morris	Trailer
Mount Tom Pond Boat Launch	Litchfield	Car Top
Leonard Pond Boat Launch	Kent	Car Top
Waramaug Lake Boat Launch	Kent	Car Top
Mohawk Pond Boat Launch	Cornwall	Trailer
Dog Pond Boat Launch	Goshen	Trailer
Tyler Lake Boat Launch	Goshen	Trailer
Stillwater Pond Boat Launch	Torrington	Car Top
West Side Pond Boat Launch	Goshen	Trailer
Mudge Pond Boat Launch	Sharon	Trailer
Park Pond Boat Launch	Winchester	Trailer
Winchester Lake Boat Launch	Winchester	Trailer
Wood Creek Pond Boat Launch	Norfolk	Trailer
Twin Lakes Boat Launch	Salisbury	Car Top



Figure 3-2: Recorded boat launches, and proposed launch sites, in the Housatonic River watershed.

### **3.5. Geology of the Housatonic River Watershed**

Metamorphic rock from the Precambrian era underlies most of the Housatonic River valley. The bedrock was formed when the continents of North America, Europe, and Africa collided 300 to 400 million years ago. The collision caused the rock to harden, fold, and fault. These folds and faults now form the steep mountains found in the valley.

The dominant soil order in the Housatonic region is Inceptisol soils. Inceptisols are soils that exhibit minimal horizon development. They are widely distributed and occur under a wide range of ecological settings. They are common along fairly steep slopes of the Appalachian topography in this region and in young geomorphic surfaces like the glacial formed terrain of southern New England. The soil type suborder is Udepts. Udepts are mainly freely drained soils that have an udic moisture regime, which means they are subject to well distributed rainfalls. They are extensive throughout the Appalachian Mountains. Land use varies with this soil suborder with a sizable percentage used for forestry, recreation, and watersheds. Most of the soils currently support or formerly supported deciduous forest vegetation, but some support shrub or grass vegetation. Most are used as forest or have been cleared and are used as cropland or pasture.

In addition to the soil classification, the Housatonic River valley's soils are largely deposited as glacial till from parent materials of schist, granite, and gneiss. Particle sizes range from sand to loams, and the majority of soil types are moderately to well drained. Soils along the river system are glaciofluvial and are comprised of stratified sand and gravels. The majority is derived from parent materials such as acidic crystalline rocks with particle sizes of loamy sand to sandy gravel. Different varieties of silt and sandy loams are predominant within the watershed, particularly Paxton and Montauk fine sandy loams and Woodbridge fine sandy loam. A substantial portion of the watershed is also comprised of Canton and Charlton soils and Charlton-Chatfield complex.

### **3.6. Topography**

The highest elevation within the watershed is 2,638 feet at Brodie Mountain in Massachusetts. The high point within the Connecticut portion of the watershed occurs in the state's northwest corner in the Town of Salisbury along the south slope of Mount Frissell. The low point within the watershed, sea level, occurs in the Town of Stratford where the Housatonic River meets the Long Island Sound. The northern region of the watershed, primarily the towns within Litchfield County, has the greatest amount of topographic change.

### **3.7. Flora and Fauna**

The Housatonic River watershed has a diverse array of plant and wildlife species. The river flows through five major vegetative associations. The upper reaches of the watershed, those mostly in Massachusetts, flow through Northern Hardwoods.

Northern Connecticut is characterized as transition hardwoods. These forests are older stands that are in the transitional stage of becoming climax forests. Climax forests are the last successional stage of the Connecticut forest ecosystem and are vital to various forms of wildlife that depend on these limited old growth habitats for shelter. Wildlife species include spotted salamander which breeds in vernal pools located in the forest, mammals like black bear and fisher on the forest floor, and many species of owls roosting in the overstory. The dominant tree species found in this area include Northern Red Oak, Hemlock, American Beech, White Ash, and Black Birch. Bog Rosemary, Marsh Willow-Herb, Canada Violet, and Stiff Club-Moss are some of the rarer plant species found in the region.

The watershed transitions into a Central Hardwood habitat from the Cornwall Bridge area into the Town of New Milford. The dominant tree species include Red Oak, White Oak, Black Oak, and Hickories. Rare plant species include New England Grape, Hairy Wood-Mint and Wiegand's Wild Rye. These hardwood forests are essential to various species of passerine birds such as the yellow-rumped warbler, the magnolia warbler, and the winter wren. Waterfowl species utilize the Housatonic River and associated lakes and ponds while feeding on a variety of foodstuffs from nutrient filled masts of the Central Hardwood tree species to fish and other aquatic animals.

From New Milford to Derby, habitat is characterized as Southwest Hills. The dominant tree species include White Oak, Red Oak, Black Oak, Hickories, Yellow Poplar, Tulip Poplar, Black Birch, White Ash and Hemlock. Rare plants in the region include Green Violet, Virginia Snakeroot, Green Milkweed, Vasey's Pondweed, and Side-Oats Grama. The post-agricultural field and early successional forests support a variety of small mammals and a substantial population of white-tailed deer. Forested wetland systems in the area are also important to wildlife and could provide habitat to threatened species such as marbled salamander, five-lined skink, and wood turtles.

In addition to the common vegetation types (e.g., alder, willow, sedge, shrubs, and vines), the Coastal Hardwood forests of the southeastern Piedmont, and Coastal Plain include two notable rare species: Eaton's Quillwort and Mudwort. Rare bird species inhabiting these areas include American egret, snowy egret, yellow-crowned night heron, glossy ibis, fish crow, and piping plover.

The watershed provides a number of critical habitats that support rare and endangered species. The central portion of the watershed provides the most important of these habitats including marble ridges and ledges, caves, and calcareous wetlands supporting species such as American bald eagles that roost on the cliffs and ledges, and the various bat species that dwell in the limestone caves, and the endangered amphibians and reptiles that rely on the calcium rich swamps and bogs.

The Housatonic River and its associated watershed provide important stopover and nesting habitat for several species of breeding and migratory waterfowl. The lower reaches of the Housatonic River are characterized by estuarine and open water environments and are frequented during the spring and fall migrations by pie-billed grebe, American coot, mute swan, snow geese, brant, American widgeon, canvasback, American black duck, and long-tailed duck.

North of the estuarine habitats and within the Housatonic River, flocks of common goldeneye, bufflehead, common merganser, red-breasted merganser, hooded merganser, ring-necked ducks, mallards, and pintails are often found. The freshwater wetlands, lakes, reservoirs, rivers, and smaller streams found within the Housatonic River watershed support many of the species mentioned above plus additional species such as wood ducks, ruddy ducks, and lesser scaup. Overall the Housatonic River watershed supports a diversity of migratory waterfowl species and is a significantly important migratory corridor resource.

#### **3.7.1. Natural Diversity Database Areas of Concern**

The Natural Diversity Data Base (NDDDB), maintained by the CT DEP, contains records of extant populations of federal and state listed endangered and threatened species, and species of special concern. The NDDDB was queried to determine whether any such species or significant natural communities exist within or adjacent to the projects considered for inclusion in the preferred alternative (Table 3-8). The NDDDB maps represent approximate locations of endangered, threatened, and special concern species and significant natural communities. The locations of species and natural communities depicted on the maps are based on data collected over the years by CT DEP staff, scientists, conservation groups, and land owners. In some cases, an occurrence represents a location derived from literature, museum records, and specimens. The NDDDB mapping indicates that there are 357 areas of special concern within the Housatonic River watershed.

#### **3.7.2. Fishery Resources**

The Housatonic River and its associated tributaries provide an important fishery resource in Connecticut. Both coldwater and warmwater fish species are found within the Housatonic River watershed. Above the Derby Dam, the fish are primarily freshwater species, while fish species below the dam consist of freshwater, saltwater and diadromous species. Species commonly found upstream of the Derby Dam include brook, brown and rainbow trout, common carp, northern pike, largemouth and smallmouth bass, white perch, yellow perch, bluegill, bullhead, and white sucker. Below the Derby Dam, fish species include the ones mentioned above and also striped bass, American eel, alewife and American shad.

**Table 3-8: Projects Located Within a Natural Diversity Database Polygon**

<i>Proj. No.</i>	<i>Working Name</i>	<i>Town</i>
6	Stream Bank Improvement and Trout Restoration	Roxbury
7	Car Top Boat Launch	Kent
8	Blackberry River Fish Passage Restoration	North Canaan
9	Increased Law Enforcement Patrols	Kent
12	Wimisink Preserve Restoration & Access	Sherman
13	Schaghticoke Indian Res. Car Top Boat Ramp	Kent
16	Schaghticoke Indian Res. Waterfowl & Migratory Birth Study	Kent
22	Transylvania Brook Culvert Crossing	Southbury
24	Trout Unlimited Salmon Kill Restoration & Enhancement	Salisbury
28	Pickett District Park Pedestrian Link	New Milford
33	Wetland Restoration Habitat	Shelton
38	Audubon Carse Brook Wetland Restoration	Sharon
40	Housatonic Valley River Trail	Brookfield
54	The Bend Riparian Vegetation, Shoreline & Rec. Access	Cornwall
67	Mitchell Farm Preservation Project	Southbury
76	Beacon Falls Riverfront Park System	Beacon Falls
86	Hunter Haven Waterfront Reclamation Project	Stratford
91	O'Sullivan's Island Peninsula Fishing & Habitat Enhancement	Derby

Fly-fishing has become increasingly popular within the upper portions of the Housatonic River mainstem and associated coldwater tributaries. In addition, warmwater fishing is plentiful within the major impoundments in the watershed including such areas as Candlewood Lake, Lake Zoar, and Lake Lillinonah.

However, contaminants within the Housatonic River watershed in Connecticut have restricted consumption of fish by Connecticut's anglers. The CT DEP, in conjunction with the CT Department of Public Health, issues advisories concerning the consumption of fish harvested from the Housatonic River to reduce public health risks associated various contaminants, including PCBs (Table 3-9).

### **3.8. Coastal Area Resources**

The coastal boundary is a continuous line delineated on the landward side by the interior contour elevation of the 100 year frequency coastal flood zone as defined and determined by the National Flood Insurance Act (42 U.S.C. 4001 et. seq.), or a 1,000 foot linear setback measured from the mean high water mark in coastal waters, or a 1,000 foot linear setback measured from the inland boundary of tidal wetlands, whichever is farthest inland; and is delineated on the seaward side by the seaward extent of the jurisdiction of the state. Within the Housatonic River watershed, coastal boundary designated areas are located in the towns of Stratford, Milford, Shelton and Orange.

Similarly, the Connecticut General Statutes CGS Section 22a-94(a) specifically defines municipalities that are located within the Connecticut Coastal Area. Within the Housatonic River watershed, Stratford, Milford, Shelton, and Orange are all designated as Coastal Areas.

**Table 3-9: 2008 Fish Consumption Advisories (Source: CT DPH 2008)**

Waterbody	Fish Species	High Risk Group	Low Risk Group	Contaminant
<b>Housatonic River Above Derby Dam</b>	Trout, Catfish, Eels, Carp, Northern Pike	Do Not Eat	Do Not Eat	PCBs
	Bass, White Perch	Do Not Eat		PCBs
	Bullheads	One meal per month	One meal per month	PCBs
	Panfish (Sunfish, Yellow Perch, etc.)	One meal per month	One meal per month	PCBs
<b>Lakes on the Housatonic River (Zoar, Lillinah, and Housatonic)</b>	Bass, White Perch	One meal per month	One meal per month	PCBs
	Other Species	See advice for river	See advice for river	PCBs
<b>Furnace Brook (Cornwall)</b>	Trout	One meal per month	One meal per month	PCBs
<b>Blackberry River (North Canaan)</b>	Smallmouth Bass	One meal per month	One meal per month	PCBs
<b>Konkapot River (North Canaan)</b>	White Sucker	Do Not Eat	One meal per month	Mercury
<b>Housatonic River Downstream of Derby Dam</b>	Striped Bass	Do Not Eat	One meal per 2 months	PCBs
	Bluefish > 25"	Do Not Eat	One meal per 2 months	PCBs
	Bluefish 13-25"	One meal per month	One meal per month	PCBs

**High Risk Group** includes pregnant women, women planning to become pregnant within one year, nursing mothers, and children under six.

**Low Risk Group** includes everyone not in the High Risk Group.

A tidal wetland is a wetland that is inundated by tidal waters. Tidal wetlands are located in the towns of Stratford, Milford, and Orange. A total of approximately 1,120 acres of tidal wetlands influenced by the Housatonic River have been mapped.

### 3.9. Flood Zones

The Federal Emergency Management Agency (FEMA) classifies areas based on flooding probability. Of the areas within the watershed prone to flooding, the largest designation is Zone A, i.e. subject to 100-year flood with base flood elevation undetermined. Both AE and A1-A30 represent areas subject to 100-year flood with base flood elevation determined. VE areas represent areas subject to 100-year flood and additional velocity hazard (wave action) with base flood elevation determined.

River estuaries can be subject to two types of flooding: riverine runoff and coastal storm surges that raise tide levels. The U.S. Army Corps of Engineers (ACOE) (ACOE 1988) has developed non storm event tidal water profiles for Long Island Sound that are also generally representative of water levels in coastal estuaries and harbors. Twenty nine projects are located within FEMA designated flood zones (Table 3-10).

**Table 3-10: Projects Located in FEMA Designated Zones (Source: CT DEP 2008)**

<i>Proj. No.</i>	<i>Working Name</i>	<i>Town</i>	<i>Flood Designation</i>
4	Ball Pond & Short Woods Brook Improvements	New Fairfield	AE
5	Restoration of Coarse Woody Habitat	Newtown	AE
6	Streambank Improvement and Trout Restoration	Roxbury	A
7	Car top Boat Launch	Kent	AE
8	Blackberry River Fish Passage	North Canaan	A
12	Wimisink Preserve Restoration & Access	Sherman	A
13	Schaghticoke Indian Res. Car Top Boat Ramp	Kent	AE
16	Schaghticoke Indian Res. Waterfowl & Migratory Birth Study	Kent	AE
18	Campville Fishing Access	Harwinton	A
21	Ballantine Park Streambank Restoration/Stabilization	Southbury	AE
22	Transylvania Brook Culvert Crossing	Southbury	AE
24	Trout Unlimited Salmon Kill Restoration & Enhancement	Salisbury	AE
28	Pickett District Park Pedestrian Link	New Milford	AE
30	Youngs Field Park Riverwalk & Greenway	New Milford	AE
31	Sega Meadows Park River Restoration Project	New Milford	AE
33	Wetland Habitat Restoration	Stratford	AE
38	Audubon Carse Brook Wetland Restoration	Sharon	A
40	Housatonic Valley River Trail	Brookfield	AE
44	Indian Fields Wildlife Preserve	New Milford	AE
52	Greenway on the Still River Corridor	Brookfield	AE
54	The Bend Riparian Vegetation, Shoreline, and Rec. Access	Cornwall	AE
56	Fishway Repair & Riparian Vegetation Restoration	Cornwall	AE
57	Conservation of the Frost & CL & P Riverfront Properties	Sharon	AE
65	Salmon Creek/Housatonic River Land Protection Project	Salisbury	AE
67	Mitchell Farm Preservation Project	Southbury	AE
70	Halfway River Fishery Access	Newtown	AE
76	Beacon Falls Riverfront Park System	Beacon Falls	AE
86	Hunter Haven Waterfront Reclamation Project	Stratford	AE & VE
91	O'Sullivan's Island Peninsula Fishing & Habitat Enhancement	Derby	AE

### **3.10. Dams**

There are a total of 983 dams identified within the Housatonic River watershed in Connecticut. Nine of the dams are located directly on the Housatonic River mainstem (Table 3-11; Figure 3-3). The Shepaug Dam creates Lake Lillinonah between the Towns of Newtown, Brookfield, and New Milford to the west and the Towns of Southbury, Bridgewater to the east. Lake Zoar, located between the Towns of Oxford and Southbury on the east and the Towns of Monroe and Newtown on the west, is created by the Stevenson Dam. Downstream is Lake Housatonic, created by the Derby Dam located between the town centers of Shelton and Derby.

**Table 3-11: Housatonic River Dam Locations**

<i>Dam Name</i>	<i>Location</i>
Hefter Dam	Salisbury/North Canaan border
Great Falls Dam	Salisbury/Canaan border
Bulls Bridge Dam	Kent
Spooner Dam	Kent
Cedar Hill Dam	Sherman/New Milford border
Bleachery Dam	New Milford
Shepaug Dam	Newtown/Southbury border
Stevenson Dam	Monroe/Oxford border
Derby Dam	Shelton/Derby border



**Figure 3-3: Major Dams**

### 3.11. Surface Water Quality Classifications

Surface and ground water quality classifications are established and adopted by the CT DEP Bureau of Water Protection and Land Reuse. A wide variety of surface water classifications apply to streams within the Housatonic River watershed (Table 3-12).

**Table 3-12: List of Surface Water Classes in Housatonic River Watershed**

<b>Surface Water Quality Class</b>	<b>Definition</b>
<b>AA</b>	Known to support existing or potential public drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply and other purposes.
<b>A</b>	Known or presumed to meet water quality criteria that supports potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply and other purposes.
<b>B/A/AA</b>	May not be meeting Class A or AA water quality criteria. The immediate goal is to restore the water to Class A condition. Long term goal is to restore water to Class AA condition.
<b>B, B*, Bc</b>	Known or presumed to meet water quality criteria that supports fish and wildlife habitat, recreational use, agricultural and industrial supply and other purposes.
<b>C/B</b>	Presently not meeting Class B water quality criteria for one or more of the designated uses. The goal is Class B condition.
<b>D/B or D/Bc</b>	Presently not meeting water quality criteria for one or more of the designated uses due to serve pollution. The goal for such waters is Class B.
<b>SA</b>	Known to support marine fish, shellfish and wildlife habitat, shellfish harvesting for direct human consumption, recreational use, and other legitimate uses including navigation.
<b>SB/SA</b>	May not be meeting Class SA water quality criteria for one or more of the designated uses. The goal for such waters is Class SA
<b>SC/SB</b>	Presently not meeting water quality criteria for one or more of the designated uses due to pollution. The goal is a Class SA or SB conditions.

*(Source: CTDEP Water Quality Standards 2002)*

There are approximately 530 named stream segments within the Housatonic River watershed. Of the 530 named stream segments approximately 481 are classified as Class AA or Class A surface waters. The 49 remaining named stream segments are represented by Class B/A, B, Bc, B\*, C/B, D/B, D/Bc, SB/SA, or SC/SB. The Housatonic River upstream of Lake Zoar is primarily a Class D/B and D/Bc watercourse. Between Lake Zoar and Derby Dam the Housatonic River is Class C/B. Below the Derby Dam the Housatonic River is Class SC/SB.

Major tributaries to the Housatonic River where some of the short listed projects are located include the Still River Class C/B, Pomperaug River Class Bc, Salmon Creek Class Bc, Blackberry River Class Bc.

In addition to the surface water quality designations, the CT DEP maintains a “*List of Connecticut Waterbodies Not Meeting Water Quality Standards*” pursuant to the requirements of Section 303(d) of the federal Clean Water Act (Table 3-13). Waterbodies and watercourses listed as an impaired water resource may not be meeting water quality standards for habitat for fish, other aquatic life and wildlife, fish consumption, and/or primary contact recreation.

**Table 3-13: 2006 List of Impaired Waterbodies (Source: CT DEP 2006)**

<u>Waterbody Name</u>	<u>Location</u>	<u>Impairment Designated Use</u>	<u>Cause of Impairment</u>
Mad River (Waterbury)-01	Waterbury	Aquatic Life Support	Cause unknown (Habitat alterations, siltation, total toxics)
		Primary Contact Recreation	Indicator bacteria
Mad River (Waterbury)-02	Waterbury	Aquatic Life Support	Cause unknown (Habitat alterations, siltation, total toxics)
		Primary Contact Recreation	Indicator bacteria
Mad River (Waterbury)-03a	Waterbury/Wolcott	Aquatic Life Support	Cause unknown (Habitat alterations, siltation, total toxics)
Housatonic River Estuary (Upper)-01	Shelton	Aquatic Life Support	Habitat alterations, Organic enrichment/ Low DO
Housatonic River Estuary (Lower)-02	Milford	Primary Contact Recreation	Indicator bacteria
Housatonic River Estuary (Ferry Creek And Shore)-03	Stratford	Aquatic Life Support	PCBs, Dioxins, Copper, Zinc
Housatonic River Estuary (Mouth)-04	Milford	Shellfishing	Indicator bacteria
Housatonic River Estuary (Offshore Lordship)-05	Milford/Stratford	Aquatic Life Support	Nitrogen
		Shellfishing	Indicator bacteria
Housatonic River-01	Orange-Shelton/Derby	Primary Contact Recreation	Indicator bacteria
Housatonic River-02	Shelton/Derby	Primary Contact Recreation	Indicator bacteria
Hatch Pond	Kent	Aquatic Life Support	Algal Growth/ Chlorophyll-a, Exotic species, dissolved oxygen deficit, Nutrients, Sedimentation
Hatch Pond	Kent	Primary Contact Recreation	Algal Growth/ Chlorophyll-a, Exotic species, Noxious aquatic plants, Nutrients, Sedimentation
Lake Kenosia	Danbury	Primary Contact Recreation	Algal Growth/ Chlorophyll a, Exotic species, Noxious aquatic plants, Nutrients
Shepaug River-02	Litchfield/Warren	Aquatic Life Support	Flow Alteration

<u>Waterbody Name</u>	<u>Location</u>	<u>Impairment Designated Use</u>	<u>Cause of Impairment</u>
South Brook-01	Woodbury	Aquatic Life Support	Cause Unknown
Stiles Brook-01	Southbury	Aquatic Life Support	Flow regime alterations
Naugatuck River-01	Seymour	Aquatic Life Support	Cause Unknown
		Primary Contact Recreation	Indicator bacteria
Naugatuck River-02	Seymour-Danbury	Aquatic Life Support	Cause Unknown
		Primary Contact Recreation	Indicator bacteria
Naugatuck River-03	Waterbury	Aquatic Life Support	Cause Unknown (Copper)
		Primary Contact Recreation	Indicator bacteria
Naugatuck River-04	Watertown/Waterbury	Aquatic Life Support	Cause Unknown (Copper)
		Primary Contact Recreation	Indicator bacteria
Naugatuck River-05	Thomaston	Aquatic Life Support	Toxicity
		Aquatic Life Support	Cause Unknown (Habitat alteration, Organic enrichment/ Low DO)
Naugatuck River-06	Litchfield/Harwinton	Aquatic Life Support	Cause Unknown (Habitat alteration)
		Primary Contact Recreation	Indicator bacteria
Naugatuck River-07	Harwinton/Torrington	Aquatic Life Support	Cause Unknown (Habitat alteration)
Great Brook (Waterbury)-01	Waterbury	Aquatic Life Support	Habitat alteration
		Primary Contact Recreation	Indicator bacteria
Hart Brook-01	Torrington	Aquatic Life Support	Flow alteration
Nickel Mine Brook-01	Torrington	Aquatic Life Support	Flow alteration
Branch Brook-02	Watertown/Thomaston	Aquatic Life Support	Flow alteration
Still River (New Milford/Brookfield)-01	New Milford/Brookfield	Aquatic Life Support	Cause unknown (Siltation)

<u>Waterbody Name</u>	<u>Location</u>	<u>Impairment Designated Use</u>	<u>Cause of Impairment</u>
Still River (New Milford/Brookfield)-01	New Milford/Brookfield	Primary Contact Recreation	Indicator bacteria
Still River (Brookfield/Danbury)-02	Brookfield/Danbury	Aquatic Life Support	Cause unknown (Siltation)
		Primary Contact Recreation	Indicator bacteria
Still River (Danbury)-03	Danbury	Aquatic Life Support	Cause unknown (Siltation)
Still River (Danbury)-04	Danbury	Aquatic Life Support	Cause unknown
Still River (Danbury)-05	Danbury	Aquatic Life Support	Cause unknown
Lake Lillinonah	Newtown/Southbury/Bridgewater/Brookfield	Fish Consumption	PCBs
		Primary Contact Recreation	Algal Growth/ Chlorophyll-a, Exotic species, Debris and Garbage, Noxious aquatic, Odor
		Secondary Contact Recreation	Algal Growth/ Chlorophyll-a, Exotic species, Debris and Garbage, Noxious aquatic, Odor
Lake Zoar	Monroe/Newtown/Oxford/Southbury	Fish Consumption	PCBs
		Primary Contact Recreation	Indicator bacteria
Lake Housatonic	Shelton/Derby/ Seymour/ Oxford/Monroe	Fish Consumption	PCBs
		Primary Contact Recreation	Indicator bacteria
Brewsters Pond	Stratford	Fish Consumption	Pesticides
Konkapot River	North Canaan	Fish Consumption	Mercury
Mill Brook (Cornwall)-02	Cornwall	Aquatic Life Support	Cause unknown (Phosphorus)
Blackberry River-01	North Canaan	Fish Consumption	PCBs
Blackberry River-02a	North Canaan	Fish Consumption	PCBs

<u>Waterbody Name</u>	<u>Location</u>	<u>Impairment Designated Use</u>	<u>Cause of Impairment</u>
Blackberry River-02a	North Canaan	Primary Contact Recreation	Indicator bacteria
Blackberry River-02b	North Canaan	Fish Consumption	PCBs
Ball Pond	New Fairfield	Secondary Contact Recreation	Exotic species, Noxious aquatic plants, nutrients
Padanaram Brook-01	Danbury	Aquatic Life Support	Cause unknown (Habitat alterations, siltation)
Sympaug Brook-01	Danbury	Aquatic Life Support	Cause unknown
Transylvania Brook-02	Southbury	Primary Contact Recreation	Indicator bacteria
West Branch Naugatuck River-01	Torrington	Aquatic Life Support	Cause unknown (Habitat alteration)
Northfield (Reservoir) Brook Lake (Thomaston)	Thomaston	Primary Contact Recreation	Indicator bacteria
Steele Brook-01	Waterbury	Aquatic Life Support	Copper
		Primary Contact Recreation	Indicator bacteria
Steele Brook-02	Waterbury	Aquatic Life Support	Iron
		Primary Contact Recreation	Indicator bacteria
Hitchcock Lake	Wolcott	Primary Contact Recreation	Indicator bacteria
Hop Brook (Naugatuck)-01	Naugatuck/Waterbury	Recreation	Escherichia coli
Hop Brook Lake	Waterbury/Naugatuck/Middlebury	Primary Contact Recreation	Indicator bacteria
Long Meadow Pond Brook-01	Naugatuck	Aquatic Life Support	Cause Unknown
		Recreation	Escherichia coli
Bladdens River-01	Seymour	Aquatic Life Support	Oil and Grease

### **3.12. Permitted and Registered Diversions of Water**

The State of Connecticut regulates activities that cause, allow, or result in the withdrawal from, or the alteration, modification, or diminution of the instantaneous flow of the waters of the state (e.g., water supply wells and reservoirs, golf course irrigation, industrial intakes). Any diversion that was not registered with the CT DEP must be permitted if there is withdrawal of ground water or surface water in excess of 50,000 gallons per day or if it alters the instantaneous flow of a watercourse that drains more than 100 acres of land. Six of the highest water diversion volume authorizations are for

water supply, and two (NRG Energy and Connecticut Light & Power) are for power generation (Table 3-14).

**Table 3-14: Highest Volume Water Diversions in the Housatonic River Mainstem**

<i>Registrant</i>	<i>Town</i>	<i>Use</i>	<i>Diversion Rate</i>
NRG Energy	Milford	Power Generation	465.48 mgd
Aquarion Water Company	Shelton	Water Supply	30.00 mgd
Birmingham Utilities	Derby	Water Supply	0.66 mgd
Birmingham Utilities	Oxford	Water Supply	31.00 mgd
Birmingham Utilities	Seymour	Water Supply	2.34 mgd
United Water Works	New Milford	Water Supply	1.87 mgd
Connecticut Light & Power	Derby	Power Generation	20.00 mgd
Town of New Milford	New Milford	Water Supply	6.50 mgd

### **3.13. Water Supply Watersheds**

A water supply watershed is defined as "the whole region or extent of country which contributes to a waterbody which acts as the source of a public water supply system." While there are many water supply watersheds within the Housatonic River watershed, there are no proposed project sites that lie within any active water supply watersheds.

### **3.14. Aquifer Protection Areas**

Aquifer protection areas are critical recharge areas for an aquifer that provides water to well fields. Ninety-four wells located in the Housatonic River watershed are located within active water supply aquifer protection areas. Three proposed project sites are located within aquifer protection areas: Ballentine Park River Bank Enhancement, Southbury (P-21); Young's Field Park Riverwalk & Greenway, New Milford (P-30); and Indian Field Wildlife Preserve, New Milford (P-44).

### **3.15. Sewage Treatment Plants/Sewer Service Areas**

Of the 787,840 total acres (1,231 square miles) within the Connecticut portion of the Housatonic River watershed, 52,442 acres lie within a sewer service area. An additional 1,415 acres are located within proposed future sewer service areas. The larger sewer service areas are concentrated around municipal centers and areas high in population such as Danbury, the Greater Waterbury area, Torrington, Derby, and Stratford. However, there are several smaller municipalities that also provide sewer service to their respective communities. There are 23 known sewage treatment facilities within the Connecticut portion of the Housatonic River watershed (Table 3-15).

In addition to water pollution control facilities, the Housatonic River watershed has 15 permitted industrial wastewater discharges (Table 3-16).

**Table 3-15: Sewage Treatment Plants Within the Housatonic River Watershed**

<i>Facility Name</i>	<i>Town</i>
Ansonia WPCF	Ansonia
Beacon Falls WPCF	Beacon Falls
Danbury WPC	Danbury
Derby WPC	Derby
Heritage Village	Southbury
Litchfield WPCF	Litchfield
Milford Beaver Brook WPCF	New Milford
Milford Housatonic WPCF	New Milford
Naugatuck Treatment Company	Naugatuck
New Milford WPCF	New Milford
Newtown WPCF	Newtown
Norfolk WPCF	Norfolk
North Canaan WPCF	North Canaan
Salisbury WPCF	Salisbury
Seymour WPCF	Seymour
Shelton WPCF	Shelton
Southbury Training School	Southbury
Stratford WPCF	Stratford
Thomaston WPCF	Thomaston
Torrington WPCF	Torrington
Waterbury WPCF	Waterbury
Watertown WPCF	Watertown

WPCF = Water Pollution Control Facility

WPC = Water Pollution Control

**Table 3-16: Permitted Industrial Wastewater Discharges Within the Housatonic River Watershed (Source: US EPA 2006)**

<b>CTDEP Permit No.</b>	<b>Facility Name</b>	<b>Town</b>
CT0000744	Chromium Process Company	Shelton
CT0003981	Specialty Minerals	North Canaan
CT0024805	Lake Waramaug Interlocal Commission	Washington
CT0030228	Northeast Generation Services Company	Southbury
CT0001457	Whyco Technologies Incorporated	Thomaston
CT0021873	Somers Thin Strip	Waterbury
CT0003212	Kimberly-Clark Corporation	New Milford
CT0002968	Ansonia Copper & Brass Inc.	Ansonia
CT0026808	Seidel Incorporated	Waterbury
CT0001716	Sikorsky Aircraft Corporation	Stratford
CT0003107	NRG Devon Operations Incorporated	Milford
CT0020826	Auto-Swage Products Incorporated	Shelton
CT0001180	Summit Corporation of America	Thomaston
CT0025305	Quality Rolling & Deburring Co. Incorporated	Thomaston

## 4. ALTERNATIVES ANALYSIS

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The alternatives considered in this draft Restoration Plan reflect a broad array of approaches to restoration of injured natural resources and services in the Housatonic River watershed. In addition to the 31 projects identified in the Evaluation Report adopted by the CT SubCouncil on April 22, 2008, a “No Action” alternative, required by NEPA and CERCLA provisions, is included to examine the expected condition if Trustee-funded restoration activities under the NRD settlement with GE are not pursued. The No Action alternative is the baseline against which other actions can be compared.

The alternatives considered include projects in three restoration categories: Aquatic Natural Resources, Riparian and Floodplain Natural Resources, and Recreational Uses of Natural Resources.

The CT SubCouncil proposes to provide NRD funds to eight Aquatic Natural Resources projects; seven Riparian and Floodplain Natural Resources projects; and twelve Recreational Uses of Natural Resources projects (Figure 4-1).

The total NRD fund allocation is less than the total funding available for restoration at the date that this draft Restoration Plan was published (Table 4-1). This occurred for two primary reasons. First, the CT SubCouncil has chosen to reserve a portion of the available funding for the restoration of Riparian and Floodplain Natural Resources and of Recreational Use of Natural Resources as a contingency for implementation costs that may be substantially different from the costs presented in the SI submissions. Second, as established on August 22, 2006, the Trustees are committed to an equitable distribution of available funding across the three restoration categories. Insofar as the cumulative cost of the selected projects in the Aquatic Natural Resources category is substantially less than the target expenditure, the Trustees have chosen to reserve a portion of the available funding for subsequent awards.

The decision to reserve a portion of the available funding as a contingency is based on several factors. The CT SubCouncil recognizes that the NRD funding amounts requested in many of the SI submissions were predicated on conceptual designs and approximations of appraised values. In others, budgets were projected based on June 2008 costs, which may have changed over the intervening period. Changes in project scope to address accessibility to persons with disabilities, protection of historical artifacts, listed species protections, and other contingencies may increase implementation costs.



Figure 4-1: Distribution of projects proposed for funding. (Blue circles are Aquatic Natural Resource projects, green are riparian, and yellow are recreational.)

**Table 4-1: Alternatives Analysis Summary (Sorted by Restoration Category)**

<i>Proj. #</i>	<i>Title</i>	<i>NRD Funds Requested</i>	<i>Proposed NRD Allocation</i>
<b><i>Aquatic Natural Resources</i></b>			
5	Restoration of coarse woody habitat in Housatonic Mainstem impoundments	\$ 46,050	\$ 46,050
6b	Housatonic and Naugatuck Trout Stocking and Stream Restoration	\$ 7,500	\$ 7,500
8	Blackberry River Fish Passage Restoration	\$ 500,000	\$ 650,000
9	Increased Law Enforcement Patrols at Bull's Bridge Trout and Bass Management Area, and Other Problem Areas	\$ 75,000	\$ 75,000
21	Ballentine Park Streambank Restoration/Stabilization Project	\$ 180,000	\$ 180,000
22	Transylvania Brook Culvert Crossing at East Flat Hill Road	\$ 480,000	\$ 40,000
24	Trout Unlimited Salmon Kill Restoration and Enhancement	\$ 617,260	\$617,260
56	Fishway Repair and Riparian Vegetation Restoration, Cornwall	\$ 36,544	\$ 73,000
<b><i>Subtotal</i></b>		<b>\$ 1,942,354</b>	<b>\$1,688,810</b>
<b><i>Riparian and Floodplain Natural Resources</i></b>			
16	Schaghticoke Indian Reservation Waterfowl and Migratory Bird Study for Habitat Creation	\$ 1,680	\$ 1,680
30	Young's Field Park Riverwalk and Greenway	\$ 180,000	\$ 180,000
33	Wetland Habitat Restoration on the Lower Housatonic River Through the Control of the Non-Native Invasive Plant, Phragmites	\$ 963,313	\$ 963,313
38	Audubon Carse Brook Wetland Restoration	\$ 36,000	\$ 36,000
44	Indian Fields Wildlife Preserve	\$ 348,500	\$ 348,500
57	Conservation of the Frost and CL&P Riverfront Properties in Sharon, CT	\$ 740,468	\$ 740,468
65	Salmon Creek/Housatonic River Land Protection Project	\$ 557,810	\$ 557,810
67	Mitchell Farm Preservation Project: Pootatuck Hill Parcel	\$ 500,000	\$ 0
<b><i>Subtotal</i></b>		<b>\$ 3,327,771</b>	<b>\$2,827,771</b>
<b><i>Recreational Uses of Natural Resources</i></b>			
4	Ball Pond and Short Woods Water Quality Improvement and Pedestrian Access	\$ 650,000	\$150,000
7	Car Top Boat Launch at North Kent Road	\$ 385,000	\$250,000
12	Wimisink Preserve Restoration and Access	\$ 100,000	\$100,000
13	Schaghticoke Indian Reservation Car Top Boat, Canoe, Kayak Access Ramp	\$ 8,054	\$ 8,054
18	Campville Fishing Access	\$ 110,000	\$ 42,000
28	Pickett District Park Pedestrian Link	\$ 92,950	\$ 0
31	Sega Meadows Park River Enhancement Project	\$ 75,217	\$ 75,217
37	Recreational and Conservation Easements for Housatonic Basin Streams	\$ 2,812,580	\$900,000
40	Housatonic Valley River Trail	\$ 56,020	\$ 56,020
52	Creating a "Restoration/Rehabilitation" Greenway on the Still River Corridor to the Housatonic River	\$ 139,900	\$ 0
54	"The Bend" (aka Garbage Hole) Riparian Vegetation, Shoreline and Recreational Access Improvements	\$ 222,586	\$222,586
70	Halfway River Fishery Access	\$ 326,400	\$326,400
76	Beacon Falls Riverfront Park System	\$ 180,000	\$100,000
86	Hunter Haven Waterfront Reclamation Project	\$ 774,746	\$ 0
91	O'Sullivan's Island Peninsula Fishing and Habitat Enhancement	\$ 325,000	\$325,000
<b><i>Subtotal</i></b>		<b>\$ 6,258,453</b>	<b>\$2,555,277</b>
<b><i>GRAND TOTAL</i></b>		<b>\$ 11,528,578</b>	<b>\$7,071,848</b>

As explained above, the preferred alternative that the Trustees propose to implement may change in response to information received during the public comment period following the release of this draft Restoration Plan, Environmental Assessment and Environmental Impact Evaluation, and conclusion of the statutorily prescribed NEPA and CEPA analyses. In the event the Trustees receive significant additional information regarding: the cost; the complexity; a potential impact to the public health, welfare, or the environment; and/or the ability to obtain necessary permits, licenses, approvals, access, etcetera; to implement any of the preferred restoration projects, the Trustees reserve the authority to change or revoke the proposed funding allocations.

As implementation progresses and individual project costs are finalized, amendments to the Restoration Plan will be adopted to achieve an equitable distribution across the restoration categories.

As part of the alternatives analysis, the TWG visited the sites of 27 of the short-listed projects. Four project sites were not visited for the following reasons:

- a) P-05 (Coarse Woody Habitat). The project sites are under water within Lake Lillinonah.
- b) P-33 (Common reed control). Specific parcels for common reed removal were not identified in the proposal.
- c) P-37 (Recreation and Conservation Easements). Specific parcels for easement acquisition were not identified in the proposal.
- d) P-65 (Salmon Creek Land Protection). Access to private property was not available at the time of the site visits. The TWG observations were limited to a single parcel in the Salmon Creek watershed, viewed from an adjacent road.

Based on the Detailed Analysis and their collective review, the SubCouncil assembled 27 projects into the Preferred Alternative. The projects not proposed for funding include one project in the Riparian and Floodplain Restoration category (P-67 Mitchell Farm Preservation – Pootatuck Hill) and three projects in the Recreational Uses Restoration category (P-28 Picket District Park; P-52 Restoration/Rehabilitation Greenway on the Still River Corridor; and P-86 Hunter Haven Waterfront Reclamation Project). Nine projects in the Preferred Alternative warranted alterations in the proposed funding award that are notable when compared to the originally requested NRD funding amount. Changes in proposed funding were made with regard to three Aquatic Natural Resources Projects (P-08, P-22, and P-56) and five Recreational Uses projects (P-04, P-07, P-18, P-37 and P-76).

A synopsis of the analysis for each of the 31 projects is presented in Subsections 4.2 and 4.3 below. The synopses include a project description, site description, evaluation summary for each of the five categories of evaluation criteria (described in Section 2.2), and summary of findings, including any revisions to the project requested or required by

the CT SubCouncil. The synopses also set out the reasons for elimination of those projects not included in the Preferred Alternative as well as the basis for the changes in funding being proposed for nine other projects. The Preferred Alternative is the combination of projects recommended to receive NRD funding. The proposed funding levels for each project are also presented. The CT SubCouncil considered the environmental and socioeconomic consequences of each project when identifying the projects proposed for funding; these impacts are briefly described in Section 4. A more detailed evaluation of the environmental and socioeconomic consequences of the projects included in the preferred alternative is presented in Section 5.

All twenty-seven projects that comprise the Preferred Alternative were reviewed against the Natural Diversity Data Base (“NDDB”) maintained by the CT DEP. The NDDB constitutes a comprehensive compilation of geospatial data on the distribution of Endangered and Threatened Species as well as Species of Special Concern in Connecticut. Where the review indicated the possibility that such species are located within or adjacent to the project area, a more detailed review was performed. The detailed reviews revealed that ten projects (P-06b, P-07, P-08, P-12, P-13, P-16, P-24, P-33, P-38, and P-40) could conceivably cause an effect on one or more listed species and that additional effort will be required to ensure that negative effects are avoided. There is a brief notation in the synopsis of each affected project identifying those that will require additional effort to identify and protect species and habitats of concern.

Of the twenty-seven projects that comprise the Preferred Alternative, eleven were identified as potentially affecting historic resources. These eleven projects were submitted to the State Historic Preservation Office (SHPO) for review. The SHPO considers whether the proposed activity has the potential to negatively impact historical or archaeological resources. SHPO identified additional work that may be required at the sites of four (4) of the projects included within the Preferred Alternative (P-08, P-31, P-54, and P-70). Two other project sites are still under SHPO review (P-07 and P-76). There is a brief notation in the synopsis of each affected project identifying those that will require additional effort to identify and protect historical or archaeological resources.

Upon review of the various State and federal requirements that pertain to activities performed or funded by State and/or federal agencies, the CT SubCouncil concluded that the requirements of the Americans with Disabilities Act (ADA) should apply to many if not all of the restoration projects making up the Preferred Alternative. The ADA is discussed further in Section 6 of this plan.

## **4.1. No Action Alternative**

Under the No Action alternative, no restoration projects would be implemented with funds from the Housatonic River NRD settlement with GE. The result would be to forego ecological benefits associated with restored aquatic and riparian habitat resources, quality of life benefits associated with improved recreational use of natural resources, and economic and educational benefits associated with restoration projects.

Under the No Action scenario, the Housatonic River watershed would continue to be influenced by a variety of ongoing ecological stressors, including development, industrial point source discharges, agricultural non-point source discharges, and other factors. The absence of Trustee-funded restoration activity under the No Action alternative therefore implies lower environmental quality within the region than if restoration projects were implemented.

Some of the natural resources and services impacted by the releases of PCBs may recover naturally. However, this recovery would be slow and may fall short of conditions achieved through active restoration efforts. In contrast, the recovery of impacted natural resources and services could be expedited with the implementation of restoration projects.

It is also possible that restoration in the watershed may be performed by others, such as local, state, and federal agencies and non-governmental organizations, under programs other than this natural resource damage assessment and restoration project. Indeed, organizations and initiatives such as, but not limited to, the Natural Resource Conservation Service's Wildlife Habitat Incentive Program, the FWS's Federal Aid in Sport Fish Restoration (in partnership with the CT DEP) and Partners for Fish and Wildlife Program, the NOAA's Community-based Restoration Program, and several non-governmental organizations are currently active in restoration activities in western Connecticut. These activities will likely continue as long as funding is available to these programs. However, implementation of these projects is uncertain.

Although the No Action alternative provides a useful reference point for characterizing the impact of the other restoration alternatives, it fails to fulfill the Trustees mandate under CERCLA and is contrary to the terms of the settlement agreement that was approved by the court. The damage assessment regulations state that "monies that constitute the damage claim amount shall be paid out of the account...only for those actions described in the Restoration Plan..." (43 CFR 11.92(c)). Hence, the CT SubCouncil is obligated to pursue a restoration program under the terms of the settlement agreement.

## **4.2. Proposed Preferred Alternative**

### **4.2.1. Aquatic Natural Resources**

#### **4.2.1.1. P-05 Restoration of Coarse Woody Habitat in Housatonic River Mainstem Impoundments**

CT B.A.S.S Federation Nation  
Requested NRD Funds: \$46,050  
Other Contributions: \$129,200  
Proposed NRD Allocation: \$46,050

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

The project will enhance near shore fisheries habitat by installing 30 to 50 submerged log crib structures within up to 4 areas of Lake Lillinonah. In addition, the project will implement coarse woody habitat (CWH) shoreline enhancements, such as securing tree drops, at 5 to 15 locations. The timeframe for completing the enhancements is three years. Monitoring will continue for ten years after construction is completed.

#### ***Site Description***

The project is located within Lake Lillinonah, a Housatonic River impoundment, in the towns of Newtown, New Milford, Bridgewater, Brookfield, and Southbury, Connecticut. Based on CT DEP bathymetric mapping of Lake Lillinonah, all of the locations for submerged log crib structure placement occur within waters 20 to 60 feet deep.

#### ***Project Evaluation Summary***

##### Relevance and Applicability

The project would take place within an impoundment on the river mainstem, the CT SubCouncil's highest priority location. This project will provide moderate to high ecological and recreational benefits for Lake Lillinonah. The log cribs and tree drops will provide and enhance fish habitat and increase macroinvertebrate attachment sites, thereby increasing abundant fish populations in the area. They will also enhance recreational fishing opportunities on Lake Lillinonah by providing focus areas for fishing activity-- areas where fish are likely to congregate. The project would generate these ecological and recreational benefits faster than would occur without the project, since the current management practices at Lake Lillinonah include removing large volumes of unsecured coarse woody debris that would otherwise settle to establish CWH. The ecological and recreational benefits of the tree drops and log cribs are expected to last longer than 15 and 25 years, respectively, with minimal maintenance.

##### Technical Merit

The proposed implementation methods appear appropriate for this project and can be carried out by the project team. There is a high likelihood the project will achieve the goals of increasing and enhancing coarse woody fish habitat and recreational fishing.

The log cribs and tree drops will be constructed of natural material and held together by cable, steel rods and anchor bolts. Construction equipment needs appear minimal and include power drills and chain saws. A crane will be required to lift the cribs onto barges or debris skimmers. Transportation of the cribs to their respective placement sites will be provided by FirstLight Power Resources, Inc. To inspect the integrity of the structures and observe fish use, post-construction monitoring will be by underwater video provided by SeaVision two times per year for the first two years after construction and once per year for another eight years. In addition, creel and angler surveys will be conducted to compare catch rates between CWH-enhanced areas and non-enhanced areas within the lake. The project is not anticipated to generate adverse environmental impacts. The project will not generate hazards to human health and safety, given that the submerged log cribs will be located in areas deep enough to avoid creating navigational hazards.

#### Project Budget

The budget is clearly stated. The project is expected to provide high benefits for a relatively low cost. The budget of \$175,250 appears adequate even though many of the services that are required to complete the project will be completed at significantly reduced costs when compared to industry standard pricing for such tasks. The project budget demonstrates an average of nearly \$3.00 in funding from other contributions for every \$1.00 of NRD funds requested.

#### Socioeconomic Merit

By enhancing opportunities for recreational fishing on Lake Lillinonah, the project may stimulate the local economy associated with fishing. The project will not generate adverse socioeconomic impacts. The project includes opportunities for community involvement in monitoring the restoration improvements. This project complements the Debris Management Plan developed by the Northeast Generation Company (now FirstLight Power Resources, Inc.). Educational websites, printed media and kiosks at two public boat launches describing the projects will be produced for public use. Socioeconomic impacts are discussed in greater detail in Section 5.2.

#### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience for implementing this project. All critical commitments have been obtained.

#### ***Summary of Findings***

The project presents a detailed plan for providing fish habitat enhancements within Lake Lillinonah. Overall, the project appears to provide numerous benefits to aquatic natural resources at reasonable cost to the CT SubCouncil.

Considering the merits of the proposal, the CT SubCouncil proposes to allocate \$46,050 for this project.

#### **4.2.1.2. P-06b Streambank Improvements, Riparian Improvements, and Trout Restoration in the Housatonic Basin: Jack’s Brook Stream Embankment and Riparian Restoration**

Naugatuck/Pomperaug Chapter of Trout Unlimited

Requested NRD Funds: \$7,500

Other Contributions: \$0

Proposed NRD Allocation: \$7,500

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

This project will implement stream bank and riparian improvements in the Housatonic River basin. Activities include installing three log structures at identified meander bends in Jack's Brook, a tributary to the Shepaug River, to prevent the degradation of habitat for native trout that may be caused by eroding stream banks. Riparian improvements will include the removal of non-indigenous plant species and the planting of species native to Connecticut. The timeframe for completing the project is one year.

##### ***Site Description***

This project is located within the Shepaug River regional watershed, set amidst the Brian E. Tierney Preserve in Roxbury, Connecticut. The preserve is owned and operated by the Roxbury Land Trust. Jack's Brook is a central feature of the preserve, with footpaths running along its length. The site visit by the TWG revealed that Jack's Brook is a dynamic stream with a great diversity of habitat, including existing log jams, undercut banks, and a number of dramatic meanders. The riparian zone is comprised of a dense canopy of mature vegetation that enjoys protected status as part of the preserve. The brook has a sand and cobble substrate with a riffle/pool morphometry.

Based on the results of the NDDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 “Biological Resources” for more detailed information.

##### ***Project Evaluation Summary***

###### **Relevance and Applicability**

This project can provide moderate-to-high ecological and moderate recreational benefits in the Housatonic River basin. Strategically placed coarse woody structures can be beneficial by stabilizing eroding stream banks. Log jams allow water flowing around and under them to create deeper pools that enhance fish habitat. The log jams provide cover and refuge for fish. Log jams can also increase sediment trapping on the upstream side of the jam. As the log jams decay the decomposed material offers a food source for macroinvertebrates and other aquatic species. Log jams can also provide additional fishing areas since they will be used by fish as refuge. The restoration of Jack’s Brook will provide aquatic habitat benefits sooner than the natural recovery period, which would involve the evolution of natural hydrogeomorphic processes to stabilize the banks

and introduce fallen woody material into the stream. The project will provide immediate long-term benefits to the stream, with periodic maintenance.

### Technical Merit

Trout Unlimited (TU) will use coarse woody structure designs developed by the U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS). These methods and materials have been utilized effectively at many stream restoration projects. Monitoring will be achieved yearly through the Roxbury Land Trust to include a survey and registry of land use to measure the recreational use of the area. The Land Trust will also qualitatively monitor the effectiveness of the log jams on curbing stream bank erosion. Other environmental impacts include short-term construction related impacts such as a temporary increase in water turbidity. Additional information on environmental impacts is described in Section 5. No adverse impacts on human health and safety are anticipated.

### Project Budget

The budget appears to be reasonable and adequate. The requested funding will be used for purchase of materials and rental of drilling/anchoring and lift equipment needed to construct the log jams. All labor will be donated (but the proposal did not include a value for this in-kind contribution). The project will provide a high level of benefits at a relatively low cost.

### Socioeconomic Merit

The project has been coordinated with the Roxbury Land Trust. The project includes opportunities for (and greatly relies upon) community involvement in the installation of the log jams and native plantings. The project is not anticipated to cause adverse socioeconomic impacts. Socioeconomic impacts are discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The project team appears to be qualified and has the necessary technical and administrative experience for implementing this project.

### ***Summary of Findings***

This project provides additional enhancements to a stream system within existing high quality habitat. Natural erosion is taking place along the stream in response to dynamic stream flow patterns. The proposed in-stream features will enhance the ecological habitat of Jack's Brook for a modest cost.

Considering the merits of the proposal, the CT SubCouncil proposes to allocate \$7,500 for this project.

#### **4.2.1.3. P-08 Blackberry River Fish Passage Restoration**

CT DEP Inland Fisheries Division  
Requested NRD Funds: \$500,000  
Other Contributions: \$150,000  
Proposed NRD Allocation: \$650,000  
(the NRD Allocation includes an additional \$150,000 as contingency funding)

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

This project will breach an existing unnamed dam (downstream) and construct a bypass channel around Lower Pond Dam (upstream) in close proximity to one another on the Blackberry River in North Canaan, Connecticut. The proposal opens a nine-mile length of the Blackberry River to fish passage for brown trout and burbot and provides greater riparian corridor continuity. The timeframe for completing the project is four years.

##### ***Site Description***

The project site is adjacent to the Beckley Furnace Industrial Monument along the Blackberry River. The Blackberry River is a tributary to the Housatonic River. Two dams occur within a 750-foot segment of the river. The downstream dam, owned by the State of Connecticut, located at the Samuel F. Adam Furnace (Canaan No. 1) is unnamed. It was partially breached (both vertically and horizontally) by the U.S. Army Corps of Engineers (ACOE) in 1957 following the flood of 1955. It is a run-of-river dam, with no flood storage capacity. The upstream dam at the John Beckley Furnace site (Canaan No. 2), known as the Lower Pond Dam, was purchased by the State of Connecticut in 1946. In 1978 the furnace site and dam were placed on the National Register of Historic Places. This dam is ±12 feet high with stone masonry abutments and an earthen non-overflow section. The historic furnace monument is located downstream on the northern bank.

Based on the results of the NDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 “Biological Resources” for more detailed information.

Based on a review by the State Historic Preservation Office (“SHPO”), additional measures will be required to identify and protect historic or archaeological resources at or associated with the site.

The riparian corridor in the vicinity of the downstream unnamed dam is well vegetated with a dense canopy of mature trees. Bedrock outcropping is evident in the vicinity of the dam, and the channel bed consists of cobble and gravel as well as bedrock. Moving upstream to the Lower Pond Dam, the riparian corridor varies. The south bank is steeply sloped and heavily vegetated, with a seepage channel parallel to the flow of the adjacent river. This appears to be most practical location for a bypass channel. The north bank of the river in this stretch is characterized by a mix of floodplain vegetation and grassy

areas. A stone wall is located a few hundred feet downstream of the dam. The stream channel in this area has a cobble substrate, with bedrock outcropping and large boulders. Channel riffles are evident. A wood plank bridge crosses the river between the two dams. A private dirt road leads to privately owned residences adjacent to the south side of each dam.

### ***Project Evaluation Summary***

#### **Relevance and Applicability**

This project is located on the Blackberry River in North Canaan, CT, a tributary to the Housatonic River upstream of Derby Dam. Modification of the two dams would provide fish passage for a variety of species, most notably burbot (a State-listed endangered species) and the recreationally important brown trout. Restoration of riparian corridor continuity would also result. In the case of the downstream (unnamed) dam, dam removal has many ecological benefits, including improved water quality, naturalized sediment transport, and unobstructed fish passage. Bypass channels provide a high degree of fish passage for a range of species with varied swimming abilities and physical needs. The main recreational benefit of this project would be improved fishing in the Blackberry River. The ecological and recreational benefits would not be realized under a natural recovery scenario unless the dams were breached by flood. The benefits will be long-lasting and self-sustaining.

Due to the proximity of the project to the Beckley Furnace, which is listed on the National Registry of Historic Places, the project sponsor will be required to consult with the State Historic Preservation Officer (“SHPO”) prior to finalizing design plans and must then comply with any requirements of SHPO.

#### **Technical Merit**

The project would potentially yield short-term construction-related environmental impacts, such as construction related disturbance of riparian vegetation. However, the environmental benefits far outweigh the temporary impacts. Additional information on the environmental impacts of the project is described in Section 5. The project will not create a hazard to human health and safety. The project sponsor has committed to monitor the fish population of the Blackberry River up- and downstream of the project site and to monitor fish use of the bypass channel via a fish trap in the upstream end of the bypass channel. Monitoring will be done by CT DEP Inland Fisheries Division with assistance from the University of Connecticut and Housatonic Valley Association.

### Unnamed (Downstream) Dam

The extent of the previous breach is evident. The original stone masonry abutments are intact and in good condition. The current structure stands approximately five feet high, with a large pipe that runs parallel to flow in the center of the structure.

Removal of this dam is highly feasible. Construction access would be from the southern bank, immediately downstream of the dam. The northern bank is steep and heavily vegetated, with a high value tree canopy. Substrate characteristics (e.g., bedrock and cobble) along with the apparent lack of fine grained impounded sediment, would make for a relatively straight-forward breach. Field survey and hydraulic modeling would guide the dimensions of the breach. Retention of the stone masonry abutments would be desirable, both from a cultural resource perspective as well as for stream bank stability.

### Lower Pond Dam (Upstream)

The condition of the dam is unknown, but presumed to be in good condition based upon limited visual observations. Construction of a bypass channel must consider several important physical constraints and restrictions. Access would be from the southern bank, which is quite steep and heavily vegetated. Construction access could prove to be a significant component of the project cost. Bypass channels have slopes that are typically two percent. Slope and shape is dictated by hydrology, channel hydraulics, predicted depth and velocities, and physical characteristics of the target passage species. Bypass channel entrances are typically located as close to the base of the dam as possible, since fish will follow the thread of the swift-moving stream flow. Placing the entrance to the bypass channel too far downstream can compromise its effectiveness.

Based upon initial field observations and the need for an entrance close to the base of the dam, two scenarios are likely. The first is that the channel would need to "switch back" (i.e. proceed parallel to the river flow (moving upstream in the downstream direction) and then switch back, moving upstream parallel to the river). Alternately, the channel would need to proceed off state property upstream of the dam adjacent to the sweeping lawn area and single family residence.

Overcoming the gradient will need further study. In some cases, bypass channels are supplemented with very short sections of fish ladders (e.g., five to ten feet) to overcome steep sections. However, this would be dependent upon the passage criteria of the burbot, which may not be conducive to fish ladder passage. If use of short segments of fish ladder is not an option, additional grading will be needed. This would be determined through the design process. In summary, the design and construction of the bypass channel at the upstream dam will be challenging but is feasible.

The current condition of the bridge over the river needs to be evaluated to determine if it is structurally suitable for passage of the heavy equipment required for the project.

### Project Budget

This project will provide substantial ecological benefits to a self-sustaining brown trout population, the state-listed burbot, and a variety of wildlife habitats, as well as recreational benefits from improved fishing, for a proposed cost of \$650,000.

The costs of the distinct project elements, i.e., fish passage at Lower Pond Dam and removal of the unnamed dam, are not delineated in the project budget. Projected costs for surveying, ecological assessment, hydrologic and hydraulic analysis, design, and permitting for the two dams appear to be low, estimated at \$100,000. Given the rigor of permitting analyses at the local, state, and federal levels, these project elements would be expected to range from \$200,000 to \$250,000.

The ratio of total leveraged funds to NRD funds requested is \$0.30 per \$1.00 of NRD funding. Most of the leveraged funds (\$150,000) would come from a WHIP Grant from the USDA Natural Resources Conservation Service, which has not yet been secured.

### Socioeconomic Merit

The CT DEP, in conjunction with the Housatonic Valley Association, will coordinate volunteers to assist in monitoring and aid in producing and disseminating educational materials pertaining to the project goals and major milestones. Friends of Beckley Furnace request involvement in discussions concerning the project with respect to preserving historic attributes of the site. The project may cause some short-term socioeconomic impacts such as localized noise during construction. Socioeconomic impacts are discussed in greater detail in Section 5.2. This project is consistent with statewide objectives to remove artificial barriers to fish migration and to reconnect segmented habitat.

### Applicant Implementation Capacity

The project team is qualified and has the necessary technical and administrative experience for implementing this project. The proposal has not yet obtained some of the crucial commitments to implementing the project, such as abutting landowner permissions and a significant amount of matching funds.

### ***Summary of Findings***

This project will provide essential fish habitat and fish passage in the Blackberry River. Although none appear to be insurmountable, the upper site poses some design challenges. Furthermore, the CT SubCouncil recognizes that accurately estimating the future costs of a project of this scope and complexity based on a conceptual design is extremely difficult. Construction access, bypass channel location, and construction techniques will greatly affect implementation cost. The \$100,000 budget for survey, ecological assessment, hydrologic and hydraulic analysis, design, and permitting for the project at both dam sites appear to be underestimated by as much as \$150,000. Therefore, the CT

SubCouncil proposes to allocate the \$500,000 requested for this project and will reserve an additional \$150,000 in contingency funding.

**4.2.1.4. P-9 Increased Law Enforcement Patrols at Bull's Bridge Trout and Bass Management Area, and Other Problem Areas**

CT DEP Divisions of Inland Fisheries and Environmental Conservation Police  
Requested NRD Funds: \$75,000  
Other Contributions: \$298,329  
Proposed NRD Allocation: \$75,000

***Project Description***

The CT DEP has stocked the Housatonic River mainstem in the Bull's Bridge Management Area with catch-and-release trout (since 2002) and bass (since 2003). Fish population assessments and a recent angler surveys have documented extensive illegal activity, including significant harvest of bass and trout, use of gillnets to harvest fish, depletion of trout from an important thermal refuge, and extensive littering. This project provides increased law enforcement within and along riverine portions of the upper Housatonic River mainstem in Connecticut to discourage illegal harvesting of these game fish. The funding will be used to employ law enforcement patrol officers on an overtime basis (during extended work days and regular days off) for 250 man-hours per year over a three year period. This provides approximately ten additional hours per week (in addition to the current schedule of five hours per week) of patrol time along the Housatonic River during the months of April through September. The time frame for completing this project is three years.

***Site Description***

The project is located along the Housatonic River mainstem corridor from the Bleachery Dam in New Milford, Connecticut, northward to the state line. The Bull's Bridge Management Area will serve as a focus point for project assessment.

***Project Evaluation Summary***

**Relevance and Applicability**

The project would take place within the river mainstem, the CT SubCouncil's highest priority location. This project can provide high ecological benefits for Connecticut's upper Housatonic River. The magnitude of ecological benefits is directly proportional to the level of illegal activities detected and prevented as a result of this project. The CT DEP Inland Fisheries Division has documented extensive illegal and ecologically adverse activity in the project area. Protection of the noted species would foster increased fish growth rates, and provide a more natural distribution of biomass across trophic levels. The project's success in restoring the fish community will generate recreational benefits via increased catch rates of larger bass and trout. The recreational experience will also benefit from decreasing the illegal littering and dumping along the river. These benefits

will be realized faster than would occur without the project (i.e., faster than the natural recovery period). These benefits would be moderately self-sustainable—although the increased patrols would be funded for only three years, the resulting change in the behavior of river visitors (e.g., decreased illegal activity) will persist into the future.

#### Technical Merit

Law enforcement presence and visibility are traditional and proven methods of protecting against illegal activities. The project builds upon an existing program using state-of-the-art methods and equipment and trained staff familiar with relevant aspects of law enforcement and fishery assessment. Angler surveys and fish population assessment techniques (in-kind services) will be provided by CT DEP fisheries biologists in accordance with accepted methods to quantitatively measure the results of the project. CT DEP will also use a computer-aided dispatch system to record all project related enforcement activities in an electronic database. The project will not create adverse environmental consequences and will increase public safety.

#### Project Budget

The project's cost-benefit relationship demonstrates high net benefits for the amount of NRD funds requested. The NRD fund request constitutes 20% of total project costs. All of the NRD funds would be used to support the direct and indirect costs of overtime work provided by existing law enforcement officers. Given that the targeted illegal activity is seasonal in nature, funding the proposed seasonal overtime work of existing officers is more cost-effective to achieve the project goals than funding an entire new, full-time position at the base pay rate.

#### Socioeconomic Merit

A major component to the effectiveness of this project will be community involvement. Anglers and other recreational users are encouraged to alert patrol officers of problem areas by calling the TIP hotline number. The project has been coordinated and integrated with complementary conservation activities, and public plans and policies including CT DEP fisheries management plans and protection of state listed species. The project will not generate adverse socioeconomic impacts. Socioeconomic impacts are discussed in greater detail in Section 5.2. The law enforcement officers will accomplish some public education and outreach regarding the responsible use and stewardship of the river via the day-to-day interactions between the officers and the public.

#### Applicant Implementation Capacity

The project team is qualified and has the necessary technical and administrative experience to implement the project. Specific individual credentials were provided in the proposal. All necessary funding from other sources has been secured.

### ***Summary of Findings***

This project will ameliorate illegal activities, specifically the illegal taking of trout and bass, with measurable negative impacts on the environment and recreational fishing opportunities. The benefits of the three year implementation period are expected to generate long-term improvements by expanding the existing patrolling program, familiarizing officers with the area, interacting with and engaging anglers, and changing the behaviors of river visitors such that illegal and environmentally adverse activities are decreased. Considering the merits of the proposal, the CT SubCouncil proposes to allocate \$75,000 for this project.

#### **4.2.1.5. P-21 Ballentine Park Streambank Restoration/Stabilization Project**

Town of Southbury  
Requested Funds: \$180,000  
Other Contributions: \$10,000  
Proposed NRD Allocation: \$180,000

### ***Project Description***

This proposed project is located at Ballentine Park in Southbury, Connecticut, along the east bank of the Pomperaug River. The Pomperaug River is a Class B watercourse and an important fishery resource. The purpose of the project is to stabilize a 400 to 530-foot section of an eroding stream bank along the river by regrading a 90 to 125-foot reach of the bank slope and using bioengineering restoration techniques. The timeframe for completing the project is one year.

### ***Site Description***

Ballentine Park is a Town-owned and operated public park. The Pomperaug River flows along the western park boundary. The east river bank is steeply sloped and rises approximately 25 feet above the river. Portions of the stream bank have become unstable, with severe erosion occurring as a result. Native trees and herbaceous plants, and invasive Asiatic bittersweet and barberry, are colonizing the lower portion of the bank; however large areas of exposed soils are still present. Large coarse woody debris was found along the eroding stream bank. Very little sediment was found at the base of the eroded bank. The stream bed is firm with a cobble substrate.

### ***Project Evaluation Summary***

#### **Relevance and Applicability**

The project is located in Southbury along the Pomperaug River, a tributary to the Housatonic River upstream of the Derby Dam. The project would stabilize an eroding stream bank that has adversely impacted water quality and aquatic habitat. Stream surveys conducted in 1991 revealed that gravel and cobble substrate embeddedness in reaches downstream of the project site (81% and 56% respectively) were substantially

higher than upstream areas (26% and 26% respectively). Although these observations pre-date the destabilization of the stream bank at the project site, sediments mobilized from the eroding stream bank exacerbate substrate embeddedness and inhibit improvements to downstream habitats. Conversely, stabilization of the stream bank would reduce sediment transport and deposition, leading to reduced substrate embeddedness and improved habitat quality. These ecological benefits will occur faster than they would without the project.

#### Technical Merit

Professional engineering services would be retained to prepare a final design, construction bid documents and acquire permits. A construction contractor will implement the project. The approach to bank stabilization is technically sound and has been used effectively at other eroding stream bank sites. Grading the 90 to 125-foot section of bank to a 2:1 horizontal to vertical slope will likely require relocating a fence at the top of bank. Control measures are necessary to mitigate adverse environmental effects on the stream, particularly during construction. No adverse impacts on human health and safety are anticipated. The Town commits to monitor the stability of the embankment over time, much of which will be completed by annual visual inspections.

#### Project Budget

The project costs have been estimated to be \$190,000. This translates to \$450 to \$340 per linear foot to stabilize 400 to 530 feet of stream bank, respectively. Moderate aquatic benefit is expected from “stabilizing” the eroding stream bank. The relationship of project benefits to costs is acceptable. The project budget demonstrates less than \$0.06 in funding from other contributions for every \$1.00 of NRD funds requested. The matching contributions (\$10,000) are in the form of in-kind services (project administration and post-construction monitoring).

#### Socioeconomic Merit

There is potential for community involvement in some phases of this project, including vegetative planting, trail construction, and post-construction monitoring. The project is not anticipated to cause adverse socioeconomic impacts. The project is consistent with the regional plan of conservation and development of the Council of Governments of the Central Naugatuck Valley.

#### Applicant Implementation Capacity

The project team appears to be well qualified and has the necessary technical and administrative experience to complete the project. All project commitments have been secured.

### ***Summary of Findings***

Bank erosion at Ballentine Park has an approximate length of 400 to 530 feet along the Pomperaug River, including a steeply sloped reach of 90 to 125-feet. Stabilizing the eroding stream bank is expected to result in a moderate level of aquatic ecological benefits relative to the project costs. The CT SubCouncil proposes to allocate up to \$180,000 for this project.

#### **4.2.1.6. P-22 Transylvania Brook Culvert Crossing**

Town of Southbury  
Requested NRD Funds: \$480,000  
Other Contributions: \$10,000  
Proposed NRD Allocation: \$40,000

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

This project proposes to replace “perched” twin pipe corrugated metal cross culverts under East Flat Hill Road in Southbury, Connecticut, to enhance fish migration from the Pomperaug River into Transylvania Brook. In addition, the project would stabilize the currently eroding stream banks of Transylvania Brook upstream of the culverts. The timeframe for completing the construction of this project is two years.

#### ***Site Description***

The cross culverts at East Flat Hill Road convey flow from Transylvania Brook to the Pomperaug River in the Housatonic River watershed. The west bank culvert has the ability to pass fish during certain flow conditions, as was observed by the TWG during the site visit. The east bank culvert presents a greater degree of discontinuity from the stream and does not appear to pass fish under most conditions. Both culverts show signs of deterioration along their bottoms; however, they appear to be structurally sound. The proposal states that the existing twin culverts have approximately 15 years remaining in their economic life expectancy and would probably need to be replaced in 2025.

#### ***Project Evaluation Summary***

##### **Relevance and Applicability**

The replacement of the existing culverts with sunken culverts would allow fish to migrate into Transylvania Brook from the Pomperaug River throughout the year. Enhancement of fish passage has the potential to increase recreational fishing in Transylvania Brook. The ecological benefits of this project would be realized approximately 15 years earlier than under a “natural recovery” scenario (i.e., when the culverts are replaced in 2025). The benefits would be self-sustaining during the functional lives of the new culverts.

##### **Technical Merit**

Replacement of the twin culverts is technically feasible; however, the scope of the project appeared to be more than what is required to reach the goal of fish passage. The CT

SubCouncil tasked its Technical Consultant Team with exploring alternative approaches that (1) would enable fish passage into Transylvania Brook without replacing the culverts and (2) might be accomplished at significantly lower project costs. The Consultant Team recommended that, in concept, one or both culverts be retrofitted for fish passage by depressing a section of the existing pipe at its downstream end. Cutting a small section of the culvert bottom at the outlet and depressing the corrugated metal into the streambed substrate would provide a fish ramp during low flow conditions. The project would require hydraulic analysis as well as a structural assessment by a licensed engineer.

The proposed culvert replacement project would generate short-term construction-related environmental impacts such as temporary increases in turbidity. The alternative approach of modifying the existing culverts would generate similar short-term construction-related environmental impacts but at a reduced scale and shorter duration due to less intrusive construction methods. Neither approach to enhancing fish passage would generate hazards to public health and safety.

The Town proposes to hire a fisheries biologist to conduct pre- and post-construction fish surveys at the project site to determine the effectiveness of the fish passage enhancement measures. However, these costs were not included in the project budget, either as requested funds or other contributions, so the actual implementation of the monitoring is uncertain. The monitoring plan is applicable to both approaches to enhancing fish passage, and the CT SubCouncil requires that such monitoring be conducted. This is addressed in the Project Budget section below. Long-term monitoring of the vegetation in the stream bank stabilization area is included in the project budget.

### Project Budget

The proposed culvert replacement project is projected to cost \$490,000. The existing culverts have an additional life expectancy of at least 15 years, after which the culverts must be replaced for purposes of transportation safety (an activity not eligible for NRD funding). The cost of restoring fish passage via full culvert replacement outweighs the environmental cost of postponing fish passage until 2025. In addition, given the availability of a more cost-effective means to achieving the fish passage goals at the site, replacement of the culverts is not justified. The alternative concept described above could likely be implemented for less than \$30,000, including engineering, permitting, and construction costs. With the alternative approach, the benefits of achieving fish passage within two years outweigh the costs.

The project budget does not address the source of funds for the quantitative pre- and post-construction monitoring of the fish community. To ensure such monitoring is implemented, the CT SubCouncil recommends allocating \$10,000 specifically for these efforts.

### Socioeconomic Merit

There does not appear to be significant community involvement or public outreach proposed for this project. The project would, however, complement both conservation and restoration opportunities within the Housatonic River watershed and fisheries management objectives of the CT DEP. The project would not adversely impact the socioeconomics within the Housatonic River watershed or locally. Socioeconomic impacts are discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The project team appears to be qualified and has the necessary technical and administrative experience for implementing this project. All crucial project commitments have been secured.

### ***Summary of Findings***

The project proposes to increase fish passage into Transylvania Brook by replacing twin corrugated metal pipes with two sunken box culverts. However, modifications to the existing culverts, as described in the alternative concept, would provide suitable fish passage until the culverts need to be replaced at the end their useful life, projected to be an additional 15 years. Consequently, the CT SubCouncil proposes to allocate up to \$40,000 for this project.

#### **4.2.1.7. P-24 Trout Unlimited Salmon Kill Restoration and Enhancement Trout Unlimited**

Requested NRD Funds: \$617,260  
Other Contributions: \$644,000  
Proposed NRD Allocation: \$617,260

### ***Project Description***

The project will restore and enhance the riparian corridor and instream habitat along 1.8 miles of Salmon Creek located in Salisbury, Connecticut. Instream work will consist of placement of structures, grade controls, stabilization of eroding banks, and reforestation of the riparian zone. The timeframe for completing this project is three years.

### ***Site Description***

Salmon Creek is a second order stream that supports a self-sustaining brown trout population. The project area includes approximately 1.8 miles of Salmon Creek corridor. The upstream segment (approximately 1.5 miles) passes through agricultural lands (hayfields and pastures). The downstream segment passes through Lime Rock Park, a motor vehicle race track.

In the upstream segment, the channel is set in a dynamic alluvial floodplain as evidenced by new meanders and oxbows. Channel substrate is fine grain alluvial materials, with no

boulders or cobbles and relatively little woody debris. An owner of one of the affected properties reports it is common for the stream to carve new alignments during high flow events and, through time, the channel has moved laterally by 50 or more feet. The newly formed banks are vertically cut into the floodplain, with sloughing into the stream. Non-native invasive species such as multiflora rose, Asiatic bittersweet, honey suckle, and alder buckhorn dominate the riparian zone, flanked by open, active pasture, with little native riparian vegetation.

The downstream project segment is located immediately adjacent to the Lime Rock Park race track. This channel segment was straightened and channelized in the past, with the race track on one side and a sweeping mowed grass hill on the other that spectators use to view the races. The channel is open to full sunlight, with no notable riparian vegetation and no instream habitat structures. It does not appear to be subject to repeated erosion; although localized erosion would be expected during unusually high storm events.

Based on the results of the NDDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 “Biological Resources” for more detailed information.

### ***Project Evaluation Summary***

#### **Relevance and Applicability**

The project is located on Salmon Creek, a tributary to the Housatonic River. The proposed measures would enhance stream corridor conditions in a manner that would not occur naturally in the foreseeable future. Installation of cattle fencing, removal of invasive species, stabilizing stream banks, and replanting of the riparian zone with native trees and shrubs will benefit fish and wildlife habitat by decreasing erosion and turbidity, providing shade to decrease summer stream temperatures, and increasing biodiversity among other benefits. Enhancing the water quality and fish populations in Salmon Creek will enhance the recreational fishery in the Trout Management Area in the Housatonic River mainstem downstream of the Salmon Creek confluence. These benefits should be self-sustaining once the replanted vegetation has matured along Salmon Creek, but routine maintenance, particularly of non-native invasive species and cattle fencing, will be necessary until then.

#### **Technical Merit**

The upstream segment of Salmon Creek is a low gradient alluvial channel, subject to bank erosion. This is a natural process that is likely being exacerbated by cattle and the lack of riparian vegetation. The channel is not enlarging; rather, it is meandering within the active stream belt. As an alluvial channel, Salmon Creek will be subject to repeated self-adjustment within the active stream belt.

Stabilizing the stream banks with physical treatments (e.g., root wads) and bank sloping is likely to be effective when done in conjunction with riparian buffer restoration and would provide a sustainable solution. The project proposes a 100-foot buffer on either side of the stream, including fencing to exclude cattle from the riparian zone. Establishing a healthy riparian buffer and restricting grazing adjacent to the stream banks, in conjunction with the in-stream measures are expected to accomplish the restoration goals. Fencing may also be desirable along the edge of the buffer, particularly as a protection measure during naturalization of the planted riparian corridor.

The downstream segment of Salmon Creek is highly channelized, with a slightly steeper slope, based on visual observations. Here, riparian plantings would provide beneficial shading in the stream; however, the need for race spectators to be able to view the race track from across the stream will limit the width and height of the buffer plantings. The race track on the right bank (looking downstream) and the grassed hill on the left bank prevent the restoration of a normal winding or sinuous stream channel.

Riparian plantings, if properly designed with regard to plant selection, width of corridor, and cattle exclusion, will result in long-term self sustainable benefits, with relatively simple maintenance.

The project will not generate adverse environmental consequences other than short-term construction-related impacts such as a temporary increase in turbidity. The project will not create hazards to public health and safety.

To quantify the success of the project, TU proposes to carry out the following monitoring measures:

- Install instream temperature monitors at critical locations,
- Conduct benthic macroinvertebrate surveys and habitat assessments,
- Electro-fish stream sections to determine fish population density and diversity, and
- Conduct invasive species inventories.

The above monitoring measures would be performed prior to design and construction and then completed again on a yearly basis for a minimum of five years following construction activities.

### Project Budget

The farmland segment of the proposed budget is reported as approximately \$1,160,000, while the racetrack segment is \$101,260. This budget requires a total of \$617,260 in NRD funding (approximately \$6,500 per 1,000 feet of stream restoration) and \$644,000 in Other Contributions, of which \$44,000 has been committed and an additional \$600,000 is yet to be raised. The relationship of project benefits to costs is acceptable.

### Socioeconomic Merit

The project will involve members of the community, regional environmental organizations, and local schools during many aspects of the project, particularly monitoring activities and invasive species removal. The project team will also contact local boy and girl scouts for part of the invasive species management. The project also includes public outreach measures, such as publications and soliciting volunteers from local school systems. Socioeconomic impacts are discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The project team is qualified to administer this project and has relevant experience. Project partners include the land owners, TU, the Natural Resource Conservation Service, the CT Council of TU, the NW CT TU Chapter, the Nature Conservancy, the Salisbury Land Trust, Weantinogue Heritage Land Trust, the Town of Salisbury, the Upper Housatonic Valley National Heritage Area, and area schools. However, formal commitments for some of the crucial contributions have not yet been obtained.

### *Summary of Findings*

Installation of cattle fencing, removal of invasive plants, re-vegetation with native trees, and riparian zone stabilization is desirable as it has the potential to improve a significant reach of Salmon Creek. The CT SubCouncil proposes to allocate up to \$617,260 for this project.

#### **4.2.1.8. P-56 Fishway Repair and Riparian Vegetation Restoration**

Housatonic Valley Association, Inc.  
Requested NRD Funds: \$36,544  
Other Contributions: \$33,765  
Proposed NRD Allocation: \$73,000  
(the NRD Allocation includes an additional \$36,456 in contingency funding)

### *Project Description*

This project will repair a damaged fishway and enhance the surrounding vegetative buffer of Furnace Brook, a tributary to the Housatonic River. Activities include a 12-foot extension to the current fishway structure along the west bank of Furnace Brook. The project will also establish a native plant buffer on the surrounding shoreline. The time frame for this project is three years.

### *Site Description*

This project is located within Furnace Brook, in the village of Cornwall Bridge, Connecticut, along Route 4 near its intersection with Route 7. Furnace Brook is a class B/A tributary to the Housatonic River. The stream provides a thermal refuge from the

warm waters of the Housatonic River for brook, brown and rainbow trout. Trout migrate into Furnace Brook to reach spawning areas that are not duplicated in the Housatonic River.

The fishway lies directly under the Route 4 bridge and was constructed in 1995 by the Connecticut Department of Transportation (CT DOT) as bridge repairs were made. The bridge has a concrete apron on the streambed that prohibits fish passage due to its elevation as well as the swift-moving shallow water flow that results. The existing fishway is a poured concrete structure with a pool and weir baffle system. This fishway was subsequently damaged by high flood events and is not currently functional. The CT DOT is not required to repair the fishway.

### ***Project Evaluation Summary***

#### Relevance and Applicability

This project can provide high ecological benefits for Furnace Brook and the Housatonic River. The fishway will provide benefits for as long as it is in place and maintained, perhaps 50 or more years. However, the maintenance of a fishway can be labor intensive, as the fishway baffles must be removed and re-installed seasonally, and the fishway must be kept free of debris during the migration season. Benefits include improvement of upstream migration and spawning for trout populations in Furnace Brook and the nearby Housatonic River. Such enhancement of trout populations will also benefit recreational fishing. Planting of additional shading vegetation will aid in maintaining stable stream banks and lower summertime water temperatures. The benefits would not likely be realized in the foreseeable future without NRD funding and repair of the fishway.

#### Technical Merit

Fish ladders have been well documented throughout the Northeast as providing effective passage for migratory fish. The project is believed to be technically feasible. The project will not generate adverse environmental consequences other than short-term construction-related impacts such as temporarily increased turbidity, nor will the project generate hazards to public health and safety. The project includes an excellent monitoring plan. The success of the project in passing trout upstream will be quantitatively monitored for three years after construction completion by using a fish trap to count the number and species successfully surmounting the fishway. The effectiveness of the re-vegetated shoreline buffer will be measured by monitoring stream temperatures. The survival of the plantings will also be monitored.

#### Project Budget

The project has the potential to provide significant benefits to the fishery in Furnace Brook and the nearby Housatonic River, specifically restoration of trout populations at a relatively low cost. However, costs for several project elements may be underestimated. In particular, project design and preparation of bid documents may require outside

engineering and/or environmental consulting services. As a result, the CT SubCouncil tasked the Technical Consultant Team with evaluating the estimated cost to implement the project. The Technical Consultant Team estimated the cost to design, prepare bid documents, secure permits, and construct the project to be \$73,000. The proposal requests \$10,913 in NRD funds to implement the volunteer stream bank re-vegetation and post-construction fish monitoring projects. Finally, an additional \$33,765 in in-kind match is being provided in the form of project management, design assistance and post-construction monitoring.

#### Socioeconomic Merit

The project is consistent with the objectives of the CT DEP Inland Fisheries Division, the USFWS, and the NOAA to remove barriers to fish migration. The project has been coordinated with the project partners and the adjacent land owner. It also includes involvement of volunteers for project monitoring and maintenance functions. The project provides an exceptional number of opportunities for environmental education/outreach and community involvement. The project will not generate adverse socioeconomic impacts. Additional information on socioeconomic impacts is discussed in greater detail in Section 5.2.

#### Applicant Implementation Capacity

The project team (Housatonic Valley Association, CT DEP Inland Fisheries Division, and the adjacent landowner) appears to be qualified and has necessary technical and administrative experience for implementing this project. All critical commitments have been obtained.

#### ***Summary of Findings***

This project has the potential to result in measurable and significant local ecological restoration at a relatively modest cost. Based on the cost estimates for final design, preparing bid documents, securing permits and constructing the project as prepared by the Technical Consultant Team, the CT SubCouncil proposes to allocate up to \$36,544 for this project, and to reserve an additional \$36,456 in contingency funding.

## **4.2.2. Riparian and Floodplain Natural Resources**

### **4.2.2.1. P-16 Schaghticoke Indian Reservation Waterfowl and Migratory Bird Study for Habitat Creation**

Schaghticoke Tribal Nation Environmental Committee

Requested NRD Funds: \$1,680

Other Contributions: \$0

Proposed NRD Allocation: \$1,680

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

Contrary to the project's title, the proposed activities are not studies but on-the-ground restoration efforts. The project objective is to restore two to three acres of degraded ruffed grouse, American woodcock, and waterfowl habitat on tribal lands along the Housatonic River. These areas were damaged by a 2001 forest fire and flooding. Duck boxes will be installed along the river and seedling trees and perennial ground cover will be planted in bordering uplands. The proposed timeframe for completing the project is two years.

#### ***Site Description***

The Schaghticoke Indian Reservation is located on the west shore of the Housatonic River approximately 3 miles south of Kent, Connecticut. The ruffed grouse and woodcock habitat restoration areas are adjacent to the tribal cemetery and up the mountain side. The areas are sparsely to moderately vegetated with early succession shrubs and trees. Some undergrowth is present. Ruffed grouse and woodcock habitat appears to be rebounding. The wood duck habitat is located within the Housatonic River floodplain where there is a mix of forested and emergent marsh wetland habitats, which appear suitable for wood ducks.

Based on the results of the NDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 "Biological Resources" for more detailed information.

#### ***Project Evaluation Summary***

##### **Relevance and Applicability**

The project is located along the Housatonic River mainstem, the CT SubCouncil highest priority location for restoration activities. The proposed project once established would provide long-term sustainable benefits to the target species and small scale (2 to 3 acres) ecological benefits. The wood duck boxes will increase duck breeding potential along the Housatonic River. The project will provide some recreational opportunities for ecologists and bird watchers to study vegetative success and monitor bird repopulation trends. These benefits are beginning to be realized on their own (via natural recovery), and this project accelerates the recovery rate for little cost.

### Technical Merit

The project is technically feasible and easy to implement with volunteer labor. If establishment of new ground cover is not successful from planting seeds, use of seedlings will need to be considered. Weather patterns can affect the success of this project. Hot and dry conditions following planting can stress seedlings, decreasing the likelihood of long-term viability. Alternatively, the area has been susceptible to flooding in the past. A severe flood within the first one to two years of planting can be detrimental to the establishment of vegetated habitat. The applicant acknowledges that multiple plantings may be necessary. The Schaghticoke Tribal Nation's Environmental Committee will monitor the new plantings and evaluate reports of birds and other wildlife sightings. The duck boxes will be monitored for use by waterfowl. The project will not generate adverse environmental consequences or hazards to public health and safety.

### Project Budget

The project provides ecological and recreational benefits for tribal members and the public at minimal cost. All labor is to be donated by tribal members. The proposal did not estimate a value for the volunteer services, but such in-kind contributions are estimated to represent more than \$1.00 in match per \$1.00 of NRD funds requested. All of the NRD funds will be used to obtain the planting materials and duck box supplies. The SubCouncil notes that the SI submission does not indicate whether or not the cost of multiple plantings is included in the project budget. This question must be resolved as part of any funding negotiations.

### Socioeconomic Merit

This project provides opportunities for coordination with CT DEP biologists and several other groups in the community. The project will not generate adverse socioeconomic impacts; rather, the project will help to stabilize tribal lands from erosion and enhance game bird populations on the tribal reservation. Socioeconomic impacts are discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The project team appears to be qualified and has the necessary technical and administrative experience for implementing this project. The project team consists of volunteers from the Schaghticoke Tribal Nation's Environmental Committee. However, the CTDEP has received communications from another person, Ms. Gail H. Donovan, who identifies herself as the Tribal Chairman of the Schaghticoke Indian Tribe, asserting that the right of the sponsor of this project (the Schaghticoke Tribal Nation) to undertake work on the reservation is in dispute. As mentioned in a letter from Commissioner Gina McCarthy to Mr. Joseph Velky (Environmental Committee Contact Person), dated April 14, 2008, disputes among tribal members concerning tribal leadership and what activities may or may not be authorized by tribal leadership to take place on tribal lands are issues that must be resolved by the tribe. Insofar as disputes concerning tribal leadership have

yet to be resolved and that the proposal lacks the unified support of the various factions, the CT SubCouncil has concluded that the project proponents have failed to demonstrate that they have the authority to implement the project.

### ***Summary of Findings***

This project has high potential benefits for the ruffed grouse, American woodcock, and wood duck breeding populations along the Housatonic River when compared to the overall cost of the project. The project is simple, easy to implement, and cost effective and is highly oriented to community involvement. Because the project proponents have failed to demonstrate the authority to implement the project, the CT SubCouncil proposes to allocate \$1,680 for this project, contingent upon the project proponents demonstrating the authority to undertake the project. The CT SubCouncil will hold these funds in reserve for a period of one year after the date of issuance of the final Restoration Plan. After that time period has elapsed, the SubCouncil will reallocate those funds to other restoration work.

#### **4.2.2.2. P-30 Young's Field Park Riverwalk and Greenway**

Town of New Milford  
Requested NRD Funds: \$180,000  
Other Contributions: \$101,000  
Proposed NRD Allocation: \$180,000

### ***Project Description***

The project proposes to expand the Greater New Milford Greenway by 0.5 miles through re-establishment of native vegetative habitat and development of a trail connecting two town parks along the banks of the Housatonic River. The proposed riverfront trail would consist of a gravel base along the Aspetuck River portion and a boardwalk through the wetlands portion along the Housatonic River. The installation of floating docks near the existing kayak launch on the Housatonic River will help protect the revegetated embankments from trampling by anglers and others wishing to access the water's edge. The existing parking area will be redesigned, so that a substantial portion of the impervious pavement will be removed and replaced with a vegetated riparian buffer to reduce stormwater runoff. The timeframe for completing the project is three years.

### ***Site Description***

Young's Field Park is located along the east bank of the Housatonic River in New Milford, Connecticut. Currently it is an active recreation area that offers multiple activities (e.g., softball, tennis, basketball, and skateboarding). Helen Marx Park is located approximately 0.5 miles upstream. The 4 ½-acre park has two baseball fields with an overlapping soccer field. The proposed greenway trail would provide a walking path to connect the parks.

The northern portion of the proposed greenway riverwalk that extends from the Young's Field Road bridge over the Aspetuck River to the Town Public Works parking area traverses private property. This area includes mature woodlands and wetlands. The stream bank becomes steep at the southern portion of the Sasco Oil Company property, where the trail is planned to enter Town property. The Town portion of the proposed greenway is located along the narrow strip of land on the west side of Young's Field Road, and is lined with large (3-foot diameter) weeping willow trees. The southern terminus of the proposed trail is north of the canoe/kayak boat ramp installed in 2005.

### ***Project Evaluation Summary***

#### Relevance and Applicability

Restoration of degraded riparian areas will provide moderate ecological benefits. Focusing river access at the proposed fishing pier/canoe dock will limit erosion of the steep river bank by pedestrians and anglers. Re-vegetation and the expansion of a riparian buffer will enhance local water quality. These benefits will be realized much sooner under this proposal than if left to naturally stabilize and re-vegetate. The installation of floating fishing pier/canoe dock will facilitate recreational uses of the river. Constructing the pier/dock to allow its use by persons with disabilities would notably increase recreational benefits.

The sustainability of the aforementioned benefits significantly depends upon a notable amount of routine maintenance, particularly the seasonal installation and removal of the floating docks. The re-vegetation would become self-sustaining after an initial period of maintenance to ensure plant survival and eradication of non-native invasive species.

The half-mile inter-park trail would generate some recreational benefits but would require routine maintenance of the footbridges crossing wetland areas and the steps that would likely be needed in the steeper sections of the trail.

#### Technical Merit

The materials and methods proposed for shoreline stabilization, native plantings, and trail construction are reasonable. The proposed riverfront trail will consist of a gravel base along the Aspetuck River portion and a boardwalk through the wetlands portion along the Housatonic River. Impediments to constructing the floating docks to ADA standards may exist (e.g., unavoidable catwalk steepness may preclude compliance with, and may qualify for an exemption from, ADA guidelines). The fishing docks and riparian restoration will not generate adverse environmental consequences other than localized, short-term construction-related impacts such as temporarily degraded water quality. The project will reduce public health and safety concerns by relocating pedestrian traffic away from Young's Field Road. The project sponsor will employ several methods to measure the results of the project, including evaluation of the parking area surface pre- and post-construction, bird counts, shoreline evaluations, and a creel survey.

### Project Budget

The greatest benefits are expected from the project elements proposed on Town-owned land, i.e. fishing docks, parking area improvements, and shoreline stabilization. Benefits include restoration of the eroded riverbank, reduction in storm water runoff, and enhanced opportunities for recreational use. These benefits appear to justify the associated costs. The budget for the overall project offered a moderate amount of matching funds and in-kind services as contributions.

### Socioeconomic Merit

Many local community groups, town agencies, and scouting groups have expressed interest in helping with the Young's Field Riverwalk, particularly with constructing the riverside trail. The project will not generate adverse socioeconomic impacts; rather, the project could provide some benefits such as increasing public safety by providing a passage way between the two parks that does not require walking along a narrow street. Socioeconomic impacts are discussed in greater detail in Section 5.2. The project is consistent with the Town's Plan of Conservation and Development regarding increasing outdoor recreational opportunities. The project also expands on the existing Greater New Milford Greenway. The Town will issue press releases related to the project that will promote the protection of natural resources along the river.

### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience in implementing similar projects. The project team will receive administrative support from the Offices of Public Works and of the Mayor. Both office staffs have experience and a proven track record in managing similar projects. All crucial commitments have been obtained except for easements to construct the riverside trail through the private properties.

### ***Summary of Findings***

There are two distinct aspects to this project: (1) installation of one or more fishing docks and associated riparian restoration, and (2) construction of a segment of the New Milford Greenway, including removal of invasive species and riparian restoration along the trail. The CT SubCouncil proposes to allocate up to \$180,000 for this project.

To ensure that the construction of the inter-park trail avoid impacts to wetlands and riparian habitat (particularly the large trees), the funding for the construction of the trail will be contingent upon the CT SubCouncil's review and approval of the trail design.

#### **4.2.2.3. P-33 Wetland Restoration on the Lower Housatonic River**

CT DEP Wildlife Division  
Requested NRD Funds: \$963,313  
Other Contributions: \$205,806  
Proposed NRD Allocation: \$963,313

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

Existing dense monocultures of the non-native invasive form of common reed (*Phragmites australis*) have displaced native vegetation along the mainstem of the Housatonic River downstream of the Derby Dam, Connecticut. Extensive stands of common reed stems are of low habitat value to wildlife, preclude access to marsh areas, limit visibility, and when they seasonally die, the dry stalks are fire hazards. This project will provide wetland habitat restoration through the removal of the non-native invasive plant from approximately 500 acres of wetlands adjacent the Housatonic River over a three-year period through the application of herbicide and mowing.

##### ***Site Description***

The project area includes brackish tidal wetlands along the mainstem of the Housatonic River downstream of the Derby Dam. Healthy brackish tidal wetlands are among the most productive and ecologically diverse habitats occurring in Connecticut. Specific locations of common reed monocultures will be identified in the first phase of the project.

Based on the results of the NDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats once specific sites are selected for restoration. See Section 5.1.5 “Biological Resources” for more detailed information.

##### ***Project Evaluation Summary***

###### **Relevance and Applicability**

This project can provide moderate to high ecological benefits and moderate recreational benefits within the watershed of the lower Housatonic River. Monocultures of common reed will be removed resulting in an increase in biodiversity of both flora and fauna on the restored sites. Controlling the common reed will provide the necessary competitive advantage for native plants to propagate in this intertidal habitat. As habitat is reclaimed, recreational opportunities (e.g., kayaking, birding, nature photography) and enjoyment will also likely increase. These benefits would not be realized without this project. The benefits derived from the proposed common reed control should persist for more than 15 years, as suggested from the successes of similar projects.

### Technical Merit

The methods are appropriate for the intended purpose. Treatment with herbicide and mowing, followed by monitoring and retreatment of areas of re-growth, is the preferred method for removal of common reed in Connecticut. The CT DEP has used this method to successfully restore over 1,800 acres of similar degraded habitats in the last 10 years.

The project will use large machinery and herbicides in sensitive wetland environments, so precautions will be made to avoid adverse environmental impacts. Only herbicides registered for use in aquatic systems will be used. Spraying of herbicides will be done at the times of year to avoid exposing breeding birds that may be using the marsh. The project will not present a hazard to public health and safety, as precautions (e.g., signage) will be employed to deter people from entering treated areas.

To measure project success, the CT DEP will quantitatively monitor changes in vegetation and in bird use before treatment and over three years after treatment.

### Project Budget

The project will provide numerous environmental and recreational benefits at a cost of approximately \$1,927 of NRD funds per acre. This is less than the standard rate used by the Natural Resource Conservation Service for working with heavy equipment in wetlands. The project sponsor is contributing 18% of the total project cost as in-kind services. Forty-two percent of the requested NRD funds are for the purchase and maintenance of durable equipment, including four marsh access vehicles with sprayer units and three deck mowers. The projected cost to restore 500 acres, including re-treatment areas (up to 200 acres), is competitive with private contractor rates. An additional benefit of this project is that durable equipment purchased will remain available for on-going wetland restoration once the project is completed. Renting the durable equipment needed to implement this project is not cost effective.

### Socioeconomic Merit

Current partners for this project include Connecticut Audubon, Ducks Unlimited, and the Connecticut Waterfowlers Association, who will implement the pre- and post-treatment monitoring. This project complements State of Connecticut efforts to control and remove invasive species and many local, regional, state, and federal conservation initiatives, such as the “Connecticut Comprehensive Wildlife Conservation Strategy”, state and municipal Plans of Conservation and Development, and the North Atlantic Regional Shorebird Plan, among others. The project will not generate adverse socioeconomic impacts. The socioeconomic benefits of the project are discussed in greater detail in Section 5.2. The project will promote environmental education by posting informational signs at treatment sites, explaining the project and the environmental benefits.

### Applicant Implementation Capacity

The project team has the necessary technical and administrative experience implementing common reed control and similar projects. The project team would receive administrative support from the Wetland Habitat and Mosquito Management Program at the CT DEP. All project commitments other than the NRD funding have been secured.

### ***Summary of Findings***

This project will positively affect a significant acreage of currently degraded wetlands. Considering the merits of the proposal, the CT SubCouncil proposes to allocate up to \$963,313 for this project.

#### **4.2.2.4. P-38 Audubon Carse Brook Wetland Restoration**

Sharon Audubon  
Requested NRD Funds: \$36,000  
Other Contributions: \$25,350  
Proposed NRD Allocation: \$36,000

### ***Project Description***

This project will enhance breeding and foraging habitat for waterfowl and visitor access to the Carse Brook Wetland system. Specifically, the project proposes the following:

- Install Clemson pond levelers at two impoundments to stabilize water levels for waterfowl and wetland plants, restore public access, and alleviate area flooding.
- Treat approximately 10 acres of invasive common reed with herbicide.
- Remove encroaching successional hardwoods and invasive shrub species.
- Relocate up to 20 duck nest boxes.
- Design and install interpretive signage on the sanctuary's informational kiosk.

The timeframe for completing these enhancements is four years.

### ***Site Description***

The project site is located within the Miles Wildlife Sanctuary in Sharon, Connecticut, a 1,500 acre protected habitat area with over 100 acres of wetlands along 2.5 miles of the Carse Brook valley. Carse Brook is a tributary of the Housatonic River. The effects of beaver impoundments on wetland habitat diversity and trail access were apparent during the TWG site visit. Additionally, invasive common reed, successional hardwood trees, and invasive shrubs are degrading the early successional shrubland habitat along the margins of the wetland.

Based on the results of the NDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 “Biological Resources” for more detailed information.

## ***Project Evaluation Summary***

### Relevance and Applicability

This project can provide moderate ecological and recreational benefits for the Carse Brook wetland system and the Housatonic River. The project will optimize water levels for wildlife, enhance scrub-shrub wetland habitat, increase breeding pairs of ducks and other birds, restore habitat for state-listed rare species, and increase fauna and flora biodiversity within the Carse Brook wetland system. Recreational benefits will include protecting trails against flooding, allowing visitors an opportunity to see uncommon warbler species, increase the aesthetics of the wetlands, and provide visitors with knowledge of wetland habitat management and protection.

Stabilization of water levels in the subject impoundments could occur naturally, if the beavers left the wetland. This is unlikely. The installation of the pond levelers will provide the targeted benefits far in advance of the natural recovery period. The benefits would persist for the functional life of the materials (PVC and galvanized steel) used to construct the pond levelers, assuming routine maintenance and occasional clearing of debris accumulations.

The restoration of the early successional shrubland habitat at the wetland margin is not likely to occur if left to natural recovery; rather, the invasive vegetation would likely expand its footprint in the wetland. These benefits are assumed to persist for 15 to 20 years.

### Technical Merit

The pond levelers have been successfully used to manage water levels at beaver dams in other wetlands around the nation.

Pre- and post-project biological surveys will be conducted in the control areas and scrub-shrub restoration areas. In addition, Audubon staff will be conducting breeding bird surveys following the implementation of habitat enhancements.

Based on the results of the NDDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats.

### Project Budget

The projects total budget of \$61,350 appears reasonable when compared to industry standards. Only \$36,000 of the budget is requested from NRD funds. The project will provide moderate ecological and recreational benefits with proven technology, and these benefits justify the requested amount of NRD funds.

### Socioeconomic Merit

This project complements on-going conservation and restoration actions within the watershed and on the Miles Wildlife Sanctuary. The project complements the state goals of controlling nonnative invasive species. The project will generate ancillary socioeconomic benefits such as reduced flooding of nearby town roads, thereby reducing the town's expenditures in addressing such flooding. The project provides environmental education through an informational kiosk and new signage that will explain the project and its benefits. Additional socioeconomic impacts are discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience for implementing this project. All project commitments, other than the requested NRD funding, have been secured.

### *Summary of Findings*

The project presents a sound habitat restoration and enhancement plan for maintaining and creating waterfowl habitat and scrub-shrub breeding bird habitat. The project will also benefit state-listed rare species. The installation of pond levelers at beaver impoundments will help eliminate trail flooding and lead to increased visitor use within the project area. The project estimates that the new habitat enhancement projects will increase visitor use at this site by as much as ten percent. Overall, the project will provide numerous benefits to riparian and floodplain natural resources at reasonable cost. Considering the merits of the proposal, the CT SubCouncil proposes to allocate up to \$36,000 for this project.

#### **4.2.2.5. P-44 Indian Fields Wildlife Preserve**

Northwest Conservation District  
Requested NRD Funds: \$348,500  
Other Contributions: \$112,729  
Proposed NRD Allocation: \$348,500

### *Project Description*

The project is to purchase and develop a 25-acre riparian parcel to create the "Indian Fields Wildlife Preserve" as Open Space in the Town of New Milford. Activities include removing invasive species, planting native vegetation, and constructing wheelchair accessible paths and observation platforms to promote passive recreation. The project would protect approximately 1,400 feet of Housatonic River shoreline near the center of town. The timeframe for the project is four years.

### ***Site Description***

Indian Fields Wildlife Preserve is located along the west side of the Housatonic River near a commercial area in New Milford, Connecticut. State Routes 7 and 202 border it to the west and south, respectively. The 25-acre parcel is comprised of floodplain grassland and forested wetlands. A pond (remnant oxbow) is located within the northern site boundary. A CT DOT storm water drainage ditch flows across the southern portion of the parcel. During the TWG site visit, a variety of invasive plant species (common reed, purple loosestrife, Asiatic bittersweet, barberry, and garlic mustard) were observed within the project boundary.

### ***Project Evaluation Summary***

#### Relevance and Applicability

The project is located along the Housatonic River mainstem, the CT SubCouncil's highest priority location. The project provides moderate ecological benefits via the protection and restoration of native riparian wildlife habitats. The project provides high recreational benefits as a result of conversion from private to public property with public access near the center of town. Preserving the area as open space, wildlife habitat will provide many self-sustaining ecological benefits. The proposed control of non-native invasive vegetation will generate ecological benefits that would not be realized if left to a natural recovery process. The area prone to annual flooding will require maintenance to control repopulation of invasive species and removal of debris. The recreational benefits associated with the trails and observation platforms would require occasional maintenance to sustain. Construction of trails and platforms to ADA standards will expand the recreational benefits of this project.

#### Technical Merit

The activities (removal of invasive plants, planting native species, and construction of walking paths, observation platforms, signage, parking, and fencing) are technologically feasible. The project includes a general plan to monitor the progress of replacing invasive plant species with native vegetation and for monitoring increases in use of the parcel by birds. However, as such monitoring was not included in the budget, the CT SubCouncil expects the Project Sponsor to ensure that monitoring is conducted (e.g., via donation of staff, additional outside funding, or volunteer services).

Most of the project's planned activities will not generate adverse environmental impacts. For instance, the use of herbicides to control non-native invasive vegetation will be done according to label directions to protect sensitive wetland flora and fauna. However, the proposed 8-foot tall chain-link perimeter fence may impede the movement of wildlife such as deer, skunks, and turtles attempting to reach water sources and seeking refuge on the subject parcel, and may also create an obstacle to wildlife using the riparian zone

along the Housatonic River as a movement corridor. The project will not generate hazards to public health and safety, as long as visitor access is controlled during herbicide applications.

### Project Budget

The project is expected to provide numerous benefits in relation to costs. Most of the costs are for purchase of the property. The budget is generally explained well, but details of park development and construction activities are lacking. Nevertheless, the overall budget appears reasonable. The project sponsor will contribute approximately 1/4 of the project's overall cost, providing 32 cents worth of in-kind services for every \$1.00 of NRD funds requested.

### Socioeconomic Merit

Various community groups will be involved throughout the project, including Eagle scouts, bird watchers, garden clubs, and local volunteers, to assist with construction, monitoring, and vegetation work. This project is consistent with the "Connecticut Comprehensive Wildlife Conservation Strategy." The socioeconomic impacts of this project are discussed in greater detail in Section 5.2. The project provides public outreach/environmental education via the proposed interpretive signage that will provide information about the site's habitat and wildlife.

### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience. The project team has obtained all crucial commitments to implement the project.

### ***Summary of Findings***

Protection of 25 acres of floodplain, wetlands, and undeveloped upland in an urban center offers benefits to riparian and floodplain natural resources. Recreational benefits are also expected from this project as a result of construction of pathways, an interpretive trail, and observation platforms, many of which will be wheelchair accessible. However, the installation of 8-foot tall chain-link perimeter fencing is contrary to the goals of natural resource restoration, as it will interfere with movements of wildlife (e.g., deer, skunk, turtles) along the river and into/out of the area of wildlife habitat that this project intends to create.

Considering the merits of the proposal, the CT SubCouncil proposes to allocate up to \$348,500 for this project. The Trustees' proposed allocation of funds to this project is contingent on the sponsor's commitment to refrain from installing perimeter controls which would impede wildlife passage

**4.2.2.6. P-57 Conservation of the Frost and CL&P Riverfront Properties in Sharon, CT**

Housatonic Valley Association & Sharon Land Trust  
Requested NRD Funds: \$740,468  
Other Contributions: \$342,428  
Proposed NRD Allocation: \$740,468

***Project Description***

The project consists of the purchase of a conservation easement on 15 acres of undeveloped land (portions of the Frost Farm), which extends approximately 1,480 feet along the Housatonic River, and the acquisition of the adjacent 4.56-acre property owned by Connecticut Light and Power Company (CL&P) which includes another 1,262 feet of river frontage. These parcels are comprised primarily of open fields and a few vernal pools. Construction of a trail along the shoreline of both properties is also planned. The timeframe for completing the project is three years.

***Site Description***

The target areas of the Frost Farm (15 acres) consist primarily of open fields with some woodlands, an island in the Housatonic River, 1,480 feet of forested river frontage, a kettle pond, and three vernal pools. The approximately 5 acres immediately surrounding the residence and out buildings are not included in the project. The 4.56-acre CL&P parcel consists primarily of a large open flat field, extending 1,262 feet along the Housatonic River, dominated by grasses and horsetail. The project area is bordered by mature woodlands. Both properties are located immediately north of the Appalachian National Scenic Trail/Appalachian Trail corridor, along the western shoreline of the Housatonic River, and adjacent to River Road in Sharon, Connecticut. Conservation lands border the proposed acquisitions to the south. The reach of the Housatonic River adjacent to the project is included in the Housatonic Trout Management Area.

***Project Evaluation Summary***

**Relevance and Applicability**

The project is located on the Housatonic River mainstem, the highest priority restoration area for the CT SubCouncil. The preservation of all of the proposed parcels would yield moderate to high localized ecological benefits, preserving wildlife habitat along the river shoreline and valuable wetland and upland habitat for amphibians and other wildlife. Acquiring the CL&P parcel would provide an opportunity to restore a wider vegetated riparian forest buffer along the river. Obtaining public access to the Housatonic River shoreline would provide notable recreational benefits with respect to fishing, boating, wildlife watching, and hiking along the river. The ecological benefits of the project will be self-sustaining. Recreational trails and managed grasslands will require maintenance.

### Technical Merit

Based on information supplied by the Sharon Land Trust, the current value of the Frost property to be placed under easement is \$900,000, and the CL&P parcel is valued at \$405,000. The owners of both properties have written letters of intent to participate in this project. Because gaining access to the river is a high priority for the Restoration Plan, securing a recreational easement, in addition to a conservation easement, is desirable for the land located between the road and the river. Although not shown as a part of the draft conservation easement provided with the proposal, the proposal states that the Frost family has agreed to allow a trail along the river shoreline in the area targeted for the conservation easement.

The Sharon Land Trust, the Housatonic Valley Association, and the Connecticut Chapter of the Appalachian Mountain Club Trails Committee will collaborate on trail location and design so as to minimize habitat damage and maintenance requirements. Based on field observations, trail construction is likely to require minimal materials and labor and is technically feasible. However, the Sharon Land Trust states, "If necessary, boardwalks or plank bridging will be installed." The project proponents must investigate the feasibility of including wheelchair accessible trail features.

The Sharon Land Trust plans to coordinate with existing monitoring programs such as Housatonic Valley Association's volunteer shoreline assessment and biological monitoring, and surveys conducted by the Housatonic River Commission and the CT DEP. Public use of the trail and river access will be monitored by keeping a register at the Swift Bridge parking area. In addition, the amphibian monitoring program will quantify changes in amphibian population abundance following construction of the trail. If these indicator populations decline, the Sharon Land Trust proposes to work with the landowner to resolve any impacts due to public use of the site.

The project will not create adverse environmental impacts or hazards to public health and safety. The construction of the trail will be designed to avoid or minimize long-term habitat disturbances.

### Project Budget

The budget explanation in the proposal is highly detailed. The project will be completed in 3 years. The Sharon Land Trust has defined a timeline for implementing each task necessary to see the project through to completion. The project goals are, however, contingent upon the Sharon Land Trust's ability to raise up to \$330,000 in additional funding in 2009. In addition, required permitting for the trail and boat access points has not yet been established and is not planned to be researched until spring 2010.

The targeted properties appear to have a high potential for residential development. As such, the land transaction costs estimated in the proposal seem realistic. Preserving the

areas as open-space lands would provide moderate ecological and recreational benefits relative to the project costs.

The Sharon Land Trust is partnered with the Housatonic Valley Association, and together they have committed \$12,428, and plan to raise an additional \$330,000. In addition, the project intends to use volunteers from various organizations for conducting biological monitoring, trail construction, and maintenance. The applicant will monitor the trail's use using a logbook for three years to determine the success of the project and the associated public outreach.

#### Socioeconomic Merit

Various community groups will be involved throughout the entire process of this project. Plans include press releases during the easement signings, and signage intended to promote use of the site for passive recreation and ecological education.

The project includes an adequate plan for public outreach. Trail construction activities will be publicized through press releases, signage, and local organizations' websites. In addition, the applicant has proposed to print a 2-sided brochure showing the trail as well as a description of the PCB issue and how landowners can protect the river with buffers. Socioeconomic impacts are discussed in greater detail in Section 5.2.

#### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience. Examples of similar project experience were provided.

The project will be administered by the Housatonic Valley Association's Director of Land Protection in partnership with the Sharon Land Trust. Both parties have many years of experience, and have proven their abilities in similar preservation projects.

Although project commitments, except for \$330,000 in monetary donations being sought by the project team, have been provided, the project proponents failed to acknowledge the CT DEP Memorandum of Understanding with CL&P concerning the disposition of lands in the Housatonic River watershed. Under that Memorandum, the CT DEP has acquired rights of first refusal involving the disposition of the CL&P lands proposed for acquisition. It is incumbent upon the parties involved to engage the CT DEP Division of Land Acquisition and Property Management in any and all actions involving the acquisition of the CL&P parcel.

#### ***Summary of Findings***

The project proposes valuable ecological and public benefits in the form of preservation of upland and wetland riparian habitats and passive public recreation. Acquiring the target land protections on the CL&P parcel and the Frost property would ensure both ecological and recreational benefits. Public access to riverfront lands is becoming

increasingly rare in Connecticut. Conservation of the Housatonic River shoreline ensures pedestrian and angler access for future generations while preserving ecological resources.

The CT SubCouncil proposes to allocate up to \$740,468 for this project. This includes \$405,000 for the fee simple purchase of the 5-acre CL&P property and \$335,468 for the acquisition of conservation and recreation easements on the Frost property. However, the project sponsors shall coordinate with the CT DEP Division of Land Acquisition and Property Management within the constructs of the Memorandum of Understanding in pursuing the acquisition of the CL&P property.

#### **4.2.2.7. P-65 Salmon Creek/Housatonic River Land Protection Project**

The Nature Conservancy  
Requested NRD Funds: \$557,810  
Other Contributions: \$510,000  
Proposed NRD Allocation: \$557,810

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

The Nature Conservancy (TNC), the Salisbury Association Land Trust, and The Trustees of Reservation will acquire conservation easements on 200 acres of riparian agriculture and floodplain forest land in two areas of Salisbury, Connecticut. One area is along the Housatonic River between CT Route 44 and the Massachusetts border; the other area is along Salmon Creek between CT Route 44 and Lime Rock. The easements will permanently protect natural floodplain and riparian habitat and allow for natural regeneration or future active restoration of riparian and floodplain vegetative communities. The proposed timeframe for the project is approximately two years.

##### ***Site Description***

The target area consists of gently rolling hills of pasture land with upland woodlands on either side of Salmon Creek. The land is actively farmed. Salmon Creek meanders through the center of the project's focus area. Conservation easements are already in place on adjacent properties along Salmon Creek. The focus area along the Housatonic River mainstem is also primarily comprised of agricultural fields and floodplain forest.

##### ***Project Evaluation Summary***

###### **Relevance and Applicability**

The project is located in two areas within the Housatonic River watershed upstream of the Derby Dam. One of the focus areas is along the Housatonic River mainstem, the CT SubCouncil's highest priority area. Conservation of the project site is intended to prevent degradation to biological resources from future development and to facilitate the restoration of floodplain ecosystems. Based on TNC's identification of these areas as harboring relatively well functioning floodplain forest ecosystems, conservation of the areas will have significant value to the river system. The easements will include upland

habitat as well as the riparian shoreline. The ecological benefits will be self-sustaining; however, control of non-native invasive species will be necessary. The proposed conservation easements are not currently targeted to allow for public access and recreation on the protected parcels.

#### Technical Merit

TNC has a long history of successfully using easements as a conservation tool. Owners of three parcels along the Housatonic River indicated in letters dated June 2007 their interest in discussing the sale of easements. The proposed project will not have adverse environmental consequences or create hazards to public health and safety.

#### Project Budget

The project will preserve 200 acres of riparian habitat as open space. This will cost approximately \$2,500 per acre, considering only the cost of the conservation easements. This project is highly cost-effective at achieving the goals of preserving lands along the Housatonic River mainstem. Over 85% of the NRD funds will go toward the acquisition of conservation easements. The budget anticipates that the 200 acres of conservation easements can be obtained from landowners at bargain prices of approximately half the land value. In addition, the project includes \$510,000 in matching funds, of which \$10,000 is committed in-kind services for project administration and \$500,000 as a donation value accrued from a bargain sale.

#### Socioeconomic Merit

There will be opportunities for volunteers to assist with data collection, planning, and monitoring of the conservation easements. There are three organizations working together on this project. TNC and its partners plan on providing interested landowners with information on best management practices for riparian buffers and floodplain forests. This project complements the efforts of TU to restore riparian habitat in the area such as proposed in P-24. It also complements the goals and priorities described in the CT DEP's *Green Plan: Guiding Land Acquisition and Protection in Connecticut, 2007-2010* and the Town of Salisbury's *Town Plan of Conservation and Development*. There are no adverse socioeconomic impacts anticipated from this project; additional information on socioeconomic impacts of land preservation projects in general is presented in Section 5.2.

#### Applicant Implementation Capacity

The project team has the necessary technical and administrative experience. TNC has a long history of experience in this type of project. The project team has secured all necessary contributions and commitments aside from the negotiated bargain sales with the landowners.

### ***Summary of Findings***

The project proposes valuable ecological and public benefits in the form of preservation of upland and wetland riparian habitats. Water quality within the Housatonic River and Salmon Creek will benefit from the permanent protection of the site. It is also important to note the project’s proximity to adjacent conservation lands. Adding both upland and wetland edge habitat to this network of existing easements will be extremely beneficial to the local ecosystems of both rivers. The CT SubCouncil proposes to allocate up to \$557,810 for this project.

### **4.2.3. Recreational Uses of Natural Resources**

#### **4.2.3.1. P-04 Ball Pond and Short Woods Brooks Water Quality Improvement and Pedestrian Access**

Town of New Fairfield  
Requested NRD Funds: \$650,000  
Other Contributions: \$520,000  
Proposed NRD Allocation: \$150,000

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

The project includes multiple activities to be completed in six phases over four years to restore and conserve the two largest tributaries to Candlewood Lake (Ball Pond Brook and Short Woods Brook) and to provide recreation opportunities. The project includes removal of invasive species, reclamation of embankments, removal of accumulated sediment in two ponds, construction of 2.25 miles of hiking and wheelchair-accessible trails, and installation of informational kiosks. The original proposal to dredge two ponds has been modified. The applicant proposes not to dredge Dunham Pond, but to dredge what is referred to as “the smaller pond at 33 Route 37.”

#### ***Site Description***

The smaller pond at 33 Route 37 is shallow and reportedly dries completely during the summer months. The west bank of the pond appears stable and was recently vegetated following the relocation of historic town homes to the site. Ball Pond Brook flows through the pond, over a dam at the south end, and through woodlands before crossing Route 37. The stream corridor along Ball Pond Brook has a dense canopy cover of mature vegetation. Stream substrate is dominated by cobble and has a riffle/pool morphometry. Invasive species along the brook include multiflora rose, garlic mustard, damesrocket, and honey suckle. Invasive autumn olive was the dominant vegetation around Dunham Pond. Several birds were observed, including a pileated woodpecker at the small pond and nesting great blue herons and orioles at Dunham Pond.

## ***Project Evaluation Summary***

### Relevance and Applicability

The proposed project is located along tributaries to Candlewood Lake within the Housatonic River watershed in New Fairfield, Connecticut. Candlewood Lake is linked to the Housatonic River by a pumped storage hydroelectric project. Removal of invasive plants and stabilization of embankments along 1.5 miles of brook should provide a moderate level of localized ecological benefits. A functional analysis of the small pond is needed to determine if dredging would impede or enhance the natural recovery period and if dredging will provide an ecological benefit or detriment. Construction of 2.25 miles of trails along brooks and through wetlands in an easily accessible area will provide a moderate to high level of recreational benefits.

### Technical Merit

The proposed approach of securing engineering services and developing a detailed plan is necessary and appropriate. Construction of trails, a boardwalk and kiosks, and removal of invasive plants are technically feasible. However, it is not clear where the 2.25 miles of trails will be constructed and how they will be constructed so as to not encroach on wetlands. The construction and frequent recreational use of a perimeter trail around Dunham Pond could disturb nesting birds and other wildlife using the pond. The likelihood that dredging will cause adverse environmental impacts would be assessed during the permit process. The exact areas for the embankment reclamation activities were not specified, so it is not possible to evaluate the technical feasibility of the proposed activities. No adverse impacts on human health and safety are anticipated. The sponsor proposes to use volunteers and several local agencies to monitor site usage, plant and wildlife populations, water quality, and economic improvements in the area.

### Project Budget

Budget details have been provided for all six project phases. In addition, the project sponsor has indicated the project will allocate \$100,000 originally proposed for dredging Dunham Pond to additional stream bank restoration. The basis for the cost of dredging and restoration has not been adequately explained. The project involved a notable amount of matching contributions, with 80 cents contributed for every \$1.00 of NRD funds requested; however, only 34 cents per dollar are committed matches.

### Socioeconomic Merit

Town officials, members of the local land trust, Conservation Commission, and others from the community were involved in developing this project. There is a strong potential for Scouts and other groups to participate in the project. The project would complement the Town of New Fairfield's Ten Year Plan of Conservation and Development and the Town's Senior Center Project. The project is not anticipated to cause adverse socioeconomic impacts.

### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience implementing similar projects. A notable amount of other contributions and permissions/easements to construct the trails remain to be secured.

### ***Summary of Findings***

The SubCouncil anticipates that very few ecological benefits would result from the dredging of the small pond. The benefits resulting from the embankment reclamation activities are uncertain. On the other hand, ecological benefits would accrue from the removal of non-native invasive vegetation in the local watershed, and recreational benefits would result from the walking paths and educational signage. However, the extent of the paths proposed seem excessive and would likely detract from the ecological services provided by the area.

The CT SubCouncil proposes to allocate up to \$150,000 to support the (a) invasive species removal and revegetation activities particularly around Dunham Pond and along the walking paths, and (b) approximately one mile of walking paths and associated raised boardwalk, observation platforms and educational kiosks. The CT SubCouncil will work with the sponsor to develop a revised scope of the project for purposes of the funding agreement. The SubCouncil requests that the sponsor prepare a revised budget and scope of work that reflects the amount of NRD funding proposed.

#### **4.2.3.2. P-07 Car Top Boat Launch at North Kent Rd**

Town of Kent  
Requested NRD Funds: \$385,000  
Other Contributions: \$2,500  
Proposed NRD Allocation: \$250,000

### ***Project Description***

This project consists of the construction of a canoe/kayak launch along with an access drive, parking area, and scenic overlook of the river approximately 4 miles north of Kent, Connecticut. The facilities would be accessible for persons with disabilities. The timeframe for completing the project is two years.

### ***Site Description***

The boat launch, access road, and overlook would be constructed on Town-owned property on the Housatonic River. Construction of the parking area on State land in the adjacent Housatonic Wildlife Management Area (WMA) assumes concurrence of the CT DEP. The area of the proposed boat launch is currently a sandy beach. The area for the proposed access road is currently heavily vegetated with invasive multiflora rose and honeysuckle. The overlook will be built atop a remnant bridge abutment. The boundary

between the town land and WMA is lined with mature deciduous trees. The area proposed for the parking lot is currently open grass land.

Based on the results of the NDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 “Biological Resources” for more detailed information.

Based on a review by the SHPO, additional measures may be required to identify and protect any historic or archaeological resources at or associated with the site.

### ***Project Evaluation Summary***

#### **Relevance and Applicability**

The project location is approximately 5 miles south of Housatonic Meadows State Park and 4 miles north of the Bulls Bridge Island Parking Area and boating access point (owned and operated by FirstLight Hydropower Generating Company) in Kent. The project is located along the Housatonic River mainstem, the area of highest restoration concern to the CT SubCouncil. The site is already used to some degree as an informal boating access point. Moderate recreational benefits can be expected by increasing formal access to the river between Cornwall and Kent. However, the project would produce significant recreational benefits for those with disabilities. Minor ecological benefits are expected from the removal of invasive species along the access road to the river. Routine maintenance will be required to sustain these benefits.

#### **Technical Merit**

The parking area is proposed to be located on land managed by the CT DEP Wildlife Division; however, the Wildlife Division is not identified as a cooperator in this project. Insofar as these lands are currently used for the purposes of the WMA, it is incumbent on the project proponents to engage the CT DEP Wildlife Division in designing and siting the parking area to avoid or minimize impacts on the WMA. Furthermore, responsibilities for monitoring site use, removing trash, and maintaining infrastructure must be established by the project sponsor. The biggest challenge for this project will be to construct the boat launch with a hard surface (on the sandy beach) to comply with ADA accessibility guidelines and that will be stable under variable flow conditions of the river. The walkway to the boat ramp will be paved to allow wheelchair access.

The project has the potential to generate adverse environmental impacts, and they must be minimized. Construction of wheelchair accessible facilities must be done in a manner so as not to adversely impact the ecological values of the site. Likewise, the project must be constructed so as not to adversely affect the viewshed of the Appalachian Trail.

The proposal outlines methods to measure the project’s success (e.g., voluntary visitor sign-in registers, traffic counting machine), but none of these activities are included in the

project budget either as requested NRD funds or in-kind contributions. A monitoring plan must be incorporated more explicitly in the project plans by the project sponsor.

### Project Budget

Approximately \$135,000 is associated with amenities (e.g., repairing access road, large parking area) that are not critical to achieving the goals set out by the CT SubCouncil. Excluding these non-critical amenities produces an acceptable relationship between project benefits and costs. The project sponsor provides minimal other contributions as match to the requested NRD funds.

While nine tasks are identified in the proposal, justification for the requested funds is provided for only one task, construction, which accounts for 87% of the proposed budget. Costs for ten construction cost items are provided, but details about what work is to be done and the basis for the numbers are not. This must be addressed by the project sponsor prior to negotiation of the funding agreement.

### Socioeconomic Merit

The project proposal made no mention of community involvement. The Town plans to publicize the new boat ramp with pamphlets provided to local sports shops and the Park and Recreation Commission. The project will not generate adverse socioeconomic impacts; rather the project will provide additional recreational opportunities in the area. Additional information on socioeconomic impacts is discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The Town has experience with similar projects. A project team was not identified, although the Town will request assistance from consultants and has a commitment for volunteer assistance from Oakwood Environmental Associates. The Town also expects to receive technical assistance from Kings Mark Resource Conservation and Development and NRCS. The project sponsor has not yet received approvals or concurrences from the CT DEP WMA managers or the National Park Service. The National Park Service has indicated, however, that the conceptual plan of a kayak launch in the proposed area is not expected to be in conflict with the terms of the Park Service's Appalachian Trail easement.

### ***Summary of Findings***

The greatest recreational benefits from this project will result from construction of an ADA-compliant boat launch. Minimal benefits are expected from a scenic overlook. This is a feasible project that will provide additional boating access to the river, which supports one of the NRD goals of restoring recreational activities associated with the Housatonic River.

The biggest challenge for this project will be to construct the boat launch with a hard surface to comply with ADA accessibility guidelines that will be stable in the variable conditions of the river.

The proposal assumes that the parking area will be built on lands managed by the CT DEP Wildlife Division. Responsibility for maintenance of the proposed parking area must be undertaken by the project sponsor. Insofar as the land proposed for the parking area is currently used for wildlife management purposes, it is incumbent on the project proponents to engage the CT DEP Wildlife Division in designing and siting the parking area to avoid impacts on the WMA.

The CT SubCouncil believes this project to warrant NRD funding if the revisions to the project described below are adopted.

### ***CT SubCouncil Required Revisions to Proposal***

The Town requests \$385,000 in NRD funds for this project. The CT SubCouncil believes that the repaving of North Kent Road and maintenance of the existing gravel access road are the responsibility of the Town. Further, the CT SubCouncil does not believe that the large parking area proposed by the project sponsor is critical to meeting the goals set out by the SubCouncil. For these reasons, the CT SubCouncil does not recommend NRD funds for these components of the proposed activity (\$135,000).

The CT SubCouncil requires that the project sponsor engage the CT DEP Wildlife Division in a reassessment of the design and location of the proposed parking area and access road (or path) to the launch so that impacts on the WMA are avoided. All elements of the project are to be constructed according to ADA standards and guidelines to the extent practical. The CT SubCouncil also requires that the Town provide toilet and garbage service and maintain the site. Finally, the SubCouncil requires that the project sponsor provide a monitoring plan to quantitatively measure the success of the project and provide assurance that such monitoring will be implemented.

The CT SubCouncil proposes to allocate up to \$250,000 for this project, eliminating the costs associated with the overlay at Rte 7, approximately half of the gravel access road, and the large parking area. The CT SubCouncil will work with the sponsor to develop a revised scope of the project for purposes of the funding agreement. The SubCouncil requests that the sponsor prepare a revised budget and scope of work that reflects the amount of NRD funding proposed.

#### **4.2.3.3. P-12 Wimisink Preserve Restoration and Access**

Naromi Land Trust, Inc.  
Requested NRD Funds: \$100,000  
Other Contributions: \$25,000  
Proposed NRD Allocation: \$100,000

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

This project involves construction of a wheelchair-accessible boardwalk, observation platform, and parking area to expand passive recreational use of the 57-acre wetland preserve. The project includes the development of a management plan for the flora and fauna of the preserve that is complementary to ongoing wetland restoration work (invasive species control) which is being performed independent of this proposal. Although a three-year timeframe is proposed to implement the project, NRD funding is requested for only two years and no NRD funding is requested for follow-up monitoring.

##### ***Site Description***

The Wimisink Preserve is located within the Housatonic River watershed in Sherman, Connecticut. Wimisink Brook flows through the Preserve and discharges to the Housatonic River approximately 4900 feet downstream. The Wimisink Preserve consists of wet meadows and open water habitat that supports beaver and a variety of sensitive wetland plants and wildlife. Native plants that provide good wildlife habitat include *Viburnum* and *Cornus* species. Dead trees in the pond provide additional habitat. Invasive plants present include common reed and purple loosestrife. Public access to the 57-acre site is limited to a short trail (approximately 350 feet) leading from Route 39 to an observation stand at the eastern edge of the pond. The current trail and platform are not wheelchair-accessible. An information kiosk and preserve sign are located at the head of the existing trail. Visitors must currently park along the side of the road.

Based on the results of the NDDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 “Biological Resources” for more detailed information.

##### ***Project Evaluation Summary***

###### **Relevance and Applicability**

This project will provide moderate localized ecological and recreational benefits. The majority of the NRD portion of the project is for construction of facilities to increase public access to the site, most significantly by providing wheelchair access to the site. These recreational benefits are sustainable, with routine maintenance. These benefits are not likely to be realized in the proposed timeline absent NRD funding.

### Technical Merit

The project includes engineering services to design the new structures. Construction of a wheelchair-accessible boardwalk and observation platform is technically feasible. The project (i.e., activities supported by NRD funding) is not expected to produce adverse environmental impacts aside from potential temporary disturbances of wildlife and habitat associated with construction. The project will not create hazards to public health and safety. The Naromi Land Trust proposes to use volunteers to monitor plant and wildlife populations in ten vegetation plots for two years. This monitoring will be used to gauge the success of the project in preserving and enhancing the biological diversity of the site; however, monitoring past two years post-construction may be necessary to adequately assess success. The SubCouncil recommends that this be addressed in the funding negotiations. The proposal includes a plan to measure the success of the improved public access by monitoring visitation for two years post-construction.

### Project Budget

The project is expected to increase passive recreational access in a 57-acre wetland preserve for a moderate cost. The budget appears to provide cost estimates for all components of the project. The cost estimates provided appear to be appropriate. Three-quarters of the anticipated costs are for construction activities. The project includes 25 cents of matching contributions for every \$1.00 of NRD funds requested.

### Socioeconomic Merit

The work going on under other funding sources complements CT DEP efforts to control and remove invasive species. Providing greater public access to the site will offer an opportunity to increase public awareness of the invasive species problem and what is being done about it. Also given the history of participation of volunteers and scouts from the community in projects at the Preserve, continued community participation is likely. There is a strong potential to utilize the proposed access structures for educational purposes, e.g. school field trips and research projects. The project is not expected to generate adverse socioeconomic impacts. Socioeconomic impacts are discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The project team appears to be very well qualified and has necessary technical and administrative experience. The project team has confirmed all necessary commitments to implement the project except for the \$15,000 in expected volunteer in-kind labor.

### ***Summary of Findings***

The proposed boardwalk and observation platform will provide direct recreational access to a thriving wetlands ecosystem very close to the Housatonic River. By building these structures according to ADA guidelines, the project will provide added benefit to persons

with disabilities. The CT SubCouncil proposes to allocate up to \$100,000 for this project. All elements of the project are to be constructed according to ADA standards and guidelines to the extent practical.

#### **4.2.3.4. P-13 Schaghticoke Indian Reservation Car Top Boat, Canoe, Kayak Access Ramp**

Schaghticoke Tribal Nation Environmental Committee  
Requested NRD Funds: \$8,054  
Other Contributions: \$0  
Proposed NRD Allocation: \$8,054

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

A public boat access ramp on the Housatonic River will be built for launching canoes and kayaks. The boat access ramp will include limited accommodations for persons with disabilities. However, due to the fact that the access road is gravel, and the construction will be done by hand with volunteers, without the use of heavy equipment, full ADA compliant access is not planned. A sign will be erected at the access area informing the public that it is open to all users, not just tribal members. The timeframe for completing the project is one year.

##### ***Site Description***

The project is located in the Schaghticoke Indian Reservation on the west shore of the Housatonic River approximately 1 mile north of Bulls Bridge, 3 miles south of the Bulls Bridge Island Parking Area and boating access point (owned and operated by FirstLight Hydropower Generating Company), and 10 miles north of the car top boat ramp on the east shore of the Housatonic River in New Milford.

Based on the results of the NDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 “Biological Resources” for more detailed information.

##### ***Project Evaluation Summary***

###### **Relevance and Applicability**

The project is located on the Housatonic River mainstem, the CT SubCouncil’s highest priority area for restoration. This project provides moderate recreational benefits (boating and fishing) by providing small boat access to the river between Bulls Bridge and Kent, Connecticut. Currently this portion of the river has little river access for several miles in either direction (Figure 3-2). The site is in the floodplain and will require maintenance and removal of debris. The tribal members will maintain the area and replace gravel and fencing as necessary. The resulting recreational benefits would likely not be realized by the proposed timeline absent NRD funding.

### Technical Merit

The proposed construction techniques are technically feasible. A wetlands survey may be necessary. The project will eliminate a small area of natural riparian vegetation in order to construct the access area; however, given the small size of the project, this environmental impact is not considered a significant adverse effect. The project sponsor intends to avoid removal of large woody vegetation (live or dead) to the extent possible. The project would not generate a hazard to public health and safety; rather, the project provides access for persons with disabilities. The applicant states that the boat ramp will offer a positive impact on human health and safety by being available to launch rescue boats in event of an emergency on the river. The success of the project in providing access to the river will be measured through surveying tribal members and the public on their uses of the access point and satisfaction of their experiences.

### Project Budget

The proposed project provides recreational benefits for the tribe and the public at very low cost. All labor is to be donated by tribal members (but no value for these efforts was given). The proposed costs for are significantly lower than those for similar projects.

### Socioeconomic Merit

The project is greatly dependent on the local community (i.e., tribal members) for construction and maintenance. The project complements the goals of the Housatonic Valley River Trail and supports the NRD goal of restoring recreational activities associated with the Housatonic River. Socioeconomic impacts are discussed in greater detail in Section 5.2. The project team plans to install an informational sign to advise visitors on the respectful use of the area and the area's natural resources.

### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience and has implemented similar projects. However, the CTDEP has received communications from another person, Ms. Gail H. Donovan, who identifies herself as the Tribal Chairman of the Schaghticoke Indian Tribe, asserting that the right of the sponsor of this project (the Schaghticoke Tribal Nation) to undertake work on the reservation is in dispute. As mentioned in a letter from Commissioner Gina McCarthy to Mr. Joseph Velky (Environmental Committee Contact Person), dated April 14, 2008, disputes among tribal members concerning tribal leadership and what activities may or may not be authorized by tribal leadership to take place on tribal lands are issues that must be resolved by the tribe. Insofar as disputes concerning tribal leadership have yet to be resolved and that the proposal lacks the unified support of the various factions, the CT SubCouncil has concluded that the project proponents have failed to demonstrate that they have the authority to implement the project.

### ***Summary of Findings***

The greatest recreational benefit from this project will result from construction of a boat launch that is accessible to persons with limited mobility. It is noted that due to access road conditions and the nature of the earthen construction proposed, this facility will not be fully ADA compliant, but will accommodate those with limited ability to walk unaided. The project is simple, easy to implement, cost effective and is a highly oriented to community involvement. Because the project proponents have failed to demonstrate the authority to implement the project, the CT SubCouncil proposes to allocate \$8,054 for this project, contingent upon the project proponents demonstrating the authority to undertake the project. The CT SubCouncil will hold these funds in reserve for a period of one year after date of the issuance of the final Restoration Plan. After that time period has elapsed, the SubCouncil will reallocate those funds to other restoration work.

#### **4.2.3.5. P-18 Campville Fishing Access**

Town of Harwinton  
Requested NRD Funds: \$110,000  
Other Contributions: \$0  
Proposed NRD Allocation: \$42,000

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

This project consists of the purchase (fee simple or recreation easements) of 5 parcels of contiguous land totaling 27 acres to increase access for fishing along one mile of the Naugatuck River, in the Town of Harwinton, Connecticut. These primary properties lie between the river and Valley Road, between Campville Hill Road bridge crossing to the North and the junction of Valley Road with Wildcat Hill Road to the South. Construction of formal access points is not proposed. Five secondary properties, totaling 204 acres, have been identified for purchase for an additional \$260,000. These secondary properties are south of the primary properties, and do not offer the same road access as the primaries. The estimated timeframe for completing the project is two years.

#### ***Site Description***

The five primary parcels constitute a near contiguous stretch of land on the east side of the Naugatuck River along Valley Road between Campville Hill Road to the north and Wildcat Hill Road to the south. The area offers good fishing for trout and Atlantic salmon. The project site lies within the designated FEMA 100-year floodplain as well as within the flood zone of the ACOE Thomaston Flood Control Dam. The ACOE purchased flooding rights and removed all structures within the dam's flood zone. Future building on these properties is prevented, although owners may mine gravel, cut trees, and prohibit access to the river.

## ***Project Evaluation Summary***

### Relevance and Applicability

The subject parcels are located along the Naugatuck River in Campville, Connecticut. The Naugatuck River, a major tributary to the Housatonic River, enters the Housatonic River below Derby Dam. Public ownership of one mile of riparian corridor will provide ecological benefits by preventing activities on the properties currently allowed under ACOE flooding rights, such as gravel mining and logging, that may be harmful to a viable fishery.

This project will provide public access along the Naugatuck River for recreational fishing and will prevent future degradation of riparian habitat. Moderate recreational benefits can be expected by increasing fishing access to a popular trout and salmon fishery. The benefits include increasing the recreational fishing opportunities in the Housatonic River watershed that result in catching edible fish, a significant natural resource service that was lost due to PCB contamination in the Housatonic River. The project sponsor indicated an interest in investigating the construction of a canoe access point on one of the subject parcels, but this is not a part of the current project. Acquisition of the primary properties would be consistent with plans for the Naugatuck River Greenway. These benefits will be self-sustaining, requiring minimal maintenance (e.g., occasional removal of trash).

### Technical Merit

The project is technically feasible. However, the proposal did not include written expressions of interest from landowners. The project will not generate adverse environmental impacts as no construction is proposed. The project will not create a hazard to public health and safety. Post-acquisition monitoring of public use is to be performed by the CT DEP through angler surveys.

### Project Budget

The project is expected to provide ecological (protection of riparian habitat), recreational (increased access for anglers), and economic (sales in local area from visitors to the site) benefits for a moderate cost. The budget for obtaining appraisals on 5 to 10 properties is \$10,000. As noted in Table 1 of the Supplemental Information submittal, the total estimated fair market value for the five primary properties is \$32,000, although the project sponsor requested \$100,000 to purchase the primary parcels. The originally proposed project budget appears to include contingency funds for the purchase of secondary properties in addition to primary properties. Acquisition of the target properties for \$400 per acre, as noted in the SI submittal, is cost-effective.

### Socioeconomic Merit

The project will be publicized with press releases, annual mailing to residents, and informational bulletins and signs. Informational kiosks (not included in the budget) will advise visitors as to responsible use of the area. The project is likely to provide socioeconomic benefits such as local expenditures associated with public recreation opportunities. Socioeconomic impacts are discussed in greater detail in Section 5.2. The project is consistent with and implements the Litchfield Hills Council of Elected Officials' recommendations for enhancing river access, described in its *Naugatuck River Greenway Assessment*.

### Applicant Implementation Capacity

The project will be administered by the Town of Harwinton. The project team appears to be qualified and has necessary technical and administrative experience. Commitments from landowners have yet to be obtained, nor have commitments from local environmental and volunteer groups for conducting maintenance and the future construction of the informational kiosks, hiking trail and canoe access.

### ***Summary of Findings***

Protection of 27 or more acres of undeveloped riverfront land along a viable fishery offers benefits to recreational, riparian and floodplain natural resources. Purchase of contiguous parcels is preferred. The CT SubCouncil proposes to allocate up to \$42,000 for this project for appraisals and purchase of the primary parcels only. The SubCouncil is not proposing funding for the secondary properties because they do not offer as easy public access.

#### **4.2.3.6. P-31 Sega Meadows Park River Enhancement Project**

Town of New Milford  
Requested NRD Funds: \$75,217  
Other Contributions: \$21,483  
Proposed NRD Allocation: \$75,217

### ***Project Description***

The project will develop a 23-acre public park along the Housatonic River with nature trails, a picnic area, 12 primitive camping sites, and designated areas for fishing and non-motorized boating. The project will also include improving the newly constructed parking area, constructing a gravel road for maintenance and emergency use, removing invasive vegetation, and planting native species. The timeframe for completing the project is two years.

### ***Site Description***

Sega Meadows is a scenic woodland bordering the east bank of the Housatonic River in New Milford, Connecticut. The area is upstream from the Derby Dam. The site is part of a 65-acre tract leased to the town for 99 years by Northeast Utilities. Access to the site is from a gravel road off of River Road, which terminates at a recently constructed gravel parking area. The Boy Scouts recently installed an information kiosk and two picnic tables. The maintenance/emergency use road would extend south from the parking area along a former logging road. Trails to the camping area would be constructed on existing logging roads. The terrain is gentle and dominated by open, semi-mature, deciduous trees. Undergrowth near the river includes ferns and horsetail. The campground would be in an area along the river where the slope of the riverbank is gentle enough to allow informal fishing, canoe or kayak access.

Based on a review by the SHPO, additional measures will be required to identify and protect any historic or archaeological resources at or associated with the site.

### ***Project Evaluation Summary***

#### Relevance and Applicability

The project is located along the mainstem of the Housatonic River, the area of highest restoration priority for the CT SubCouncil. This project will primarily provide recreational benefits. The rustic nature of the park (primitive trails and camp sites) will provide long-lasting passive recreation with minimal maintenance. The New Milford Parks and Recreation Department has committed to maintain the park at Town expense. Installation of a few bird boxes in a 23-acre park is desirable, but is unlikely to have significant ecological benefits. With construction of the new parking area, the park is currently accessible for hikers and fishermen. The campground will provide a greater opportunity for the public, particularly scout groups, to participate in recreational activities (hiking, fishing, camping, and bird watching).

#### Technical Merit

Due to previous logging operations, little clearing and grading will be necessary to construct hiking trails and camp sites. Some grading of a former logging road will be required to construct the maintenance/ emergency use road. The primitive campground will include picnic tables and fire pits. All of these activities are technically feasible and are compatible with the Northeast Utilities License to the Town for the use of the property. The feasibility of creating wheelchair accessible trails, picnic areas, and campsites will need to be explored.

Adverse environmental impacts are expected to be minimal. The project will not generate hazards to human health and safety.

The New Milford Department of Public Works proposes to measure the results of the project, including a guest log book and requiring permits for group access and overnight camping.

### Project Budget

The proposed cost of the project is modest and is expected to provide numerous recreational benefits in relation to costs. Some of the proposed work has already been completed, i.e. installation of entrance road, parking area, and kiosk. The budget is not explained well and few details are provided to support the costs. Seventy-five percent of requested NRD funds are for construction of the entrance, parking area, and access road. Two project elements have been completed, but it is not clear how the NRD funding request should be reduced. However, the CT SubCouncil recognizes that the potential additional costs associated with creating accessible facilities for persons with disabilities were not anticipated by the project team. Therefore, the CT SubCouncil is not requiring adjustments to the project's overall request for NRD funding at this time. However, the SubCouncil will require a detailed budget and scope of work for inclusion in funding agreements. The budget includes \$21,483 in matching funds in the form of a Land Enhancement Acquisition Fund (LEAF) Grant (\$10,000) and in-kind services (\$11,483).

### Socioeconomic Merit

This project complements the town's Plan of Conservation and Development. The project will rely heavily on meaningful participation from community groups to assist in site preparation and construction. The plans for the park also have several community groups, town agencies and local scouting organizations expressing interest in being involved with the project. The garden club has volunteered to plant shrubs along the entrance, and the New Milford Youth Agency would like to construct a footbridge over one of the small streams and assist in trail clearing. The commitment of volunteers is already being demonstrated through the work that has been completed. The informational kiosk will advise visitors of the responsible use of the site's natural resources. The project will not generate adverse socioeconomic impacts. Socioeconomic impacts are discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The project team appears to be qualified and both technical and administrative staffs have experience and a proven track record. The project team has substantial experience in implementing similar projects.

### ***Summary of Findings***

The project offers high potential to enhance recreational uses of natural resources and access to the waterfront for modest cost. The degree of active community participation in constructing the project, which generates a sense of stewardship in the community, is an attractive element of this project. The feasibility of expanding the recreational benefits to

persons with disabilities must be evaluated. The CT SubCouncil proposes to allocate up to \$75,217 for this project. The SubCouncil requires that the Town assess the feasibility and cost of implementing the project according to ADA standards and guidelines.

#### **4.2.3.7. P-37 Recreational and Conservation Easement for Housatonic Basin Streams**

CT DEP Division of Land Acquisition & Management

Requested NRD Funds: \$2,812,580

Other Contributions: \$297,701 (committed)

Proposed NRD Allocation: \$900,000

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

The CT DEP will purchase recreational access and conservation easements on properties adjacent to rivers and streams within the Housatonic River basin in Connecticut. Over a proposed five-year period, the project team plans to pursue access easements for up to 20 miles of streams, and conservation easements for up to 1.3 miles of coldwater fish habitat. Each access easement will consist of a 30-foot wide right-of-way, while each conservation easement will consist of a 100-foot riparian buffer zone along the stream bank. Considering the width of the proposed riparian buffer, the project essentially proposes 15.75 acres of conservation easements along 1.3 miles of coldwater habitat. Although target properties are not yet identified, the project goal is to obtain easements on contiguous properties within the basin to create as many riparian corridors as possible. The proposal included a detailed parcel screening and evaluation process to identify the properties most worthy of protection through the project. Screening and rating of potential stream sections for access and conservation easement negotiation will be conducted in the first year of the five-year proposed project schedule.

##### ***Site Description***

Target sites are not yet identified; however, the detailed screening and evaluation criteria contained in the proposal provide insight into the attributes of the parcels most likely to be targeted. The proposal targets the Housatonic River and all of its tributaries upstream of Derby Dam for recreation easements, and coldwater streams throughout the Housatonic River basin for conservation easements.

##### ***Project Evaluation Summary***

###### **Relevance and Applicability**

The project will enhance opportunities for recreational use of the rivers by providing access to previously inaccessible reaches. Conservation easements will also protect riparian buffer zones from future development, which will enhance the fishery resources and aquatic habitat of the rivers beyond the footprint of the individual projects. The benefits will be self-sustaining.

### Technical Merit

The critical factor pertaining to feasibility is the ability to purchase the easements at fair market value. The CT DEP's Division of Land Acquisition and Management has a long history (80 years) of successfully using easements as a conservation tool. A survey of the usage of the recreation easements will be conducted by the CT DEP to quantify frequency of use, types of users, and user satisfaction. Fish harvest surveys will also be conducted by CT DEP. The project is not expected to cause adverse environmental impacts, so long as visitors use the areas responsibly, nor is the project expected to cause hazards to public health and safety. All newly created recreational fishing access in areas involving fish consumption advisories will be properly signed to advise users of the relevant precautions.

### Project Budget

The project is expected to provide numerous recreational benefits and moderate ecological benefits relative to the project's cost. The project budget is broken down by task and each expense category is generally explained well. Most of the first year project costs (\$165,229) will be for identifying, screening, and rating potential stream sections for easements and for conducting public information meetings to explain project purpose, build stakeholder support, and develop local contacts. Expenses for subsequent years will be primarily for purchase of the easements and surveying of the parcels. Up to 11 months of CT DEP staff time and \$100,000 of a fishing easement fund will be leveraged with the NRD funds. The project estimates the cost of access easements to be \$7.15 per bank-foot of stream shoreline. The average cost of conservation easements is estimated to be \$50,000 per acre.

### Socioeconomic Merit

Municipalities, Non-Governmental Organizations, and other interested parties will be invited to participate in the selection process for purchase of easements. Any increase in recreational users of the rivers will have positive impacts to the local economy. No adverse socioeconomic impacts are expected. Socioeconomic impacts are discussed in greater detail in Section 5.2. The project is consistent with the State's *Green Plan* and the *Connecticut Statewide Comprehensive Outdoor Recreation Plan*.

### Applicant Implementation Capacity

The project team (CT DEP's Division of Land Acquisition and Management) is qualified and has substantial technical and administrative experience implementing similar projects. All necessary project commitments, aside from purchase agreements from landowners, have been secured.

### ***Summary of Findings***

The project has the high potential to enhance recreation uses along the mainstem and tributaries of the Housatonic River upstream of the Derby Dam. Conservation easements will provide moderate ecological benefits by preserving riparian open space.

### ***CT SubCouncil Requested Revisions***

The Applicant requests \$2,812,580 in NRD funds for this project. The project as proposed is very ambitious with desirable goals. However, the project can still be effective with reduced funding levels. The CT SubCouncil proposes to allocate up to \$900,000 for this project. This, along with the full amount of leveraged resources pledged by the CT DEP's Division of Land Acquisition and Management, will achieve a significant portion of the project's goals.

The work proposed for the first year of the project plan would identify target properties for easements and create a blueprint for purchases. Even with a reduction in the scope of this effort, the amount of NRD funds allocated will allow for the acquisition of significant conservation and/or recreational access easements. The CT SubCouncil will work with the sponsor to develop a revised scope of the project for purposes of the funding agreement. The SubCouncil requests that the sponsor prepare a revised budget and scope of work that reflects the amount of NRD funding proposed.

Appraisals completed on or after the release of the final Restoration Plan and in accordance with the RSI are required. The CT SubCouncil must approve the specific parcels proposed for NRD funding.

#### **4.2.3.8. P-40 Housatonic Valley River Trail**

King's Mark Resource, Conservation, & Development Area, Inc.

Requested NRD Funds: \$56,020

Other Contributions: \$28,850

Proposed NRD Allocation: \$56,020

### ***Project Description***

The project includes four main activities to enhance boating on the Still River portion of the Housatonic Valley River Trail (HVRT).

1. Build a parking area for 3-4 cars and step access to the Still River at the New Milford Animal Shelter.
2. Obtain easements and construct a take-out and put-in portage around the HarryBrooke Rapids.
3. Construct a canoe/kayak access point at the confluence of the Still and Housatonic rivers.
4. Remove barriers to canoe/kayak navigation (e.g., fallen trees) in the Still River between Aldrich Road and the animal shelter.

Other activities include installation of warning signs about rapids and direction signs to portages. The timeframe for completing the project is two years.

### ***Site Description***

The project area includes the Still River and adjacent riparian area in New Milford, Connecticut, between Aldrich Road and the confluence with the Housatonic River. Canoe/kayak access to the river is proposed at the New Milford Animal Shelter, up and down stream of the HarryBrooke Rapids, and at the confluence with the Housatonic River. Currently, other boat ramps exist upstream on Still River in Brookfield and Danbury, and downstream on the Housatonic River in New Milford and on Lake Lillinonah. The New Milford Animal Shelter is located on Erickson Road, south of the town center, on the east bank of the Still River. The site is flat and the area for the proposed parking area is currently lawn. The river bank at the proposed location for step access is steep, dropping 5 to 7 feet to the water, with small trees and invasive plants (predominately Asiatic bittersweet). The river in this area is quiescent and meandering. The barriers to canoe/kayak navigation were not visible from the shore at the animal shelter during the TWG site visit, but the applicant provided photographs showing large trees fallen across the river in several places. The HarryBrooke Rapids are located several hundred meters upstream of the mouth of the Still River.

Based on the results of the NDDB review for this project, additional measures will be required to identify and protect sensitive species and habitats. See Section 5.1.5 “Biological Resources” for more detailed information.

### ***Project Evaluation Summary***

#### **Relevance and Applicability**

Recreational benefits can be expected by increasing boating access to the Still River between Brookfield and New Milford. Removal of invasive species, particularly Asiatic bittersweet, along the river bank will improve the ecological condition of the area. A constructed access may protect the shoreline from trampling by boaters accessing or leaving the river at this location. Periodic maintenance of the canoe access points will be necessary in order to sustain the recreational benefits. Periodic removal of subsequent accumulations of large woody debris will likely be necessary. The proposal assumes that a maintenance partnership will be established among the cooperating towns. The CT SubCouncil requests that formal commitment be provided prior to funding award.

#### **Technical Merit**

The canoe access points are not anticipated to cause adverse environmental impacts aside from short-term construction-related impacts (e.g., on water quality) and localized loss of riparian vegetation. The removal of barriers to navigation, proposed to be accomplished with the use of heavy equipment, could damage the stream bank and wetlands, if not done carefully. In addition, the large woody debris forming the barriers may provide

localized aquatic habitat that would be lost by removal. Thus, the removal of large woody debris should be done selectively to avoid or minimize such impacts. In addition, selective relocation of large woody debris along the shoreline to provide aquatic habitat should be incorporated into the project. Removal of navigation hazards, construction of portages, and installation of signs advising of approaching navigation hazards and associated portage locations will reduce existing hazards to public health and safety. The conceptual design presented would be enhanced with the inclusion of design elements that would render the canoe/kayak access sites accessible to persons with disabilities.

Project success will be monitored with the use of a voluntary sign-in register placed at the animal shelter access point. The CT SubCouncil requests that a more robust monitoring program that quantifies materials removed and the condition of the resulting aquatic habitats be presented prior to funding award.

#### Project Budget

This project has the potential to provide moderate recreational benefits to the canoe/kayak community for relatively low cost. The budget is explained well and the information provided for each task appears reasonable. However, if the project is to be constructed according to ADA accessibility guidelines, the costs may increase significantly. In addition, \$28,850 in matching funds has been committed to the project.

#### Socioeconomic Merit

The project is consistent with all local, regional, and state plans to increase recreational opportunities in the Housatonic Valley Region, such as the *Connecticut Statewide Comprehensive Outdoor Recreation Plan*. The project is not anticipated to generate adverse socioeconomic impacts. Additional information on socioeconomic impacts is discussed in greater detail in Section 5.2.

#### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience implementing similar projects. All matching contributions have been secured. However, not all of the necessary permissions have been obtained from affected landowners.

#### ***Summary of Findings***

The project offers high potential to enhance recreational uses of natural resources and access to the Still River for modest cost. The recreational benefits from this project will be enhanced if some or all elements of the project are accessible to persons with disabilities. The CT SubCouncil proposes to allocate up to \$56,020 for this project. The Applicant must assess the feasibility and cost of constructing boat access according to ADA standards and guidelines.

#### **4.2.3.9. P-54 “The Bend” (aka Garbage Hole) Riparian Vegetation, Shoreline and Recreational Access Improvements**

Housatonic Valley Association  
Requested NRD Funds: \$222,586  
Other Contributions: \$56,986  
Proposed NRD Allocation: \$222,586

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

This project improves recreational access and shoreline habitat in the upper Housatonic River. Activities include construction of an ADA-compliant parking area, fishing platform, and composting toilet facility, improvements to a hand carry boat ramp, and installation of a small velocity dissipater and sediment basin to control erosion. The timeframe for completing the project is four years.

##### ***Site Description***

The project site, known as “The Bend” (aka Garbage Hole), is an approximately 2-acre area of land on the east bank of the Housatonic River, approximately 0.2 miles south of the covered bridge at Route 128 in West Cornwall, Connecticut. The location is approximately 1 mile north of Housatonic Meadows State Park and 13 miles north of the Bulls Bridge Island Parking Area and boating access point (owned and operated by FirstLight Hydropower Generating Company).

The property is owned by CL&P but is currently used by the public for informal access to the river. An unpaved road enters the site from Lower River Road. The road opens into an unpaved, informal parking area and extends southwest where an approximately 10-foot wide path leads to the river. Trash collection and toilet facilities are absent, but the area was relatively clean at the time of the TWG site visit.

The applicant reports that boaters launch hand-carried craft and fishermen enter the river at the end of the path between boulders. The riparian edge is well vegetated with red maple, iris, red-osier dogwood, as well as invasive Japanese honeysuckle. The path to the river is gently sloped, notably eroded, and covered with debris, including logs, branches, rocks, and asphalt. This path is currently not safely passable by wheelchair. The high water line is evidenced by scour on the bank and deposition of woody debris. The riverbank to the north of the access path is steeper and rockier than the relatively flat shoreline south of the path. The river at this point and upstream is relatively shallow and fast flowing; the river substrate appears to be firm and rocky. The water slows and deepens at the bend of the river approximately 100 feet downstream, where the river is bordered by wetlands on the west bank.

Based on a review by the SHPO, additional measures will be required to identify and protect any historic or archaeological resources at or associated with the site.

## ***Project Evaluation Summary***

### Relevance and Applicability

The project is located along the Housatonic River mainstem upstream of Derby Dam, the CT SubCouncil's highest priority locale for restoration. This project provides moderate recreational and modest ecological benefits in a reach of the upper Housatonic River. The site is already used somewhat as an informal river access point. The proposed activities will enhance the experience of boaters and create a new opportunity for outdoor recreation for persons with disabilities. The project will ameliorate erosion and sedimentation issues in the localized area, enhancing water quality. The applicant and CL&P will share site maintenance responsibilities, e.g. toilet, trash removal, and removal of debris deposited by flooding. Thus, the benefits provided by the project should be sustainable.

Due to the projects proximity to the West Cornwall Covered Bridge, which is listed on the National Register of Historic Places, the project sponsor will be required to consult and comply with requirements of the SHPO.

### Technical Merit

Proposed construction techniques are technically feasible. In response to comments from the public and town, the applicant proposes to relocate the previously proposed fishing platform upstream of the boat launch and to constrain the platform to the river's edge. While this avoids potential issues from construction in wetlands, fishing is likely better in the downstream location where the water is deeper and velocities are slower. Regardless, an ADA-accessible platform in the upstream location will provide improved recreational access to the edge of a scenic area of the river. Issues associated with construction in the floodplain will be addressed during the design, engineering, and permitting processes. The project is not anticipated to cause adverse environmental consequences other than potential short-term construction-related impacts and the localized loss of riparian habitat in order to construct the ramp and fishing area. The project will not create a hazard to public health and safety. The project includes an excellent post-construction plan to monitor improvements in managing erosion, sedimentation, invasive non-native plants, trash, and vandalism that includes quantified performance standards and contingency actions.

### Project Budget

The project will provide recreational and ecological benefits for a moderate cost. Although the budget may have underestimated the cost of constructing the proposed facilities compliant with ADA guidelines, the budget includes a 40% contingency that the CT SubCouncil anticipates will be sufficient to address additional ADA-associated costs.

Because the revised proposal removed activities in wetlands, the \$17,700 budget for wetland delineation and surveying can be greatly reduced. A much smaller area will

need to be surveyed for design of the other proposed improvements. The project includes a notable amount of other contributions, particularly CL&P's donation of the use of the land, the value of which was not quantified.

#### Socioeconomic Merit

The project is being implemented through a partnership with the Housatonic Valley Association, the Housatonic Fly Fishermen's Association, and CL&P. The Housatonic Fly Fishermen's Association and Housatonic Valley Association encompass a large number of community volunteers that will be involved in post-construction monitoring and site maintenance. This project is consistent with the Housatonic River Commission's *Housatonic River Management Plan* and *Recreational Management Plan* and the *Connecticut Statewide Comprehensive Outdoor Recreation Plan 2005-2010*.

The primary socioeconomic concerns with this project are the possibility of interfering with the aesthetics of the viewshed as seen from the covered bridge and increased trash and other waste. Additional information on socioeconomic impacts is discussed in greater detail in Section 5.2.

#### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience implementing similar projects. The Housatonic Valley Association recently built an ADA-compliant boat launch in New Milford, Connecticut.

#### ***Summary of Findings***

The project sponsor revised the proposal to address public concerns. The largest increase in recreational benefits from this project will result from construction of an ADA-compliant parking lot, boat launch, and composting toilet. The fishing value in the (revised) upstream location for the fishing area is likely less than in the downstream location, but represents a reasonable compromise between recreational value (ADA-accessible recreation) and wetland and aesthetic impacts. The CT SubCouncil proposes to allocate up to \$222,586 for this project.

#### **4.2.3.10. P-70 Halfway River Fishery Access**

Town of Newtown  
Requested NRD Funds: \$326,400  
Other Contributions: \$10,000  
Proposed NRD Allocation: \$326,400

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

The Town of Newtown and the Trust for Public Land propose to preserve undeveloped property along the Halfway River and create access to a rare, high quality wild trout fishery. The project includes creation of a parking area and trailhead along Route 34,

upgrading existing trails, and permanent protection of the riparian area along the Halfway River. The timeframe for completing this project is one to two years.

### ***Site Description***

The project site is located in the southeastern corner of the Town of Newtown, Connecticut, near the village of Stevenson. It is about 0.5 miles west of the junction of state Routes 34 and 111 and the Housatonic River. The site consists of a 12-acre, undeveloped property, bordered to the east with 1200 feet of frontage along the Halfway River. The parcel is bordered to the west by woodlands and to the north by Route 34. The terrain along Route 34 is steep, sloping away from the road down toward the Halfway River. Vegetation is dominated by mature deciduous forest with hemlock understory, ferns, and invasive barberry. The western part of the site has a hill with an elevation of 300 feet; the eastern part of the site is a steep, boulder strewn slope leading down to the Halfway River, which is at about elevation 180 to 160 feet. Three intermittent streams cross the site to the Halfway River, which flows northeast to the Housatonic River about 2,200 feet downstream of the site. A north-south trail, resembling an old access road, traverses the site approximately 100 to 150 feet from the river. Power lines cross the southern end of the site.

Based on a review by the SHPO, additional measures will be required to identify and protect any historic or archaeological resources at or associated with the site.

### ***Project Evaluation Summary***

#### **Relevance and Applicability**

This project will protect the watershed by preserving the site, including a section of the Halfway River as open space. The project will provide a greater opportunity for the public to participate in passive recreational activities (hiking, fishing, bird watching) in the Housatonic River watershed. The Town of Monroe has conservation easements and trails on the adjacent land opposite the Halfway River, and the proposed project would complement and expand upon the recreational opportunities in the area. An additional recreational benefit will be offered if the project provides wheelchair access to the parking area and trails (feasibility should be investigated). The project's benefits would be largely self-sustaining, except for occasional routine maintenance of the parking area.

#### **Technical Merit**

The project is technically feasible. Fee acquisition of property is a proven method for providing recreational access and protecting wildlife habitat. The dimensions of the proposed parking area may need to be adjusted slightly to provide adequate parking, but this can be resolved during the design and permitting process. The Trust for Public Land acquired the property in 2008 for purposes of holding the property for subsequent sale and transfer to the Town of Newtown as preserved open space. The land protection project will not generate adverse environmental impacts aside from the clearing of some

upland vegetation for the construction of the parking area. The project will not create hazards to public health and safety. The project does not include a means to measure the success of the project in providing recreational access, and therefore, the CT SubCouncil requires that an adequate monitoring program (e.g., sign-in register) is developed prior to funding award.

### Project Budget

This project involves primarily open space acquisition that would create new recreational opportunities for the public and help protect the watershed by preventing future development on a steep slope adjacent to the river. The project benefits would come at a moderate cost (approximately \$25,000 per acre). Based on standard sources, the proposed costs for site clearing and construction of a parking lot (for approximately 4 vehicles) appear to be very high. One of the project goals described in the Project Narrative of the SI proposal is upgrading existing trails at the site; however, a budget for this was not included, either as in-kind contributions or requested NRD funding. An additional \$10,000 in matching funds is provided in the form of in-kind services for appraisals, legal assistance, and project administration.

### Socioeconomic Merit

This project is a well-coordinated effort between the Trust for Public Land and the Town of Newtown and is integrated with the Town of Newton's Plan of Conservation and Development, the Housatonic Valley Council of Elected Officials' Regional Plan, and the State of Connecticut's Plan of Conservation and Development. The property is the Town of Newtown's current top priority for preservation of Open Space. The project will not generate adverse socioeconomic impacts. Additional information on socioeconomic impacts is discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience. The project will be administered by the Town of Newton and the Trust for Public Land. All major commitments have been secured, including willingness from the property owner to sell the property.

### ***Summary of Findings***

Protection of 12 acres of undeveloped riverfront land along a viable wild trout fishery offers benefits to recreational, riparian and floodplain natural resources. Purchase of this property offers additional benefit by being contiguous with other protected parcels along the Halfway River. The CT SubCouncil proposes to allocate up to \$326,400 for this project. The CT SubCouncil requests that the feasibility of accommodating persons with disabilities is explored. The SubCouncil also requests that a means to gauge the recreational use of the property (e.g., visitor sign-in registers) be implemented so that project success can be demonstrated.

#### **4.2.3.11. P-76 Beacon Falls Riverfront Park System**

Town of Beacon Falls  
Requested NRD Funds: \$180,000  
Other Contributions: \$87,500  
Proposed NRD Allocation: \$100,000

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

To enhance public access, the Town of Beacon Falls proposes to create two parks along the Naugatuck River. The projects are the Depot Road River Park and the Riverbend Park. Both projects use vacant land owned either by the State or the Town. The Depot Road River Park is proposed for 1.5 acres of unused land along the west bank of the Naugatuck River owned by the CT Department of Transportation (“CT DOT”). The project will provide public access for fishing, with ADA accessible walking trails, benches and other recreational amenities. The Riverbend Park is proposed for 1.3 acres of Town-owned land on the east bank of the river with ADA accessible walkways, enhanced river viewing, fishing access, and a canoe/kayak launch area. The timeframe for completing the project is 2 years. The town requests funding for both parks, but notes projects could be implemented independently.

##### ***Site Description***

The proposed Depot Road River Park site is wooded floodplain bounded to the east by the Naugatuck River, the west by Railroad Avenue, and south by Depot Street. The site is subject to annual flooding and trash dumping, and the adjacent bridge abutment has been vandalized with graffiti. Mature aspen and maple trees line the river’s edge; invasive Japanese knotweed and Asiatic bittersweet are abundant. Parking is available at the railroad station across the street. The O&G Trail along the river is nearby.

The Riverbend Park site is wooded floodplain in a residential area bounded to the north by the Naugatuck River, and south by Nancy Street. The parcel is subject to ATV use and trash dumping. Native trees are primarily mulberry and black birch; invasive species include barberry and Asiatic bittersweet.

Based on a review by the SHPO, additional measures will be required to identify and protect any historic or archaeological resources at or associated with the site.

##### ***Project Evaluation Summary***

###### **Relevance and Applicability**

The projects are located within a mile of each other in the Town of Beacon Falls, Connecticut, along the Naugatuck River, approximately seven miles from its confluence with the Housatonic River. The parks would provide a moderate level of local recreational benefits. The constructed amenities (e.g., trails and fishing access for persons with disabilities) would create new recreational opportunities. The parks would

provide fishing access to a section of the Naugatuck River designated a CT DEP Trophy Trout Stream. The Riverbend Park is planned to provide canoe/kayak access to the river. Although neither site is developed for public use, both sites currently provide low levels of unimproved river access. The recreational benefits of the project would be sustainable if routine park maintenance is implemented. The conceptual plan for the Riverbend Park consists of a groomed, suburban-style park with lawn areas and few trees.

### Technical Merit

Since submitting the SI proposal, the Town Planner has indicated that the Town has acquired full title to the property at the proposed Riverbend Park site. Final approval for accessing the CT DOT property at the Depot Road site is expected after the project is funded. A conceptual plan for Riverbend Park has already been prepared; a similar plan has not been prepared for the Depot Road River Park. Construction of handicap accessible pathways and boat launch is technically feasible at the Riverbend Park site. All structural items proposed can be constructed with relative ease based on available technology and materials.

Creating wheelchair access to the fishing areas at the Depot Road site will be technically challenging and perhaps not feasible due to the cobble substrate along the flood-prone shoreline and the steep slope from the parking area to stream side. The feasibility of developing the Depot Road site as a park appears dubious given the frequency of flooding and deposition of floating debris at the site, and the dynamic channel forming processes of the area.

Park use will be recorded from periodic surveys during the fishing and kayaking seasons. The project includes quantitative recreational use targets and a contingency plan to boost recreational benefits if the project falls short of these targets.

The primary potential adverse environmental impact associated with the Riverbend Park project is the excessive loss of the riparian corridor vegetation. The construction of the fishing/observation platform at the river's edge at the Riverbend Park would require localized loss of riparian vegetation and may cause short-term construction-related impacts on water quality. The conceptual plan submitted with the Supplemental Information suggests a park that would be "urbanized" with walkways and lawn replacing the native riparian vegetation. The project will not generate hazards to public health and safety (e.g. guardrails will be constructed at the Riverbend Park fishing platform).

### Project Budget

This project will provide moderate recreational benefits for a moderate cost. The basis for the project costs was not explained well, but the costs appear reasonable. The CT SubCouncil assumed approximately half of the budget would be needed for each proposed park. The ratio of total leveraged funds to NRD funds requested is 0.49.

### Socioeconomic Merit

The Conservation Commission, with community input, will have a primary role in the project design. The project would become part of the Naugatuck Greenway Project, and as such, implements some of the goals of the Town's Plan of Conservation and Development. The project will not cause adverse socioeconomic impacts other than short-term nuisance impacts to the local neighborhood during construction of the Riverbend Park. Additional socioeconomic impacts are discussed in greater detail in Section 5.2.

### Applicant Implementation Capacity

The Town Engineer and the Town Planner will provide technical assistance to the Conservation Commission, and professionals will be hired for landscape architecture and construction. The project team appears to be qualified and has necessary technical and administrative experience implementing similar projects. One major project commitment has yet to be obtained: authorization from the CT DOT to develop the Depot Road site as a park.

### ***Summary of Findings***

The Riverbend Park project offers a high potential to provide long term recreational opportunities to a previously inaccessible location on the Naugatuck River. By constructing the park and boat launch according to ADA guidelines, the project provides the added benefit of expanded opportunities for persons with disabilities to experience the Naugatuck River.

Development of the Depot Road site as a park does not appear feasible. While creation of a park close to the center of town has merit, the Depot Road site is prone to annual flooding, debris deposition and dynamic changes in channel form. In addition, it appears that ADA accessibility may not be feasible or cost-effective at the Depot Road site, and thus most of the likely future users of the park are already able to access and enjoy the river at the site under current conditions. Therefore, the CT SubCouncil has concluded that the Depot Road Park portion of the proposed project should not be funded.

The CT SubCouncil proposes to allocate up to \$100,000 for development of the Riverbend Park. The CT SubCouncil requests that the Town revise the conceptual design of the Riverbend Park. The needs of a suburban-style park should be balanced with the goal of providing ecological benefits at the site. This could be achieved through such activities as reducing the parking lot size, reducing lawn areas, and preserving and/or restoring the riparian habitat. All elements of the project are to be constructed according to ADA standards and guidelines to the extent practicable. The CT SubCouncil also desires that the Town provide toilet and garbage service and commit to maintaining the Riverbend Park site.

#### **4.2.3.12. P-91 O’Sullivan’s Island Peninsula Fishing and Habitat Enhancement and Restoration**

Valley Council of Governments  
Requested NRD Funds: \$325,000  
Other Contributions: \$62,000  
Proposed NRD Allocation: \$325,000

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

The Valley Council of Governments will restore and revitalize a Brownfields site along the Housatonic River in Derby. Goals are to enhance fishing, boating, and other passive recreational opportunities at the site. Elements of the project include removing invasive species and replanting of native species along the riverbank in the project area, constructing a planted swale to capture non-point source runoff from the parking lot, improving fishing areas with boulders and plantings, modifying an existing boat ramp, constructing a wheelchair accessible fishing pier, extending the existing greenway, and constructing trails. All new construction will be compliant with ADA guidelines. The proposed timeframe for completing the project is three years.

##### ***Site Description***

The O’Sullivan’s Island property is located in Derby, Connecticut, approximately 1.2 miles downstream of the Derby Dam. It is directly south of the downtown commercial district of Derby and near the commercial area of the towns of Shelton and Ansonia.

The O’Sullivan’s Island area covers approximately 20 acres and is a relatively level peninsula on the east bank of the Housatonic River at the confluence with the Naugatuck River. The property is bisected by two water bodies: a 3-acre tidal cove and a 2-acre pond. The proposed restoration activities will occur on the southwestern 11-acre peninsula. This peninsula has a large open field in the center and is fringed with large trees and dense vegetation along the shoreline. Invasive plants, such as Japanese knotweed, autumn olive, and Asiatic bittersweet, are abundant. The site is accessible by foot or bicycle via a greenway traversing the northwestern edge of the project site or by vehicle. Informal trails lead to popular fishing areas at the tip of the peninsula.

A parking area and rudimentary boat ramp exist at the northwestern end of the project area south of the Route 8 overpass. These will be refurbished as part of the proposed activities. However, a portion of the parking area and the boat launch area are owned by the CT DOT. The Sponsor will be required to secure authorization from the CT DOT as necessary to achieve the public access goals prior to implementation of the project. The boat ramp is used by the public to access the river and cove for fishing. Erosion is evident along the edges of the ramp. CT DOT is preparing for renovations to the Route 8 bridge that lies above the parking area and anticipates that access to this area will be restricted for three or more years.

The O'Sullivan's Island area is a Brownfields site. This designation is predicated on a history of waste storage and disposal, including buried drums and staging areas for demolition wastes and other refuse. In emergency removal actions performed from 1983 to 1985, the US EPA removed approximately 900 buried drums and 90 cubic yards of contaminated soil. Two piles of PCB-contaminated soils (approximately 200 cubic yards) excavated during the removal actions were retained on the site. Subsequent investigations (1999 through 2008) identified various contaminants in surficial soils in the northwest portion of the property, including petroleum hydrocarbons (TPH), metals (primarily lead and arsenic), polycyclic aromatic hydrocarbons (PAHs), and pesticides above CT DEP Residential Direct Exposure Criteria (RDEC). However, the spatial extent of such contamination has not been delineated.

In October 2008, the US EPA removed the two remaining piles of PCB-contaminated soils left on site from the earlier removal actions. Post-removal sampling detected residual PCBs in surficial soil in the area of the former contaminated soil piles. The US EPA plans to remove soil containing PCBs greater than the RDEC (1 part per million) for offsite disposal. Although a portion of the contaminated soils identified in the 1999 through 2008 investigations will be removed during removal of the remaining PCB residues, it is possible that other soils containing TPH, metals, PAHs and pesticides at concentrations greater than RDEC will remain on the site.

### ***Project Evaluation Summary***

#### **Relevance and Applicability**

The project is primarily recreational but will provide for the removal of invasive species along the riverbank in the vicinity of improvements to fishing areas and river walks. The recreational aspects of the project will allow for enhanced public access to the mainstem of the Housatonic River for fishing, boating and hiking in an urbanized setting in the southern portion of the watershed. Constructing facilities accessible to persons with disabilities will generate new, highly-valued recreational opportunities. However, greater recreational benefits and aesthetic enjoyment might be achieved by locating the fishing pier in a quieter area farther away from the boat ramp and associated traffic. The proposed paths will compliment the adjacent Naugatuck River Greenway. The parking lot and boat ramp improvements are not expected to notably increase recreational boating use, as these facilities are generally already functional and are being used. The parking lot and boat ramp improvements will improve the local water quality in the Housatonic River by curbing non-point source pollution and erosion. Providing sustainable benefits will require that the facilities are routinely maintained.

#### **Technical Merit**

The proposed project elements consist of accepted construction materials and techniques that represent a logical extension of the current recreational uses at the site. The recent and anticipated hazardous soil removal actions have resolved substantive technical

obstacles to implementing the project. However, the project is in the conceptual planning phase at this time and detailed engineering/design has not been completed.

The project will not generate adverse environmental impacts aside from the possible localized loss of some riparian vegetation associated with construction of the fishing platform and the potential short-term construction-related disturbances to water quality.

To preclude public contact with contaminants at the site, one of two conditions must be met:

- 1) Soils in the project area must meet RDEC using methods identified in CT DEP regulations, or
- 2) Public access to soils with contaminant levels above the RDEC must be restricted by placement of physical barriers or other methods subject to CT DEP approval.

On-site user surveys/counts and bird counts, pre- and post-construction will be used to monitor the success of the project.

Ultimately, the CT SubCouncil believes that the recreational amenities proposed in this project can be constructed in such manner as to preclude human contact with residual contamination that may exist at the site.

#### Project Budget

The project is expected to provide numerous recreational benefits and some ecological benefits relative to the project's cost. Costs were estimated based on material quantities and costs for similar projects implemented by the City of Derby Department of Public Works and local contractors. The project involves \$0.19 of other contributions for every \$1.00 of NRD funds requested.

#### Socioeconomic Merit

Project supporters and potential participants include the Ansonia Nature Center, Housatonic Valley Association, the Kellogg Environmental Center, and the Fisheries Advisory Council. The project complements the Naugatuck Valley Greenway and advances the goals of the *Connecticut Statewide Comprehensive Outdoor Recreation Plan*. The project would provide socioeconomic, as well as recreational, benefits to the "distressed" communities of Derby and Ansonia, as identified by the Connecticut Department of Economic and Community Development. No adverse socioeconomic impacts are expected. Socioeconomic impacts are discussed in greater detail in Section 5.2.

#### Applicant Implementation Capacity

The Valley Council of Governments will administer the project. The Valley Council of Governments has extensive experience with the planning, implementation and

management of a wide range of transportation and environmental projects. The City of Derby will maintain the facilities.

### ***Summary of Findings***

The project has a high potential to enhance recreational uses along the mainstem of the Housatonic River in a natural setting within an urbanized portion of the watershed. This is a Brownfield site undergoing investigation and cleanup.

To preclude public contact with contaminants at the site, one of two conditions must be met:

- 1) Soils in the project area must meet RDEC using methods identified in CT DEP regulations, or
- 2) Public access to soils with contaminant levels above RDEC must be restricted by placement of physical barriers or other methods subject to CT DEP approval.

Funding of the proposed boat ramp improvements is contingent upon the project sponsor securing an access agreement with CT DOT.

The CT SubCouncil proposes to allocate up to \$325,000 for this project contingent upon meeting the conditions discussed above. These funds will be reserved for up to three years after Restoration Plan adoption.

## **4.3. Other Projects Considered but Not Funded**

Of the thirty-one projects identified in the Evaluation Report for further consideration, the CT SubCouncil proposes not to fund four projects: one project within the Riparian and Floodplain Natural Resources restoration category and three projects within the Recreational Uses of Natural Resources category. All of these projects have merit. However, due to fund limitations, including the need to reserve contingency funds to address a number of factors including ADA requirements, work needed to minimize impacts to listed species, and requirements set by SHPO, not all of the thirty-one projects could be funded.

### **4.3.1. Riparian and Floodplain Natural Resources**

#### **4.3.1.1. P-67 Mitchell Farm Preservation Project: “Pootatuck Hill”**

Southbury Land Trust, Inc.

Requested NRD Funds: \$500,000

Other Contributions: \$2,500,000 (\$1,500,000 to be considered NRD Cost-Matching)

Proposed NRD Allocation: \$0

### ***Project Description***

The Southbury Land Trust, Inc. seeks to obtain a conservation easement on the 250-acre “Pootatuck Hill” portion of the Mitchell Farm, and implement a habitat conservation plan designed to restore and protect the natural resources of the site. The conservation easement would preserve this portion of the property as open space and allow for passive recreational use. The 50 acres of this parcel that is currently farmed would be converted to a managed grassland habitat. Protection of this parcel would connect and expand existing preserved open space lands in the area. The timeframe for completing the project is 2 years.

### ***Site Description***

The Mitchell Farm site is a 510-acre working farm owned by the same family for more than 250 years. The “Pootatuck Hill” portion of the property lies on a hill with a scenic overlook of the Housatonic River valley and Shepaug Dam. Approximately 200 acres of the 250-acre parcel consists of varied habitats including open fields not currently farmed, open meadow, forested uplands, shrub lands and wetlands. A 50-acre portion historically used for corn or hay will be converted to a managed grassland habitat. The site is adjacent to the Bend of the River Audubon Center, the George C. Waldo State Park and several other parcels of preserved open space. A 46-acre riverfront conservation easement on the 510-acre farm has already been purchased by the project sponsor.

### ***Project Evaluation Summary***

#### **Relevance and Applicability**

The Mitchell Farm property is located in Southbury, Connecticut in the Housatonic River watershed above the Derby Dam. Some enhanced ecological benefits will be derived through conversion of existing farmland to managed grassland habitat. Studies between 2005 and 2007 documented a variety of bird species at the site that include five protected species (all primarily upland habitat species), including a nesting pair of bald eagles (state endangered). Acquisition of the property has the potential to link two “Important Bird Areas” designated by the National Audubon Society (the adjacent Audubon Sanctuary and the Shepaug Dam area). Passive recreational activities on the property are planned.

The CT SubCouncil notes, however, that this parcel is distant from the river and its floodplain. At its closest point, the parcel is approximately 2,270 feet from the river and lies at an elevation of approximately 230 feet above the river. Although there is no doubt that preservation of this parcel has many ecological benefits, there appears to be little nexus to the resources injured by the release from the GE Pittsfield facility.

### Technical Merit

The owner has demonstrated willingness to enter into a conservation easement and has already entered into such an agreement for another portion of the property. Conservation easements are well established tools to preserve open space. Based on the information provided, acquisition of the easement appears highly feasible. Clarification is needed on how the grassland will be managed for nesting birds. A conservation easement is an administrative action only, resulting in no adverse environmental or health and safety impacts.

Volunteer efforts will be used to perform ongoing ecological studies including continuing inventory and assessment of wildlife usage and plant diversity. Technical assistance to the property owners will also be provided for instituting management practices required to meet vegetative habitat re-establishment including removal of invasive species. These volunteer efforts are included as in-kind services in the project budget.

### Project Budget

The project would preserve 250 acres of open space at a lower cost than fee simple purchase (\$3,000,000 conservation easement cost versus \$5,750,000 estimated 2007 property value). The ratio of total leveraged resources to NRD funds requested is 5.0, but only 6% of these funds are presently committed.

### Socioeconomic Merit

The project has the support of Town of Southbury's chief elected official and Southbury voters will have the opportunity to approve the town portion of funding. The Southbury Land Trust's network of volunteers and advisors will participate in project monitoring programs. This project will also offer significant potential for community involvement in monitoring and habitat restoration projects. The project is consistent with the Central Naugatuck Valley Regional Plan of Conservation and Development, the Southbury Open Space Committee's *Strategies for Preservation of Open Space in Southbury*, Southbury's *Comprehensive Plan for Development (2002)*, and the *Conservation and Development Policies Plan for Connecticut (2005-2010)*. The project is not anticipated to cause adverse socioeconomic impacts.

### Applicant Implementation Capacity

The Southbury Land Trust, through its executive director, consultants and advisors, has experience with similar transactions including 15 conservation easements and 7 fee simple acquisitions.

### ***Summary of Findings***

Purchase of a 250-acre conservation easement will conserve and enhance the diverse upland habitat of the Mitchell Farm. It also has the potential to provide some limited recreational benefits. The CT SubCouncil acknowledges the desirability of preserving

the upland portion of the farm. However, upon visiting the site and reviewing the project costs, the SubCouncil concludes that the subject area is too far from the riparian habitat of the Housatonic River and its tributaries to provide cost-effective benefits to river-related natural resources. While conservation of the property would provide tremendous benefits to upland and grassland bird species and other wildlife, these species are not the natural resources that were most affected by the PCB contamination in the Housatonic River. Based on this assessment, the CT SubCouncil concludes that this project should not receive NRD funding.

#### **4.3.2. Recreational Uses of Natural Resources**

##### **4.3.2.1. P-28 Pickett District Park Pedestrian Link**

Town of New Milford  
Requested NRD Funds: \$95,950  
Other Contributions: \$26,190  
Proposed NRD Allocation: \$0

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

The applicant is proposing to build a steel truss pedestrian bridge to connect Lover’s Leap State Park with town-owned Pickett District Park (also known as “the Ball Field Park on Pickett District Road”). The bridge is also intended to provide a safe platform for fishing and an alternative to the railroad bridge as the means for pedestrians to cross the mouth of the Still River. Other proposed activities include trail construction, invasive species removal, and bird nesting box installation. Other than anchoring the bridge, no other activities are proposed on the Lover’s Leap State Park property. The timeframe for completing the project is one year.

##### ***Site Description***

Pickett District Park is a flat, 10-acre parcel bordered to the east by the Housatonic Valley Railroad and to the west by a cattle grazing area. The ball fields are surrounded by a chain link fence. The applicant suggests that users of the new bridge would park at Pickett District Park, walk around the fence, and enter the new trail at the south east corner of the park. The trail would extend a short distance through woods and cross the railroad tracks to the former railroad right-of-way that leads to the abutment for the proposed bridge to Lover’s Leap State Park. The bridge would cross the Still River at its confluence with the Housatonic River. The new bridge would be adjacent to the existing railroad bridge that pedestrians reportedly often traverse. The predominant invasive species observed was Asiatic bittersweet.

## ***Project Evaluation Summary***

### Relevance and Applicability

The proposed project is located on the Still River at the confluence with the Housatonic River in New Milford, Connecticut. Project activities will traverse land owned by the Town of New Milford, the Housatonic Valley Railroad, and the State of Connecticut.

The bridge would provide a platform for fishing as a safer alternative to pedestrians walking on an active railroad bridge, but the number of fishermen using the area is not expected to increase significantly. The project is expected to provide low restoration and ecological benefits in advance of the natural recovery period. Invasive species control is a minor component of the whole project. Because the site is already popular with fishermen and the project does not notably increase fishing opportunities, only a low to moderate increase in recreational benefits is expected.

### Technical Merit

Each of the tasks listed in the Project Scope and Implementation Plan are technically feasible, however the sponsor has not indicated how construction equipment will access the site and the time frame appears overly optimistic. Approximately 350 feet of trail would need to be constructed through mature trees and brushy growth. After crossing the railroad tracks, the trail would traverse a swale that is currently filled with debris (discarded railroad ties and trees). The trail, including crossing of the railroad tracks and swale, and access to the pedestrian bridge can be made compliant with ADA guidelines. However, it appears that this will require much more effort in time, design, and financial resources than proposed. The low likelihood of obtaining the necessary permits and easements limits the feasibility of this project. Visitors (generally anglers), currently access the railroad bridge from HarryBrooke Park, several hundred yards to the south or a one-mile drive from Pickett District Park.

Construction activities alongside a water body require that precautions be taken to protect the environment from erosion, construction debris, and accidental releases from equipment. The procedures for removing invasive plants were not specified. No adverse impacts on human health and safety are anticipated.

### Project Budget

Eighty percent of requested NRD funds are for construction of the bridge. Based on standard sources, these costs appear to be underestimated. Design and construction of a wheelchair accessible trail over 350 feet long, including crossing an active railroad and a swale, will likely cost much more than estimated in the proposed budget.

Prior to implementing any of the tasks identified, approval from CT DEP Parks Division (for portions of the project affecting Lover's Leap State Park), and an easement from the

Housatonic Valley Railroad are needed. The proposal gives no indication of the likelihood of achieving either of these conditions.

#### Socioeconomic Merit

Local naturalists have reportedly committed to monitor bird nests and invasive species. The project is consistent with New Milford's Plan of Conservation and Development. The project is not anticipated to cause adverse socioeconomic impacts.

#### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience implementing similar projects.

#### ***Summary of Findings***

The CT SubCouncil's consideration of this project relative to other Recreational Use projects was affected by two primary factors: the magnitude of the recreational and ecological benefits and the practicality of implementing the project. Although the quality of the recreational experience, as well as the safety of the participants, would be improved by providing alternative to access over the river, the SubCouncil projects the number of participants affected will be low. Additionally, the project would have low, if any, ecological benefit. More troubling, the project sponsors had not demonstrated concurrence of the Housatonic Railroad Company or the CT DEP Parks Division concerning elements of the projects affecting their respective interests, nor did they indicate the likelihood of securing such approval. For these reasons the CT SubCouncil concluded that this project should not receive NRD funding.

#### **4.3.2.2. P-52 Creating a "Restoration/Rehabilitation" Greenway on the Still River Corridor to the Housatonic River**

King's Mark Resource, Conservation, & Development Area, Inc.  
Requested NRD Funds: \$139,000 (revised)  
Other Contributions: \$46,000 (revised)  
Proposed NRD Allocation: \$0

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

The Still River Greenway concept is a 13-mile trail along the edge of the Still River, starting in East Danbury and continuing north to the confluence with the Housatonic River in New Milford. The Greenway is closely entwined, but should not be confused, with the Still River portion of the Housatonic Valley River Trail (P-40), which is a canoe trail. The proposed project regards only the downstream 4-mile section of the greenway, from the Brookfield/New Milford border to the Housatonic River. The project includes the construction of a footpath along the river, two environmental education/monitoring centers, one gravel parking lot, 300 linear feet of boardwalk, an equipment storage shed, environmental education signs along the trail, creation of an environmental education and

monitoring program, and development of an interactive website. The environmental education centers are areas along the river for wildlife observation blinds, nature observation stations, self-guided nature tours, and pollutant (PCBs and others) monitoring stations. The environmental education and monitoring program will offer competitive funding to an academic institution to implement a student environmental monitoring program that will develop a Quality Assurance Project Plan, collect samples, analyze data, and publicize the results. The timeframe for completing the project is three years.

### ***Site Description***

The proposed “Riverine Meadow Ecotone” environmental observation station will be located at the Brookfield/New Milford border. This area is accessed from Route 7 north of Gallow Hill Cemetery, via Aldrich Road, which is a grassy trail leading to a pedestrian bridge across the Still River. Deer and several bird species were observed during the TWG site visit. The river meanders 1 to 2 miles north through a broad floodplain forest of ferns, low brush and trees to the New Milford Animal Shelter on Erickson Road. The area from Aldrich Road to the animal shelter is relatively undeveloped; from the animal shelter to the Housatonic River, the Still River corridor is much more developed.

### ***Project Evaluation Summary***

#### Relevance and Applicability

The proposed project is located along the Still River in New Milford, Connecticut from the Brookfield border to the Lover’s Leap State Park. This lies within the Housatonic River watershed upstream of Derby Dam. This project would provide a moderate increase in passive recreational opportunities along the Still River. The educational aspects (e.g., observation blinds, signs, nature tour) of the project may provide a low level of ecological benefits by fostering appreciation of and respect for riverine and riparian habitats. However, the environmental monitoring program (e.g., monitoring contaminant levels) is outside the scope of appropriate NRD restoration projects. The project benefits would require seasonal maintenance of the trail and other constructed structures.

#### Technical Merit

Several aspects related to the project’s technical feasibility remain unclear. Based on Figure 1 of the SI proposal and discussions with the applicant during the TWG site visit, it appears that the focus of the project is from the Brookfield/New Milford border at Aldrich Road to the mouth of the Still River (Segment 4 in the Still River Greenway Feasibility Study). Yet the budget narrative includes costs for “Clearing of Greenway” in the Feasibility Study’s Segment 3. The length and location of trail, boardwalk, and stream crossings are not specified.

The SI proposes construction of an environmental monitoring station at Lover’s Leap. It is unclear if this is the proposed terminus of the trail, and if the State Park has agreed to

accept such a facility. The Trustee Work Group (TWG) noted that the DEP Bureau of Outdoor Recreation had a negative response on another proposal to construct facilities in that State Park because it conflicted with the way the park is to be managed. Minimal adverse environmental impacts to wetlands would occur. However, the proposal seems to anticipate some adverse wetland impacts, as it contains a request for \$35,000 for wetland impact mitigation, but it does not describe the nature of such anticipated impacts or the anticipated types of mitigation projects. The proposed location of the boardwalk is in an area that would be expected to remain flooded for 12 to 36 hours following a 2-inch rainstorm. Alerting visitors to the flood hazard would be necessary to minimize potential impacts to human health and safety.

Construction of the pedestrian trail is technically feasible. The trail would require seasonal maintenance. Accessibility for persons with disabilities was not addressed. The current pedestrian bridge crossing the Still River at Aldrich Road is not wheelchair accessible.

No plan for measuring the success of the project, in terms of the increase in recreational use and enjoyment of the project was provided.

#### Project Budget

The budget as included in the SI included cost elements that were not part of the project plan and others that were not fully developed. A revised budget submitted subsequent to the release of the draft Evaluation Report further confused the issue by failing to identify costs associated with elements of the project scope, or otherwise clarifying discrepancies in the original budget submission. The modified project budget summary table does not match the budget items in Table 3 of the Supplemental Information, nor does it match the “Cost estimates for Construction on Segment 4 of Greenway” in the Still River Greenway Feasibility Study. Adequate details (e.g., size of gravel parking area, size of observation platforms, size of storage shed, etc.) were not provided. Consequently, the CT SubCouncil could not determine whether the proposed costs were reasonable. The project includes matching contributions (\$0.33 matched per \$1.00 of NRD funds requested); however, these were presented as not committed.

#### Socioeconomic Merit

The applicant appears to have secured the cooperation of the Weantinogue Heritage Land Trust and has engaged in discussions with the Candlewood Valley Country Club and HarryBrooke Park. If the trail extends through the golf course, the potential exists for adverse encounters between hikers and golfers or course staff, which could create an adverse socioeconomic impact, unless the sheltered walkway described in the Still River Greenway Feasibility Study (but not a part of the proposal) is constructed. The project involves several passive environmental education opportunities likely to instill a sense of

respect and stewardship in the natural resources of the Still River and the Housatonic River watershed.

#### Applicant Implementation Capacity

The project team appears to be qualified and has necessary technical and administrative experience implementing similar projects. The project involves commitments from the Towns of Brookfield and New Milford for maintaining the Greenway once completed. Permissions or easements from landowners remain to be obtained.

#### *Summary of Findings*

The project appears to offer the potential to enhance recreational uses of natural resources along the Still River, but the confused budget makes an assessment of the costs for recreational enhancement difficult to determine. Further, it was not possible to determine the costs of items deemed valuable by the CT SubCouncil vs. components of the plan that the CT SubCouncil found unacceptable. One example of this is the environmental monitoring program, which is beyond the scope of NRD funding. Based on this assessment, the CT SubCouncil concludes that NRD funds should not be allocated for this project.

#### **4.3.2.3. P-86 Hunter Haven Waterfront Reclamation Project**

Town of Stratford  
Requested NRD Funds: \$774,746  
Other Contributions: \$787,391  
Proposed NRD Allocation: \$0

#### *Project Description*

This project is to construct a 500-foot greenway along the lower portion of the Housatonic River in Stratford, Connecticut. The greenway will contain a north-south trail that will exhibit the scenic views of the Housatonic River, a wetland overlook, gazebo, and seating area. Forty-five parking spaces will be created to increase the park's accessibility. The trail would connect with a path to be developed along the dike that extends south and east of the project site. Before the construction of the greenway, the town will attempt to restore two onsite wetlands and the surrounding landscape under a separate grant. The timeframe for completing this project is two years.

#### *Site Description*

The Hunter Haven property is town-owned land with over 500 feet of waterfront on the western shore of the Housatonic River. The 10-acre property is adjacent to several town-owned facilities including baseball fields, a wastewater treatment plant, and the former Stratford Army Engine plant bordering the site to the south. Since the property contains sensitive marsh land along the river's edge, use of the property is limited. Wetlands are located west of the proposed greenway, and north and south of the baseball fields. Flow

through a culvert to the northern wetland, west of the wastewater treatment plant, is controlled by a recently installed self-regulating tide gate. Until recently, the City of Stratford Department of Public Works has used two acres of this land to store yard waste that is converted to mulch while one-half acre has been used to store large, bulky yard wastes like tree stumps and branches. The perimeter of the property is fenced and overgrown with invasive vegetation. Due to these features, Hunter Haven has been inaccessible to the public for over two decades. At the time of the TWG site visit (May 2008), the site was cleared of branches, trees, and yard wastes, but was being used as a staging area during construction of upgrades to the wastewater treatment plant.

### ***Project Evaluation Summary***

#### Relevance and Applicability

Hunter Haven is located along the Housatonic River in Stratford, Connecticut, downstream of the Derby Dam. The completion of the entire Hunter Haven project would be delayed 7.5 years if NRD funds are not applied to this project. This project would provide passive recreation opportunities in an urban area where those opportunities are currently limited. Changing the use of the area from public works storage to an urban pedestrian park would provide a low level of ecological benefits. The project would require a notable amount of maintenance which is usually required of urban park facilities.

#### Technical Merit

All proposed construction is technically feasible. Standard construction techniques should provide stability for pedestrian and bicycle paths. Activity adjacent to wetlands and coastal marshes (e.g., application of fertilizers and weed control chemicals in lawn areas) has the potential to adversely affect the environment. However, significant adverse impacts to human health and the environment are not anticipated. To monitor the success of the project, the Town Planner will assess overall use of the site and survey users on their experience.

#### Project Budget

The budget is broken down into general tasks, but detailed descriptions of cost elements are not provided. The costs for construction are based on estimates received in 2004 adjusted for inflation at 10% per year through 2009. A 10.6% contingency is included.

The composition of the proposed greenway was not clearly described and thus it was not feasible to evaluate costs. Length, width, materials to be used, and other details are lacking. Based on the information provided, the proposed budget appears to be very high for this type of project. In addition, the creation of 45 additional parking spaces does not seem necessary considering the two large existing parking lots at either end of the Hunter Haven Park (i.e., at the Deluca Ballfield and Birds Eye Boat Launch).

As presented in the proposal, the ratio of total leveraged funds to NRD funds requested is 1.02. However, if the \$400,000 in costs for tasks unrelated to the greenway (wetlands restoration, tidal flushing), both of which are required by or related to the on-going construction at the wastewater treatment plant, are removed from the equation, the ratio is 0.50.

#### Socioeconomic Merit

Significant community involvement was used in development of the greenway plan. Public workshops and online surveys were utilized in shaping the direction of the project. The project is not anticipated to cause adverse socioeconomic impacts but should provide substantial benefits.

#### Applicant Implementation Capacity

The project team appears to have the necessary skills and experience to implement the project. The team includes the Town Planner, Engineer, and Conservation Administrator. In addition, the Town possesses administrative and computer support for this project. Most of the matching funds have been committed.

#### ***Summary of Findings***

The proposed greenway offers a high potential to provide long term passive recreational opportunities in urban area. Construction of a path to ADA guidelines is an important feature of the project. However, the project costs appear to be very high and not justified. Parking lots, sidewalks, furniture, and a paved seating area are least relevant to passive enjoyment of the Housatonic River's natural resources. The project focus extends beyond the natural resources of the Housatonic River (e.g., no access to the shoreline or intertidal area is provided), and as such, does not provide sufficient compensatory restoration to warrant the requested budget. Based on this assessment, the CT SubCouncil concludes that this project does not warrant NRD funding.

## 5. POTENTIAL IMPACTS OF ALTERNATIVES

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Both NEPA and CEPA require that the Trustees evaluate the potential impacts of their proposed actions. This includes evaluation of what would happen if they did nothing. This situation is called the “No Action Alternative” and is intended to provide a gauge of whether the “Preferred Alternative” is better for the natural and human environment than leaving things as they are. This section of the Restoration Plan sets out the potential impacts of both the Preferred Alternative and the No Action Alternative so that they may be considered and compared.

The results of the evaluation of the potential impacts of the alternatives are presented in three major categories: Environmental, Socioeconomic, and Cumulative impacts. Under Environmental and Socio-Economic there are several subcategories addressing specific topical areas. Within each topical area, potential impacts are described for the No Action Alternative and the three restoration categories that comprise the Preferred Alternative: Aquatic Natural Resources; Riparian and Floodplain Natural Resources; and Recreational Uses of Natural Resources.

Of the eight projects to restore Aquatic Natural Resources, four involve improvements or enhancements to existing ecosystems in areas that have been impacted by human activity but that have been maintained in a somewhat natural condition (P-05, P-06b, P-21 and P-24). Three projects (P-08, P-22, and P-56) seek to restore fish passage at locations where previous human infrastructure has altered the natural environment. The remaining project (P-09) will provide protection of the existing fishery resource in the Housatonic River through patrol and law enforcement.

All seven of the projects to restore Riparian and Floodplain Natural Resources are focused on restoring habitat conditions to support riparian communities. Five projects (P-16, P-30, P-33, P-38 and P-44) emphasize restoration of wetland and riparian vegetative communities, thereby directly improving wildlife habitat. Three projects (P-44, P-57 and P-65) emphasize acquisition of conservation easements or permanent open space to prevent future development and associated impacts to the riparian community.

Of the twelve projects to restore Recreational Uses of Natural Resources, five (P-07, P-13, P-40, P-54, and P-91) involve construction of boat ramps or launch areas. Seven projects (P-4, P-12, P-31, P-54, P-70, P-76, and P-91) involve creation of passive recreational facilities in preserved open-spaces, with public access being a primary component. Two projects (P-18 and P-37) enable public access, with no construction of recreational amenities.

## **5.1. Environmental**

### **5.1.1. Consistency with Land Use Policies**

Local and statewide land use policies were described in Section 3 of this document. Each of these has been considered in relation to the No Action and Preferred Alternatives. The majority of project sites are located within areas designated in the Conservation and Development Policies Plan for Connecticut (2005-2010) (“State Plan”) as Conservation Areas, Preservation Areas, or Preserved Open Space. The goals and policies within these land designations are described in detail in Section 3.

#### ***No Action Alternative***

The sites on which the projects that comprise the Preferred Alternative would occur are located within waterways, are undeveloped, or are existing recreational areas. Preservation of these areas in their current form is consistent with the growth management principles outlined in the State Plan with regard to Conservation, Preservation, and Preserved Open Space area designations. However, if no action were taken, the ecological improvements associated with the aquatic resource restoration projects would not occur. The riparian enhancements associated with P-16, P-30, P-33, P-38, and P-44 would not occur, nor would the land protection afforded by P-37, P-57 and P-65 be put in place. Similarly, recreational amenities and public access afforded by projects that restore recreational uses of natural resources would not ensue. Therefore, it is possible that subsequent changes in land use under the No Action Alternative would run counter to the principles of conservation and preservation of open space.

#### ***Preferred Alternative***

##### ***Aquatic Natural Resources Projects***

All (eight) of the projects to restore aquatic natural resources occur along or in the Housatonic River or its tributaries. Four of the projects are located within areas designated in the State Plan as Conservation Areas (P-09, P-22, and portions of P-08 and P-24). State policy relative to Conservation Areas seeks to plan and manage these lands and water resources for the long-term public benefit with regard to environmental quality. All of these projects are consistent with state policy relative to this land use designation.

All or a portion of three projects (P-05, P-06, and P-24) are located in state designated Preservation Areas. State policy seeks to protect these significant resource, heritage, recreation, and hazard-prone areas by avoiding structural development, except as directly consistent with the preservation value. These projects are consistent with State policy for Preservation Areas.

A portion of one project, P-08, is in an Existing Preserved Open Space Area. This project includes the development of a structure (a fishway). A fishway is consistent with the area’s preservation value.

Project P-21 (repair and stabilization of eroding river bank) is located in a Preserved Open Space Area. This project is consistent with state policy relative to this land use designation.

Project P-56 (repair of a fishway) is located in a Rural Community Center. Although Rural Community Center designations provide for a broader array of structural developments, the repairs to an existing fishway proposed in P-56 are consistent with both the Rural Community Center standards and the more stringent standards for Preservation Areas.

Growth Management Principle #4 of the State Plan strives to conserve and restore the natural environment, cultural and historical resources, and traditional rural lands. The plan promotes policies that protect and preserve these natural environments, including river corridors and their aquatic habitats. All of the projects to restore aquatic natural resources are consistent with the State Plan relative to the protection and maintenance of natural habitats.

Local plans of conservation and development are a guide for land use, development, and conservation measures within a town or city. Aquatic resources are an important component of most towns' composition and are generally a priority with regard to resource integration and protection. All of the projects to restore aquatic natural resources will enhance the natural resources within the towns in which they are located and are consistent with the respective local plan of conservation and development.

#### *Riparian and Floodplain Natural Resources Projects*

Four of the seven projects to restore riparian and floodplain natural resources are located within Conservation Areas (P-30, P-44, P-57, and a portion of P-65), with the remaining three projects located in Preservation Areas (P-33) and Preserved Open Space Areas (P-16 and P-38). Additionally, a portion of P-65 is located within the Rural Lands designation.

The State Plan discourages intensive development in the floodplain, while encouraging the protection, restoration and/or enhancement of riparian area resources and waterbodies critical to long-term watershed health and the acquisition of open space lands for natural resource protection. State policy relative to Preserved Open Space Areas is to support the permanent protection of public and quasi-public land dedicated for open space.

All (seven) of the projects to restore riparian and floodplain natural resources are consistent with the State Plan relative to protection and enhancement of riparian corridors. None of the projects will result in incompatible land uses or activities in these environments.

Similar to aquatic resources, riparian corridors and floodplain areas are important components and therefore a priority with regard to resource integration and protection in

local plans of conservation and development. All of the projects to restore riparian and floodplain natural resources will enhance riparian and/or floodplain areas within the towns in which they are located and are consistent with the respective local plans of conservation and development.

#### *Recreational Uses of Natural Resources Projects*

Nine of the twelve projects to restore recreational uses of natural resources are located in lands designated for conservation and preservation. Most are located partially or entirely in Conservation Areas (P-04 and portions of P-13, P-54, P-70, and P-76); Existing Preserved Open Space Lands (P-7, P-18, and P-91); and Preservation Areas (P-40 and a portion of P-54). Two projects are located in Rural Lands (P-31 and P-70). The recreation and conservation easements associated with P-37 are non-location specific and likely span numerous land use categories.

The State Plan promotes achievement of an ecological balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities. The recreational use projects can be separated into three categories: those that preserve lands for recreational uses (P-37), those that will provide public access to natural resources (P-04, P-12 and P-70), and those that will provide a recreational amenity to the public (P-7, P-13, P-18, P-31, P-40, P-54, P-76, and P-91). All are consistent with the State Plan relative to conservation and preservation of open spaces and use for recreation.

Consistency of the projects to restore recreational uses of natural resources relative to local plans of conservation and development was also considered as follows:

- Six projects (P-04, P-07, P-18, P-31, P-70, and P-76) are being proposed by the municipality and directly reflect local planning and conservation strategies.
- Municipalities have pledged their support in writing for two projects where the proponent is someone other than the municipality (P-40 and P-91).
- One project (P-37) proposes to place conservation or recreation easements on land adjacent to streams within the Housatonic River basin, which is consistent with all of the municipal plans of conservation and development within the region.
- One project (P-13) is proposed on tribal lands and is not subject to local land use planning.
- The remaining two projects (P-12 and P-54) propose public access and recreational amenities. These projects are consistent with the plans of conservation and development in the Towns of Sherman and Cornwall, respectively.

#### **5.1.2. Surface Water Resources**

The CT SubCouncil evaluated the potential effects of the alternatives on surface water resources (e.g., water quality, water quantity, stormwater management, and erosion).

### ***No Action Alternative***

Under the No Action Alternative, no impacts will occur to surface water resources.

### ***Preferred Alternative***

Most of the projects take place in or directly adjacent to rivers, streams, and lakes. Water resource impacts can be positive or negative, direct (as in the case of in-stream structures) or indirect (as in the case of stormwater runoff generated from a parking lot). Projects that have received local approval and that disturb less than five acres are not subject to state stormwater permitting requirements. For projects that are not subject to local zoning authority, disturbance of more than 1 acre triggers state stormwater permitting requirements. Any project that disturbs more than 5 acres is subject to state permitting requirements whether or not it is also subject to local zoning or permitting requirements. Stormwater best management practices will be utilized for new construction. None of the projects will place a significant increased burden on the local stormwater collection systems, as the increased impervious areas are minimal.

#### ***Aquatic Natural Resources Projects***

All of the projects to restore aquatic natural resources seek to improve aquatic habitat. As such, these projects will have a long-term positive effect on the water resources in which they will take place. The potential for short-term construction related impacts is minimal for the projects where manual construction methods are proposed or where minimal to no disturbance of the water resource will occur (P-05, P-06b, P-09, P-22, and P-56). Water resource protection measures will be established for the remaining projects (P-08 and P-24) through the use of sediment and erosion controls and best management practices related to construction methods. Given the nature of the improvements and the environments in which they will occur, construction related impacts to water resources will be minimal.

#### ***Riparian and Floodplain Natural Resources Projects***

The projects to restore riparian and floodplain natural resources are either non-intrusive (P-57 and P-65) or restore habitat (P-16, P-30, P-33, P-38, and P-44). No negative impacts on water resources are anticipated.

#### ***Recreational Uses of Natural Resources Projects***

The projects to restore recreational uses of natural resources will complement the aquatic resources on or near the project sites. Opportunities for improved stormwater management exist at several of these project sites (P-31, P-40, P-54, and P-91). As with any construction project, water resource protection measures will be established through the use of sediment and erosion controls and best management practices related to construction methods. These will be incorporated into the project designs and will be regulated through the local planning and zoning permitting processes.

### **5.1.3. Groundwater Resources**

The CT SubCouncil evaluated the potential effects of the alternatives on groundwater resources with special focus on Aquifer Protection Areas as they relate to public drinking water supplies.

#### ***No Action Alternative***

Under the No Action Alternative, no impacts will occur to groundwater resources used as drinking water supplies. However, under the No Action Alternative, the protections proposed under project P-44 may not be realized, thus leaving open the possibility of a change of use that could impact ground water quality in the aquifer.

#### ***Preferred Alternative***

As noted in Section 3.14 Aquifer Protection Areas, three proposed project sites are located within such areas: (P-21) Ballentine Park River Bank Enhancement, Southbury; (P-30) Young's Field Park Riverwalk & Greenway, New Milford; and (P-44) Indian Fields Wildlife Preserve, New Milford. None of these projects involves site disturbance or changes in site use that would represent a threat to groundwater quality or flow. Project P-44, Indian Fields Wildlife Preserve, proposes to change the property ownership to a public trust that will ensure its preservation in a natural state, thus removing any threat of a use inconsistent with protection of the groundwater resource.

### **5.1.4. Flood Hazards**

State policy regarding floodplain development is articulated in Section 25-68(b)(4) of the CGS, requiring that a proposed action promote long-term non-intensive floodplain uses and to discourage floodplain development.

In order for the CT DEP Inland Water Resources Division to certify a proposed action, the agency must determine the action to be a non-intensive use of the floodplain. The determination of whether a specific project is considered non-intensive requires examination of numerous factors, including the existing state of the floodplain and its natural resources, the types of uses proposed for the floodplain area, the design of the entire project, the extent of encroachment into the floodplain, and the availability of alternatives to project siting within the floodplain. In order to ensure compliance with state policy, proposed development must not result in more intensive uses of the floodplain than presently exist.

Intensive floodplain uses have been interpreted by the CT DEP to include:

- new residential uses within the floodplain;
- any increase in the square footage of office, retail, industrial, or business uses; and
- conversion of non-residential use(s) to residential use.

Uses that are classified as intensive would preclude use of state funding unless an exemption was granted.

Local, state and federal policies mandate that no activity can occur within the *floodway* that will result in an increase in the water surface elevation for the 10- or 100-year flood event. A regulatory floodway is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the 100-year flood without increasing the water surface elevation.

Placement of structures of any kind in a floodplain raises concerns for the long-term sustainability of such structure and highlights the need for appropriate design standards. Additionally, placement of structures or fill in a floodplain has the potential to increase water surface elevations under high flow conditions and create or exacerbate flooding problems. This is evaluated in the ensuing narrative for each of the restoration categories.

#### ***No Action Alternative***

The No Action Alternative will have no impact on flooding as compared to existing conditions.

#### ***Preferred Alternative***

##### ***Aquatic Natural Resources Projects***

All of the projects to restore aquatic natural resources are located within a FEMA designated flood zone, as they are all in-stream restoration projects. None of these projects will place significant fill or structures in the floodplain or floodway and no detrimental impacts on flooding are anticipated. Removal of the lower dam on the Blackberry River (P-08) will not increase flooding, as this dam is a run-of-the-river structure that currently provides no flood protection. Any project that disturbs greater than 5,000 square feet of watercourse will require a Section 401 water quality certificate through the CT DEP as well as a Section 404 permit from the ACOE. Floodplain impacts are one of many aspects that are evaluated through those permitting processes.

##### ***Riparian and Floodplain Natural Resources Projects***

All of the projects to restore riparian and floodplain natural resources are located within a FEMA designated flood zone.

Five of these projects (P-16, P-33, P-38, P-57 and P-65) will not place significant fill or structures in the floodplain or floodway and no detrimental impacts on flooding are anticipated. Other than at-grade trails and access areas, no public infrastructure will be placed in the floodplain. The improvements at the Audubon Carse Brook Wetland Restoration project (P-38), the installation and maintenance of pond levelers, will alleviate existing flooding caused by beaver activity. This will result in a positive impact to an adjacent roadway, which under existing conditions floods on a periodic basis.

Two projects (P-30 and P-44) propose to construct viewing or fishing platforms. Through the design and permitting processes, these structures will either be placed outside of the floodplain portion of the site, or they will require hydraulic analysis to demonstrate that there will be no detrimental impacts on flooding. These projects will require review by local planning, zoning, inland wetland commissions, wherein review for conformance with specific FEMA requirements will occur.

#### *Recreational Uses of Natural Resources Projects*

Four of the projects to restore recreational uses of natural resources (P-07, P-13, P-54, and P-91) propose to construct boat ramps or launch areas adjacent to waterways. These types of recreational amenities are commonly constructed in floodplains and are subjected to high velocity flow events on a periodic basis. They are a non-intensive feature in a floodplain environment. Unless significant structural elements are proposed, such as concrete walls or platforms, interference with flood flows is not anticipated. None of the above indicated projects includes fill or structural elements that are anticipated to impact flooding or cause a flooding hazard. All of these projects will require review by the local planning and zoning commissions and inland wetlands commissions, wherein review for conformance with specific FEMA requirements will occur.

Seven of the projects (P-12, P-31, P-40, P-54, P-70, P-76 and P-91) propose creation of passive recreational facilities on preserved open-space lands, with public access being a primary component. Proposed nature trails, boardwalks, picnic areas, camp sites, roadways, and parking areas are anticipated to be constructed at grade, with minor grading anticipated. None of the proposals indicate the need for significant fill or elevated structures within the floodplain.

Four projects (P-07, P-12, P-54 and P-91) propose viewing or fishing platforms. Through the design and permitting processes, these structures will either be placed outside of the floodplain portion of the site or they will require hydraulic analysis to demonstrate that there will be no detrimental impacts on flooding. No structures are allowed in a FEMA designated floodway. All of these projects will require review by local planning, zoning and inland wetlands commissions, wherein review for conformance with specific FEMA requirements will occur.

Two projects (P-18 and P-37) propose public access with no structural amenities. Since no major physical changes will take place, no impacts to flooding or flood hazards are anticipated.

#### **5.1.5. Biological Resources**

Biological resources include fisheries, wildlife and plants, including federally listed endangered or threatened species and species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or of special concern (“listed species”).

Potential impacts to inland wetlands are only discussed here in brief, as these impacts will be thoroughly evaluated as part of each project's environmental regulatory permitting process (see Section 6).

### ***No Action Alternative***

The No Action Alternative will have no impact on biological resources as compared to existing conditions unless the land proposed for conservation under the Preferred Alternative is developed and the natural habitat is destroyed or degraded. The Preferred Alternative targets the acquisition in fee simple of approximately 69 acres and the acquisition of conservation easements on approximately 231 acres of habitat. Without NRD funding to protect these areas, approximately 300 acres of habitat could be open to development.

### ***Preferred Alternative***

The Natural Diversity Data Base (NDDDB), maintained by the CT DEP, contains records of extant populations of listed species. The Trustees evaluated published mapping for each of the project sites to determine if it lies within or adjacent to a NDDDB polygon and consulted the CT DEP Wildlife and Inland Fisheries divisions as appropriate. The NDDDB evaluation results presented in this Restoration Plan are based on historical data available at the time of the review. Site specific surveys may be required to complete environmental assessments or as procedural requirements associated with permit applications. For all projects where the potential for impact to listed species, or their critical habitat is identified, the funding agreement for that project will require the sponsor consult with CT DEP staff, conduct any surveys or assessments recommended, and make any changes to the project design or scope required to avoid or minimize any adverse impact on such species or habitat.

Because the FWS treats candidate species as if they are proposed for listing, actions that the FWS funds must ensure that the continued existence of candidate species is not jeopardized (73 FR 75175-75244). New England cottontails are known to occur at many locations throughout the Housatonic watershed. The cottontail's habitat includes native and nonnative shrublands and early-successional forests that are typically described as thickets. Projects receiving NRD funds and occurring in potential cottontail habitat must be coordinated with the FWS to ensure that impacts to cottontails and their habitats are addressed.

### ***Aquatic Natural Resources Projects***

All of the projects under this restoration category are intended to benefit aquatic natural resources in the long term. In addition to the project-specific issues described below, short-term impacts to biological resources, if any, will be addressed in the design plans and specifications to avoid or minimize such impacts.

*P-05 – Restoration of Coarse Woody Debris* – According to a NDDDB screening, no extant populations of listed species have been recorded at the project site. The project will restore important underwater and near-shore habitat that will benefit aquatic organisms in the area. No impacts on riparian vegetation or wetlands are anticipated.

*P-06b – Jack’s Brook* - According to the NDDDB consultation, there is a State endangered plant species at the project site. Before construction can commence, these plants must be identified and tagged so that impacts can be avoided. The project is designed to enhance fish habitat. The restoration will add habitat features that will complement the existing environment. Minimal impacts to vegetation, inland wetlands, and wildlife are expected.

*P-08 – Blackberry River Fish Passage* – According to the NDDDB consultation, the Blackberry River in the vicinity of the project contains the State endangered burbot (*Lota lota*). The project is specifically designed to expand available habitat for burbot by providing fish passage across two dams. In-stream construction may be seasonally restricted in order to avoid/minimize temporary adverse impacts to this rare fish species. The NDDDB contains records of the golden-winged warbler (*Vermivora chrysoptera*) a State species of special concern in the vicinity of this proposed project site. In Connecticut, the golden-winged warbler breeds from May through July in old-field habitat of 10 or more acres. During the breeding season, the species is most susceptible to disturbances in its feeding and nesting habitat. However, the proposed project site does not include and is not adjacent to areas of old-field habitat. Therefore, no impacts to the warbler should occur.

*P-09 - Law Enforcement at Bulls Bridge* – According to the NDDDB consultation, no extant populations of listed species have been recorded at the site. The project will reduce the illegal harvest of trout and other fish species. No impacts to wildlife or plants are anticipated.

*P-21 – Ballentine Park Erosion* – According to NDDDB maps, no extant populations of listed species have been recorded at the site. Ameliorating the source of excessive river sedimentation will benefit fisheries by helping to decrease the embeddedness of the stream bottom, improving the benthic habitat for aquatic invertebrates, and thereby increasing the population of aquatic invertebrates that could sustain a larger fish population. The project may require the removal of some mature riparian trees in order to regrade the slope of the eroding bank. The project will not impact wildlife using the area.

*P-22 - Transylvania Brook Culvert* – According to the NDDDB consultation, no extant populations of listed species have been recorded at the site. The project will enhance the local aquatic ecosystem by facilitating fish passage through the culvert and increasing brook connectivity. Using the retrofit design will minimize disturbances to wildlife and plants.

*P-24 – Salmon Kill Restoration* – According to the NDDDB consultation, extant populations of a State endangered species, State threatened American kestrel (*Falco sparverius*), State species of special concern savannah sparrow (*Passereulus sandwichensis*) and Jefferson salamander “complex” (*Ambystoma jeffersonianum*) have been recorded in the project area. The CT DEP Wildlife Division recommends that a biologist familiar with the habitat requirements of state endangered species conduct a survey in the project area. Based on the results of this survey, the Wildlife Division will determine whether specific precautions should be made to protect this species. If the project will affect woodland edges, parks, or open field habitat that contain trees with abandoned woodpecker or flicker holes, a survey for nesting kestrels should be undertaken. If present, a buffer area around the nest site should be established between February and July to avoid impacts during construction. For the savannah sparrow, minimizing impacts to open fields, meadows, marshes, and other grassy areas during the breeding season (May through August) will minimize impact to this species. If the project will affect any wooded areas with rotten logs and duff layers, breeding pools or ponds, surveys for the salamander should be done during the breeding season (February to April).

*P-56 – Furnace Brook Fishway Repair* – According to the NDDDB consultation, no extant populations of listed species have been recorded at the site. The project will not adversely affect fisheries, wildlife, or plants in the project area.

#### *Riparian and Floodplain Natural Resources Projects*

All of the projects under this restoration category benefit riparian and floodplain natural resources in the long term. No notable long-term adverse impacts to biological resources are expected. In addition to the project-specific issues described below, short-term impacts to biological resources, if any, will be addressed in the design plans and specifications to avoid or minimize such impacts.

*P-16 – Schaghticoke Bird Habitat* – According to the NDDDB consultation, extant populations of a State endangered species, State species of special concern Jefferson salamander “complex” (*Ambystoma jeffersonianum*) and State species special concern common raven (*Corvus corax*) have been recorded in the project area. The CT DEP Wildlife Division recommends that a biologist familiar with the habitat requirements of state endangered species conduct a survey in the project area. Based on the results of this survey, the Wildlife Division will determine whether specific precautions should be taken to protect this species. If the project will affect any wooded areas with rotten logs and duff layers, breeding pools or ponds, surveys for the salamander should be done during the breeding season (February to April). The project is not likely to adversely affect the raven. The project will enhance terrestrial wildlife habitat by facilitating the revegetation of denuded areas. The project will not adversely affect fisheries or other aquatic natural resources.

*P-30 – Young’s Field* – According to the NDDDB consultation, no extant populations of listed species have been recorded at the project site. An objective of the project is to

protect riparian vegetation from trampling by providing a fishing platform. A small amount of riparian habitat and near shore riverine habitat will be altered during installation of the floating dock. Construction of the inter-park trail could include impacts to wetlands and riparian habitat (particularly the large trees) depending on the trail design. The project will improve riparian habitat by replacing asphalt with native vegetation. This will also benefit the local aquatic community by improving water quality, particularly during storm events.

*P-33 – Common Reed Control* – According to the NDDDB consultation, several listed species of plants have been recorded in the vicinity of the project. These plants will need to be identified in the field before work begins in order to avoid adversely affecting these plants. There are also extant populations of two bird species that are State species of special concern (salt-marsh sharp-tailed sparrow, *Ammodramus caudacutus*, and seaside sparrow, *Ammodramus maritimus*). Site-specific field surveys for the presence of these birds may be necessary. If these species are present, activities to control common reed will likely need to be restricted to implementation outside of the breeding season, which occurs approximately May through August. The project will involve the use of herbicides to control invasive, non-native vegetation that currently degrades the habitat quality of the wetlands for fish and wildlife. The application of these treatments will be conducted in a manner that will avoid or minimize impacts to the biologic community.

*P-38 – Audubon Carse Brook Wetlands* – According to the NDDDB consultation, extant populations of a State threatened plant, two State endangered birds (American bittern, *Botaurus lentiginosus*, and pied-billed grebe, *Podilymbus podiceps*), one State threatened bird (least bittern, *Ixobrychus exilis*), and three State species of special concern (saw-whet owl, *Aegolius acadicus*, common raven, *Corvus corax*, and Jefferson salamander "complex", *Ambystoma jeffersonianum*) have been recorded in the project area. The bitterns and grebe nest in the wetlands in the vicinity of the project. The CT DEP Wildlife Division recommends avoiding construction activities in wetlands during the breeding season (approximately May through August) to minimize adverse effects to the breeding birds. In addition, the Wildlife Division recommends excluding construction equipment from areas of undisturbed second growth deciduous forests, hemlock groves, and grassy pasture ponds which are the preferred habitat of the salamander. The project site may require a survey to identify the locations of the rare plants so that these can be avoided during project construction. The project will involve the use of herbicides to control invasive, non-native vegetation that currently degrades the habitat quality of the wetlands. These treatments will be conducted in a manner that will avoid or minimize impacts to the biologic community.

*P-44 – Indian Fields* – According to a NDDDB consultation, no extant populations of listed species have been recorded at the project site. The project will preserve riparian and wetland areas as habitat for a wide variety of wildlife. The project will also restore native vegetation at the site. The project would not have any adverse impacts on fisheries

in the Housatonic River. However, the proposed 8-foot tall chain-link perimeter fence intended to eliminate illegal ATV use of the site may impede the movement of wildlife such as deer, skunks, and turtles attempting to reach water sources and seeking refuge on the subject parcel, and may also create an obstacle to wildlife using the riparian zone along the Housatonic River as a movement corridor. As noted in Section 4, the funding for this project will prohibit use of NRD funds for any barrier that would impede movement of wildlife.

*P-57 - Frost and CL&P Properties* – According to a NDDB consultation, no extant populations of listed species have been recorded at the project site. The project will preserve land as open space, preventing the loss of these areas as habitat for a wide variety of wildlife. These include inland wetlands and their associated upland areas that provide habitat for amphibians. The project would not have adverse impacts on fisheries in the Housatonic River.

*P-65 – Salmon Creek Land Protection* – According to a NDDB consultation, no extant populations of listed species have been recorded at the project site. The project will preserve natural floodplain and riparian areas as open space, preventing the loss of these areas as habitat for a wide variety of wildlife. The project would not have adverse impacts on fisheries in the Housatonic River. The project, primarily land acquisition, is not anticipated to adversely affect the native vegetative communities in the project areas.

#### *Recreational Uses of Natural Resources Projects*

No notable long-term adverse impacts to biological resources are expected. In addition to the project-specific issues described below, short-term impacts to biological resources, if any, will be addressed in the design plans and specifications to avoid or minimize such impacts.

*P-4 – Ball Pond and Short Woods* – According to a NDDB consultation, no extant populations of listed species have been recorded at the project site. The CT SubCouncil is not offering funding to support the proposed dredging of the small pond partly due to the potential adverse effects on the biological resources of the pond. The CT SubCouncil considered the proposed extent of the walking paths and boardwalks along the streams, ponds, and wetlands, and concluded that the associated human disturbance may adversely affect wildlife using those areas. This is a particular concern regarding nesting birds (e.g., the great blue heron rookery at Dunham Pond). Consequently, the CT SubCouncil proposes to limit funding commensurate with a reduced scope for the walking paths that will minimize adverse effects on wildlife. The project will enhance native vegetation communities by controlling non-native invasive species.

*P-07 – Boat Launch at North Kent Road* - The NDDB consultation indicated that a State species of special concern, northern parula (*Parula americana*), has been recorded in the vicinity of the site. However, the CT DEP Wildlife Division preliminarily determined

that it is unlikely the boat launch will negatively impact this rare bird. The project is not expected to adversely impact native vegetation, fisheries or wildlife in the vicinity of the project.

*P-12 – Wimisink Preserve* – According to the NDDDB consultation, extant populations of two butterfly species, the State threatened sedge skipper (*Euphyes dion*) and the State species of special concern eyed brown (*Satyrodes eurydice*) have been recorded at the site. Therefore, construction in sedge meadows and marshes must be avoided. There are also records of New England cottontail (*Sylvilagus transitionalis*) from this area of Sherman. The New England cottontail is a candidate species for federal listing under the Federal Endangered Species Act, but currently it has no federal or state protected status. Nevertheless, preserving the habitats of these rabbits, such as brushy second-growth tangles, briars, and dense thickets often near wet areas, is encouraged. The project will not affect fisheries nor adversely affect wildlife. Some vegetation will be removed in order to install the parking area, walkway, and observation platform.

*P-13 – Schaghticoke Boat Ramp* – The NDDDB indicates two State species of special concern (Jefferson salamander "complex" (*Ambystoma jeffersonianum*) and common raven (*Corvus corax*)) have been recorded in the vicinity of the project. The CT DEP Wildlife Division determined that this project should not impact the common raven but recommended that a habitat survey be conducted by a herpetologist familiar with the habitat requirements of the salamander. After the Wildlife Division evaluates the results of the survey, recommendations for additional protective measures, if any, will be made. The project is not anticipated to adversely affect fisheries or wildlife. A minimal amount of understory vegetation will be removed in order to install the ramp. Depending on the site chosen for construction, avoiding or minimizing impacts to inland wetlands will be necessary.

*P-18 – Campville Fish Access* – According to a NDDDB screening, no extant populations of listed species have been recorded at the project site. As the project only involves land acquisition (fee simple acquisition or recreational easements) on parcels along the Naugatuck River, no direct impacts to fisheries, wildlife or vegetative communities are expected.

*P-31 – Sega Meadows* – According to a NDDDB screening, no extant populations of listed species have been recorded at the project site. The project will not impact fisheries or wildlife. Impacts to native vegetation will be minimal – e.g., trails will be located in old logging roads.

*P-37 – Conservation and Recreation Easements* – As the specific locations for the easements could be anywhere within the Connecticut portion of the Housatonic River basin, a review for the potential presence of listed species was not feasible. Although the specific parcels are not yet known, it is anticipated that this project will not adversely

impact fisheries, wildlife or vegetation, since the project involves only the acquisition of conservation or recreation easements.

*P-40 – Housatonic Valley River Trail* – According to the NDDDB consultation, several listed species of plants have been recorded on or in the vicinity of this proposed project. Before construction, the locations of these plants within the areas to be disturbed must be identified in order to avoid impacting these resources. There are also extant populations of a State threatened bird, purple martin (*Progne subis*), in this area of New Milford. However, the CT DEP Wildlife Division has determined that it is unlikely that this project will adversely affect the purple martin. The project will require that a small amount of riparian vegetation is removed in order to construct the river access points. No impacts to wildlife are anticipated. Removal of navigational hazards (e.g., fallen trees) must be minimized and done in a manner that would preserve as much aquatic habitat as possible.

*P-54 – “The Bend”* - According to the NDDDB consultation, no extant populations of listed species have been recorded at the site. The project will require the removal of some riparian vegetation in order to construct the fishing/observation platform; however, the extent is yet unknown pending final designs. Potential impacts to wetlands are also unknown pending the final design. The initial design called for locating the platform downstream of the boat ramp, and this location would have very likely impacted wetlands and wetland birds. The revised location greatly reduces potential impacts to wildlife. The project is not anticipated to adversely affect fisheries.

*P-70 – Halfway River* - According to a NDDDB consultation, no extant populations of listed species have been recorded at the project site. The proposed parking area would require the removal of a relatively small amount of upland trees and vegetation. The project is not expected to adversely affect wildlife. However, excessive trail use may necessitate formal stream crossings in order to protect water quality in the stream.

*P-76 – Beacon Falls* - According to the NDDDB consultation, no extant populations of listed species have been recorded at the site. The project is not anticipated to adversely affect fisheries. Some riparian vegetation may be removed to install the fishing/observation platform and canoe launch. Depending upon the design of the Riverbend Park, riparian vegetation might be cleared in the interior of the park. Excessive clearing of native vegetation would reduce riparian habitat used by wildlife.

*P-91 – O’Sullivan Island* - According to the NDDDB consultation, no extant populations of listed species have been recorded at the site. The project will not adversely affect fisheries in the Housatonic River or wildlife at the site. A minimal amount of native riparian vegetation may be removed to install the fishing platform.

### **5.1.6. Landscape**

The projects proposed for funding were evaluated relative to their potential to cause significant impacts associated with site grading and excavation, placement of fill material, or placement of structures.

#### ***No Action Alternative***

Under the No Action Alternative, no changes to the landscape will occur.

#### ***Preferred Alternative***

No significant adverse changes to the landscape are anticipated as a result of implementation of the restoration projects. The bypass channel on the Blackberry River (P-08) will require regrading of the river's left bank; however, finished bypass channel elevations are not likely to be significantly changed from existing conditions.

Localized regrading and placement of fill will be necessary to implement some of the projects (P-07, P-13, P-54 and P-76); however, modifications to area topography will not be substantial. Site specific sediment and erosion controls will be incorporated into the project designs.

### **5.1.7. Air Quality**

The CT SubCouncil evaluated the alternatives for their potential to affect short-term and long-term air quality in the vicinity of the projects. Examples of short-term air quality impacts include nuisance smells, such as from improperly managed portable toilet facilities, and temporary increases in dust and particulates during construction activities. Examples of long-term air quality impacts include increases in dust due to regular vehicular traffic on non-paved surfaces, increases in vehicular emissions due to increased traffic volume, and increases in pollutant emissions from smoke stack type facilities.

#### ***No Action Alternative***

Under the No Action Alternative, no changes in air quality are expected in the foreseeable future.

#### ***Preferred Alternative***

None of the projects will generate long-term sources of air emissions. Primary short-term air quality concerns relate to construction activities and their potential to generate fugitive dust and mobile source emissions. Such sources of dust are attributed to construction vehicle disturbance during hauling, loading, dumping, and bulldozing on any areas of proposed development. Meteorological conditions and the intensity of the activities as well as soil moisture content also govern the extent to which particles will become airborne.

Standard controls will be implemented to reduce the impact from fugitive dust emissions as well as the effects of wind erosion. Additionally, use of water or wetting agents to

control dust from exposed soil or gravel areas will further minimize airborne particulate matter, as will periodic sweeping and daily rinsing of truck tires. This will reduce the impact of off-site tracking of soil, which occurs when residual soil particles are displaced from construction sites onto higher traffic roadways and then become air and waterborne.

Even well-maintained trucks and other construction equipment typically emit small amounts of pollutants, such as nitrogen oxides, sulfur oxides, and carbon monoxide related to internal combustion engines. Proper maintenance of portable generators, on-site machinery, and vehicles will be required to reduce the potential for higher chemical or smoke emissions associated with improperly operating equipment.

The majority of projects require little or no disturbance of land and/or use of construction equipment. The remaining projects are of a scale that will not require intensive construction traffic or expose large areas of earth. As such, air emissions and/or degraded air quality are not anticipated in relation to any of these projects.

Projects P-31 and P-54 include toilet facilities. Projects P-07 and P-76 could include toilet facilities as part of the site development. The CT SubCouncil will require that project sponsors maintain toilet facilities that are installed so that nuisance smells are minimized.

#### **5.1.8. Noise**

Excessive noise and associated vibrations could adversely affect people in the vicinity, as well as disturb fish and wildlife. Nuisance noise includes not only loud sounds, such as from heavy construction equipment, but human vocalizations as well under some circumstances.

##### ***No Action Alternative***

The No Action Alternative will not result in impacts to noise as compared to existing conditions.

##### ***Preferred Alternative***

Recreation generated noise levels at the Riverbend Park (P-76) and the O'Sullivan Island (P-91) project sites are expected to be undetectable beyond the project boundary as these sites are located proximate to heavily traveled primary and secondary road networks. Recreational activities, and associated noise, generated at the Young's Field (P-30) and Indian Fields (P-44) project sites are not expected to significantly increase levels above those generated at the adjacent recreational ball fields and Route 7 bridge, respectively. Similarly, by virtue of separation distances from adjacent residences, no recreation generated noise impacts are expected at the Ball Pond/Short Woods (P-04), Kent canoe launch (P-07), Schaghticoke canoe launch (P-13), Campville (P-18), Sega Meadows (P-31), Still River canoe trail (P-40), and Halfway River (P-70) project sites as the sites are distant from adjacent homes. Although the Wimisink (P-12) and The Bend (P-54)

projects are proximate to adjacent homes, recreation generated noise levels will not be substantive. Finally, the CT SubCouncil does not anticipate substantive noise will be generated by recreational uses associated the Recreation and Conservation Easement project (P-37) regardless of juxtaposition to adjacent residences.

Implementation of several projects (P-04, P-07, P-08, P-12, P-21, P-22, P-24, P-30, P-31, P-44, P-54, and P-91) will require the use of construction equipment. During the construction period, continuous as well as intermittent noise may be experienced in the immediate project vicinity, which could potentially be perceived to be intrusive, annoying and discomforting to those in close proximity. Noise may be generated by construction equipment and by the daily movement of dump trucks, loaders, backhoes, and other heavy equipment to, from, and on the construction site.

Typical noise emission levels from construction equipment range from 80 to 98 A-weighted decibels (dBA) at a distance of 50 feet (Table 5-1). For comparison, everyday noise levels within urban environments range from about 60 to 80 dBA. In general, noise levels are reduced by 6 dBA for each doubling of distance from a noise source. Thus, a dump truck with a noise level of 85 dBA at 50 feet will have a noise level of 79 dBA at 100 feet, 73 dBA at 200 feet, 67 dBA at 400 feet, 61 dBA at 800 feet, and so forth. Buildings, dense vegetation, and other barriers located between a noise source and a receptor further reduce the intensity of construction noise. Since most of the projects are surrounded by vegetation (in some cases, heavy vegetation), the values reported in Table 5-1 are likely higher than what would be experienced in the actual project settings. Given the size and scale of the projects, the volumes and concentration of construction equipment are expected to be low, and construction activities associated with these projects will be of short duration.

**Table 5-1: Noise Emission Levels from Construction Equipment  
(Source CT DOT 1995)**

<i>Construction Equipment</i>	<i>Noise Level (dBA) 50 feet from Source</i>
Air compressor	81
Backhoe	80
Bulldozer	85
Generator	81
Jackhammer	88
Loader	85
Pneumatic Tool	85
Rock Drill	98
Dump Truck	85

### **5.1.9. Solid Waste and Hazardous Materials**

#### ***No Action Alternative***

Under the No Action Alternative, no impacts will occur from solid waste or hazardous materials.

#### ***Preferred Alternative***

None of the projects will generate significant amounts of solid waste and none will generate hazardous materials. Several of the recreational use projects involve existing or proposed parks and public spaces, where trash collection will be managed. Solid wastes that accumulate at some areas currently used as 'un-official' recreational access points are not currently managed in any effective way. One of the benefits of the projects that comprise the Preferred Alternative is to effectively manage these wastes. In those instances, undertaking the project has a positive environmental effect in comparison to the No Action Alternative.

Contaminated soils have been identified at one project site, O'Sullivan's Island (P-91), generated by various activities at the site prior to 1983 (US EPA 2008). Currently, the US EPA is conducting investigations and remedial actions to address soil contamination at the site. The US EPA is removing hazardous soils from the site as a Time-Critical Removal Action (US EPA 2008). Any future remediation activities conducted by the US EPA, the CT DEP, or the City of Derby will improve the environmental quality at this site. Before the CT SubCouncil would release NRD funding toward the construction of the fishing platform and pathways in the area, the contaminated soils on site must be addressed so that visitors will not be exposed to potential health hazards. This is addressed in more detail in the Section 4 discussion of this project.

## **5.2. Socio-Economic**

### **5.2.1. Evaluation of Potential Socio-Economic Impacts**

#### ***No Action Alternative***

The No Action Alternative represents a potential loss of socioeconomic opportunities. Of particular note are the lost recreational opportunities that would have been provided by the recreational use restoration projects. Opportunities would similarly be lost with regard to preservation of land associated with P-37, P-44, P-57, and P-65, because these actions may not occur without NRD funding. Finally, the economic benefit of enhancing the fishery resource in the Housatonic River basin would be lost if the aquatic restoration projects were not implemented.

#### ***Preferred Alternative***

None of the projects will displace existing employment, and some may result in the creation of some short-term construction related jobs. The most significant construction projects are the dam removal and bypass channel construction associated with P-08, the

proposed improvements on Salmon Creek (P-24), and the recreational facilities associated with P-04, P-07, P-54, P-76, and P-91. Other employment opportunities associated with P-09 and P-33 include increased overtime work and the hiring of additional seasonal workers, respectively.

Numerous opportunities also exist for an increase in long-term economic benefits associated with fishing in the Housatonic River and its tributaries. Specific benefits include the associated economic stimuli through sale of bait, fishing licenses, and fishing accessories as well as related tourism activities. These economic benefits are further enhanced by increased recreational use of newly created or enhanced recreational facilities such as boat ramps, parks, trails, and open spaces.

Enhanced environmental education opportunities will be provided through the public outreach and participation elements of the projects. Community involvement includes participation by area schools, scouts, and other volunteer groups. Public education and outreach includes the use of signage, brochures, newspapers and radio announcements. Through these efforts, the public will become more educated relative to the history of the Housatonic River and the specific benefits of restoration.

Some of the projects (such as P-18, P-37, P-44, P-57, P-65, and P-70) will acquire or impose a conservation easement on land that might otherwise be developed and contribute to the local tax base. However, the reduction in collected taxes will be offset by the lack of required municipal services at these sites. For instance, none of the projects will add population to the local communities such that it would place a burden on the public education system, social services, or public utilities.

The proposed restoration projects are not anticipated to adversely affect adjacent property values.

From a regional economic perspective, this program will infuse approximately \$9 million into the economy, resulting in a positive socioeconomic impact.

### **5.2.2. Environmental Justice**

On February 11, 1994, President Clinton signed an Executive Order requiring, in part, federal departments and agencies ensure that all programs or activities receiving federal financial assistance that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin. Furthermore, each federal agency is required to analyze the environmental effects, including human health, economic and social effects, of federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA.

Similarly, on October 25, 1995, Commissioner Sidney J. Holbrook signed the CT DEP “Environmental Equity Program Policy” establishing that it is the policy of the CT DEP that no segment of the population should, because of its racial or economic makeup, bear a disproportionate share of the risks and consequences of environmental pollution or be denied equal access to environmental benefits.

In keeping with the relevant Executive Order and State Policy, the TWG assessed the Environmental Justice implications of the No Action Alternative and the Preferred Alternative. The assessment focused on the five municipalities within the Housatonic River basin classified by the Connecticut Department of Economic and Community Development as distressed (Ansonia, Derby, Naugatuck, North Canaan, and Waterbury; 2008 classification).

### ***No Action Alternative***

Under the No Action Alternative, no NRD funding would be available for any projects. Consequently, no segment of the population, regardless of race, color, or national origin, would be discriminated against, nor would any population, regardless of racial or economic makeup, bear a disproportionate share of the risks or consequences of environmental pollution by virtue of implementation of the No Action Alternative.

### ***Preferred Alternative***

Two project proposals included in the Preferred Alternative are located within distressed communities. The Blackberry River Fish Passage Restoration project (P-08) is located in the Town of North Canaan and would restore natural resources accessible to the residents of this community. The O’Sullivan Island project (P-91), is located within the City of Derby and would provide recreational benefits to the residents of the City as well as those of the City of Ansonia, located within two miles of the project site.

In addition to localized benefits, many of the individual projects will result in benefits to the region at large, the economic and demographic diversity of which spans the full range of income levels, race, color, and national origin. None of the individual projects, nor the projects in aggregate, will result in discrimination against any segment of the population, regardless of race, color, or national origin, nor would any population, regardless of racial or economic makeup, bear a disproportionate share of the risks or consequences of environmental pollution by virtue of implementation of the Preferred Alternative. In totality, the Preferred Alternative includes projects distributed throughout the Housatonic River basin in Connecticut (Figure 4-1) and does not disproportionately locate projects in either economically “privileged” or “underprivileged” communities.

### **5.2.3. Community Facilities and Services**

#### ***No Action Alternative***

The No Action Alternative could increase the need for community facilities and services, due to the conversion of natural areas to residential uses via the development of the parcels proposed for conservation under the Preferred Alternative. If these lands were developed (e.g. for residential uses), they could place an added burden on community services. The significance of such an impact would be directly related to the type and density of development.

#### ***Preferred Alternative***

Each of the projects was reviewed relative to its potential to increase demands for community services.

Education – None of the projects are expected to result in increased population growth or residential development and none will create a demand for increased public education infrastructure or services. In contrast, these projects present opportunities for education of the public through planned outreach and public involvement efforts.

Health Care – None of the projects will create a demand for health care facilities or services.

Recreation – Many of the projects will enhance an array of recreational opportunities through increased public access, construction of recreational amenities, and improvement of the fishery resource and riparian corridor in the Housatonic River and its tributaries. None of the projects are anticipated to negatively impact recreation.

Fire Protection – Some of the recreational use projects include structural features such as boardwalks and platforms. These are low fire hazard structures. There will be no notable added burden of fire protection at these project locations as compared to existing conditions. The projects are located adjacent to or nearby wetlands and watercourses. Some of these projects, such as P-07, P-13, P-54, and P-91, will construct boat ramps that will facilitate access to the water, which could assist in filling trucks for firefighting purposes. One project, P-33, will reduce fire hazards by removing stands of common reed.

Police Protection – Aside from P-09, none of the aquatic or riparian/floodplain projects will require surveillance or police protection beyond what is currently provided. Six of the recreational use projects (P-04, P-07, P-13, P-18, P-70 and P-76) could generate a modest police protection demand associated with opening new public spaces where there are currently none; however, these are not expected to generate a demand that is sufficient to trigger the need to hire additional police officers in the host communities.

By contrast, creating formal public access sites may reduce the amount of unauthorized and/or illegal trespassing that currently occurs.

The Bulls Bridge project (P-09) proposes to increase police patrols, but the costs of these increases would be supported by NRD funds. Thus, this project produces no significant additional burden on community services.

*Public Safety* – Due to their nature and required design standards, none of the projects are expected to present a risk to public safety. Measures will be taken through the design process to assure that all projects protect the safety of the public, particularly for fishing piers and raised platforms. Additionally, all projects involving site development will require approval through local planning and zoning processes, wherein public safety aspects will be further evaluated. Project P-40 is expected to increase public safety by removing navigational obstructions in the Still River and providing a safe portage around rapids. Finally, projects P-07, P-13, P-54, and P-91, will construct boat ramps that could facilitate access to the water in the case of a water related emergency.

#### **5.2.4. Aesthetic/Visual Resource Impacts**

##### ***No Action Alternative***

The No Action Alternative could have significant impacts on aesthetic or visual resources. Development of natural areas otherwise proposed for protection under the Preferred Alternative would result in the loss of the natural landscape resulting in an adverse aesthetic impact.

##### ***Preferred Alternative***

###### *Aquatic Natural Resources Projects*

Seven of the eight projects to restore aquatic natural resources (P-05, P-06b, P-09, P-21, P-22, P-24 and P-56) strive to return the project areas to a more natural aesthetic quality and are therefore expected to have a positive aesthetic impact.

The fish passage restoration project on the Blackberry River (P-08) is the only aquatic project that involves a significant construction component that will notably alter the aesthetics of the project area. Bypass channels are used to divert a portion of a river's flow around a dam that is to remain in place. Objectives associated with the implementation of a bypass channel include the creation of: (1) a semi-natural channel that fish will use for upstream and downstream passage; (2) habitat that fish will use during the non-migratory season; and (3) a natural, aesthetically pleasing area for people. In comparison to other fish passage structures, these natural looking channels can be aesthetically integrated into the landscape, while providing passage for a wide variety of fish species.

Bypass channels are typically designed to carry approximately 10% of the natural river flow and commonly result in imperceptible changes in reservoir elevation. Similarly, the visual qualities of water passing over the spillway are unaffected under all but the lowest flow conditions. Hydraulic modeling for a variety of flow conditions will be conducted during the feasibility analysis and design of this project for a variety of purposes, including evaluation of fish passage conditions. This type of analysis will also forecast water levels in the upstream impoundment to ensure that undesirable drawdown does not occur.

Given the historic and cultural sensitivity of the John Beckley Furnace site, design measures will incorporate both aesthetic and riparian features associated with the bypass channel in accordance with standard design practices, similar to other existing bypass channels.

The increased law enforcement presence in the Bull's Bridge area (P-09) will deter littering and vandalism, which would otherwise detract from the natural aesthetic environment of the river corridor.

#### *Riparian and Floodplain Natural Resources Projects*

All seven of the projects to restore riparian and floodplain natural resources are focused on restoring habitat conditions to support riparian communities. Five projects (P-16, P-30, P-33, P-38 and P-44) will restore wetland and riparian vegetation communities and improve habitat for wildlife. Three projects (P-44, P-57 and P-65) will acquire conservation easements or permanent open spaces to preserve the riparian community. No negative aesthetic impacts are anticipated as a result of implementation of the riparian and floodplain restoration projects. Instead, the preservation of undeveloped lands along the Housatonic River will prevent the degradation of the river's aesthetic qualities.

#### *Recreational Uses of Natural Resources Projects*

Projects in this category have the greatest potential to affect aesthetic or visual resources. The scale of projects in all cases will not substantially alter the landscape; however some have the potential to impact views from adjacent properties or public roadways. Each project is addressed below.

*P-04- Ball Pond and Short Woods Brooks Water Quality Improvement and Pedestrian Access* – This site is not highly visible from the adjacent road. Project features include invasive species removal/revegetation activities, and construction of approximately one mile of walking paths and associated raised boardwalk, observation platforms and educational kiosks. The nature and scale of project elements, coupled with the site's low visibility, will maintain the existing aesthetic character.

*P-07 – Car Top Boat Launch at North Kent Road* – This site is not visible from the public roadway, as it is set back several hundred feet. Land adjacent to and across the

river from the proposed boat launch is undeveloped, with a significant land area on both sides of the river located within a utility right-of-way. Aside from the members of the public who will use the boat launch, the primary visibility will be from boaters in the river, visitors to the adjacent CT DEP Wildlife Management Area, or hikers using the National Park Service's Appalachian Trail across the river. The proposed boat launch and parking area will be at or near existing grades and neither will be highly visible features in the landscape. These site features will not significantly alter the aesthetics of the project area.

*P-12 – Wimisink Preserve Restoration and Access* – The Wimisink Preserve is a 57-acre wetland preserve located adjacent to Routes 55 and 39 in Sherman, Connecticut. While the site is highly visible from the roadway, it is a natural setting in a rural area. The nature and scale of improvements (limited parking, a boardwalk, and viewing platform) are in keeping with the existing aesthetic nature of the site and will not significantly alter its visual character.

*P-13 – Car top Boat, Canoe, Kayak Access Ramp* – This car top boat, canoe, and kayak access ramp will be located adjacent to the Housatonic River off Schaghticoke Road in a rural part of the Town of Kent. The ramp will be constructed by hand, with no use of heavy equipment. The small scale ramp will not negatively affect the aesthetic or visual character of the area.

*P-18 – Campville Fishing Access* – This project will acquire riverfront property for access by members of the public. No formal structures or roadways are proposed and no alterations of the visual or aesthetic character of these parcels will occur.

*P-31 – Sega Meadows Park River Enhancement Project* – The 23-acre Sega Meadows Park is a scenic woodland located on the east bank of the Housatonic River. Current access to the site occurs from a gravel road that terminates at a recently constructed gravel parking area. This site is not highly visible from the adjacent River Road. Project features include construction of nature trails, a picnic area, a small number of primitive camp sites, and designated fishing and non-motorized boating areas. The nature and scale of project elements, coupled with the site's low visibility, will maintain the existing aesthetic character.

*P-37 – Recreational and Conservation Easements for Housatonic Basin Streams* – These projects will occur on multiple sites that have yet to be specifically located. Conservation easements preserve the natural aesthetic of the sites at which easements are secured. Recreation easements are not expected to alter the aesthetics of a site.

*P-40 – Housatonic Valley River Trail* – The main activities associated with this project include construction of a parking area for three to four cars adjacent to an existing building, construction of take-out and put-in portage, and removing navigational barriers

in the Still River. None of these activities will significantly alter the visual aesthetics of the site. Removal of navigation barriers will restore a more natural flow regime in the river and reduce the occurrence of debris catching on these physical features.

*P-54 – The Bend Recreational Access Improvements* – This site is located on the west bank of the Housatonic River. It is visible from the historic Cornwall Covered Bridge (Route 128) as well as from properties on both sides of the river. Activities associated with this project include improvements at an existing parking area, erection of a fishing platform, and construction of a hand carry boat ramp. The design of the boat ramp and fishing platform in context with visual and aesthetic features of the site and surrounding viewsheds will be an important design element. This project will require a local planning and zoning permit, where aesthetics will be one of the aspects reviewed.

*P-70 – Halfway River Fishery Access* – This site has extremely high aesthetic value that will be preserved through the acquisition of this privately owned parcel. The walking trails and other recreational amenities are compatible with the existing environment at this site. The parking area will be located close to the existing roadway, away from the river and forested lands.

*P-76 – Beacon Falls Riverfront Park System* – This project is located in a residential neighborhood immediately adjacent to the Naugatuck River. The proposed recreational amenities will eliminate accumulated trash and low quality vegetation, while maintaining desirable shade vegetation adjacent to the river.

*P-91 – O'Sullivan's Island Peninsula Fishing and Habitat Enhancement* – O'Sullivan's Island sits adjacent to an urban area in the City of Derby. Viewed from outside of the site, the project will not significantly affect the aesthetics of the local area, as the mature trees and other notable landscape features of the site will not be altered. From within the site, the project, including removal of piles of demolition debris and a crumbling boat ramp, will improve the aesthetic experience of visitors.

Short-term aesthetic impacts may occur with any of the above projects during the construction phase, wherein construction activities and appurtenances (e.g., equipment, sediment and erosion controls, safety fencing) may be displeasing to observers. However, these impacts are not expected to be long-lasting or significant.

### **5.2.5. Public Utilities and Services**

Public utilities and services comprise an array of systems including water supply and delivery, sewerage collection and treatment, stormwater collection and conveyance, natural gas delivery, electricity, and telecommunications.

#### ***No Action Alternative***

The No Action Alternative places no increased demand on public utilities or services in the respective communities. If some of the sites identified for acquisition or conservation

under the Preferred Alternative (such as P-37, P-44, P-57, and P-65) were developed as a result of taking no action, an additional demand for public utilities and services would ensue.

### ***Preferred Alternative***

None of the projects will generate increased demand on public water supplies. Some of the projects will involve the installation of composting toilet facilities, but none will create increased demand on publicly owned treatment facilities. Similarly, none of the projects will generate a demand for natural gas, nor will they create a demand for additional electrical power. None of the projects will require the installation of telecommunication services.

### **5.2.6. Cultural Resources**

Cultural resources are generally characterized as (1) physical features that have cultural significance due to their architectural or structural attributes and (2) areas that have cultural significance due to their archeological value (e.g., historic structures and buried historic or prehistoric remains). For those projects where the proposed activity has the potential to alter or destroy a feature or area that may comprise or contain cultural resources, the CT SubCouncil consulted the Connecticut Commission on Culture and Tourism (CCCT) and the State Historic Preservation Office (SHPO). Consultation was undertaken for the following projects: P-07, P-08, P-24, P-30, P-31, P-40, P-44, P-54, P-70, P-76, and P-91.

In addition, the CEPA establishes that the state consider whether any actions (e.g., projects) undertaken by, or funded in whole or in part by the state will result in any "disruption or alteration" of a historic, architectural, or archaeological resource or its setting as part of an overall environmental evaluation (CGS 22a-1 et seq.). Section 106 of the National Historic Preservation Act of 1966 stipulates that prior to the approval of the expenditure of federal funds by the federal agency having jurisdiction or the issuance of any license by a federal agency having such authority to do so, said agencies shall afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on an undertaking if said undertaking shall have an effect on any district, site, building, structure, or object that is included in or eligible for the National Register. Through the NEPA process that governs the public review and comment period on the draft Restoration Plan/EA/EIE, the CT SubCouncil will specifically invite the Advisory Council to review and comment upon the projects.

### ***No Action Alternative***

The No Action Alternative will not impact, disturb, or alter any potential sensitive cultural resources structural resources.

### ***Preferred Alternative***

#### ***Aquatic Natural Resources Projects***

The CT SubCouncil consulted the CCCT and the SHPO regarding projects P-8 and P-24. The SHPO concluded that an archeological survey and further consultation with SHPO prior to disturbance of the site will be needed for project P-08. The SHPO determined that the proposed undertakings related to project P-24 will have no effect on historic or architectural resources, including historic or archaeological resources listed on or eligible for the National Register of Historic Places.

Three projects to restore aquatic natural resources (P-22, P-24, and P-56) take place in environments that have been previously disturbed by the construction of human infrastructure (i.e. bridges and roadways) or from past farming activities (P-24). None of these sites has been listed on the Connecticut or National Register of Historic Places.

Three projects (P-05, P-06b, and P-09) will not cause disturbance to structures or the subsurface, and therefore no impacts to sensitive cultural resources are expected.

One project (P-08) is located in an area with historic structures and potential subsurface sensitivity. In 1978, the John Beckley Furnace site, including the Lower Pond Dam, was placed on the National Register of Historic Places (National Register of Historic Places website: [www.nps.gov/nr/](http://www.nps.gov/nr/) ). In 1996, the CT DEP provided funds to repair and restore the site that is now known as the Industrial Monument Historic Preserve. Although no structural modifications to the dam or monument will occur, the significance of the cultural resources at this site warrant consultation and additional study to assure that impacts to any identified resources will be avoided or properly studied, documented, and mitigated. These aspects will be most appropriately addressed in the design and permitting processes. Additional consultation with the SHPO for this project will become a requirement of the funding agreement.

#### ***Riparian and Floodplain Natural Resources Projects***

The CT SubCouncil consulted the CCCT and the SHPO regarding projects P-30 and P-44. The SHPO determined that the proposed undertakings related to these two projects will have no effect on historic or architectural resources, including historic or archaeological resources listed on or eligible for the National Register of Historic Places.

None of the projects to restore riparian and floodplain natural resources involves alterations to potentially historic structural resources and none involve excavation of earth or demolition of existing structures.

#### ***Recreational Uses of Natural Resources Projects***

The CT SubCouncil consulted the CCCT and the SHPO regarding projects P-07, P-31, P-40, P-54, P-70, P-76, and P-91. The SHPO determined that the proposed undertakings related to projects P-40 and P-91 will have no effect on historic or architectural resources,

including historic or archaeological resources listed on or eligible for the National Register of Historic Places: However, the SHPO concluded that an archeological survey and further consultation with SHPO prior to disturbance of the site was recommended for the projects P-07, P-31, P-54, P-70, and P-76 to assure that impacts to any identified resources will be avoided or properly studied, documented, and mitigated. The Trustees will make this a requirement of the funding agreements for these projects.

### **5.2.7. Traffic and Parking**

#### ***No Action Alternative***

The No Action Alternative will have no impact on traffic and parking as compared to existing conditions.

#### ***Preferred Alternative***

None of the projects to restore aquatic natural resources or riparian and floodplain natural resources will generate significant long-term traffic to or from the sites. Some of these projects will generate short-term construction related equipment traffic that will be addressed through the design and planning of the project. Those projects adjacent to major roadways, such as the fishway repair and riparian vegetation restoration project in Cornwall (P-56), will consider site access with regard to the adjacent state roadways (Routes 4 and 7). Construction related traffic will be short-term, temporary, and of relatively low volume on those projects where construction equipment will be necessary.

Several of the projects to restore recreational uses of natural resources will construct parking in areas where there are currently none or where parking is currently insufficient (P-12, P-70, and P-76). Increased parking is anticipated to increase safety over existing conditions, wherein visitors are currently parking in areas with low visibility and/or in conflict with adjacent roadway traffic.

Other recreational use projects propose recreational amenities where there are currently none. This is the case with the car top boat launches associated with P-07, P-13, P-40, and P-54. In these cases, additional traffic will be generated; however the size and scale of the facilities are such that increased traffic will be modest as compared to the capacity of the adjacent roadway network. None of the projects are expected to generate high traffic volumes, and none are expected to significantly impact levels of service on the adjacent roadways. "Level of service" with respect to roadways is a qualitative measure describing driver satisfaction with a number of factors that influence traffic congestion, such as speed and travel time, traffic interruption, freedom of maneuverability, safety, driving comfort and convenience, and delay.

Sight lines and safe access to and from each site will be considered and addressed through the design process. These projects will be reviewed and regulated through the local planning and zoning permit processes, wherein traffic impacts will be considered.

Those projects proposing to create or alter access to state highways will be reviewed and regulated through the State Traffic Commission certification process.

### **5.3. Cumulative Impacts of the Preferred Alternative**

A "cumulative impact" is defined in the NEPA regulations (40 CFR 1508.7) as the impact on the environment which results from the incremental impact of the Preferred Alternative when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from a series of individually minor actions that collectively have a significant affect over time.

The past activities at the GE facility in Pittsfield, Massachusetts resulted in the widespread PCB contamination in the Housatonic River. Normal development and human infrastructure (e.g., dams, water diversions, and floodplain infringement) have also placed a burden on the Housatonic River ecosystem.

Extensive remediation efforts have taken place within and adjacent to the most contaminated segments of the Housatonic River in Massachusetts. The US EPA continues to work with GE to develop remedial activities for contaminated areas not addressed yet. In Connecticut, watershed organizations, land trusts, and environmental groups continue to seek opportunities to improve the habitat in the Housatonic River basin. Stream stocking, land preservation, dam removal, and fish habitat improvements have been implemented in an effort to enhance and restore the habitat function in the river and its tributaries.

Numerous ongoing efforts are underway to improve ecological habitat, riparian function, and recreation in the Housatonic River mainstem as well as its tributaries. Some projects, such as the Tingué Dam bypass channel, have been designed but lack construction funding. Others are ongoing efforts that will continue into the future, such as acquisition of open space land for preservation and recreation, and stocking of the river on an annual basis.

The cumulative impact of the Preferred Alternative, in which all of the projects act synergistically, will be positive. The combination of aquatic, riparian and floodplain, and recreational resource restoration projects within the Housatonic River watershed will improve, enhance, and protect the natural environment and will have individual as well as cumulative positive impacts. No negative cumulative impacts have been identified.

The result of the restoration projects, along with past, present, and ongoing initiatives by municipalities, conservation and environmental groups, and state sponsored programs will be a positive cumulative improvement to the natural resources and public enjoyment of those resources on a widespread, regional basis.

## 6. FEDERAL, STATE AND LOCAL REVIEW, PERMITTING AND POLICY REQUIREMENTS

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### 6.1. Local

Local permits may be required for some of the projects as identified in Section 4. The following are the most common local permits and approvals.

*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.

*Coastal Projects* – CGS Section 22a-90 to 113 requires projects within coastal boundaries to be consistent with the goals and policies of the Connecticut Coastal Management Act. A local coastal consistency site plan review will be required of projects that lie within the regulated coastal boundary. The Connecticut Coastal Management Act authorizes local jurisdiction from mean high water to the coastal zone boundary.

The project sponsors will obtain all necessary local permits prior to construction.

### 6.2. State

State permits may be required for some of the projects, depending upon the exact nature of proposed work. The following are the most common state permits and approvals.

*Inland Wetlands* – Activities conducted by State agencies in inland wetlands are regulated through the CT DEP 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 CT DEP 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 CT DEP Inland Water Resources Division. This includes removal of structures (in the case of a dam removal) or modifications of structures (including culverts and bridges).

*Coastal Projects* – Activities conducted within tidal, coastal, or navigable waters (at or waterward of the high tide line) are regulated through the CT DEP Office of Long Island Sound Programs pursuant to Section 22a-361 or 22a-363b of the Connecticut General Statutes. Additionally, work in tidal wetlands requires a permit under Section 22a-32.

Dam Safety – Projects involving alterations to dams (including their removal) require a dam safety permit through the CT DEP 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 CT DEP Bureau of Water Protection and Land Reuse.

Stormwater Discharges – Section 402 of the Federal Water Pollution Control Act regulates discharges to waterbodies and watercourses. US EPA has delegated jurisdiction to the CT DEP Bureau of Materials Management and Compliance Assurance. Stormwater discharges from construction sites where one or more acres are to be disturbed are regulated pursuant to 40 CFR 122.26. Registration describing the site and the construction activity must be submitted to CT DEP at least 15 days prior to the initiation of construction. A stormwater pollution prevention plan, including measures for erosion and sediment controls and post-construction stormwater management, must be prepared. CT DEP general stormwater permits for construction activities in tidal areas specify post construction management requirements, including retention (i.e. infiltration) of the first inch of runoff from the site. The general permit also requires 80% total suspended solids removal and velocity dissipation. These elements will be factored into the project design.

Dewatering Wastewater – The presence of contamination must also be considered in developing plans for dewatering construction areas and discharge. General permits for the Discharge of Groundwater Remediation Wastewaters to a Sanitary Sewer, and the Discharge Groundwater Remediation Wastewater Directly to Surface Water have been issued that address the discharge of certain contaminated dewatering wastewaters.

None of the Preferred Alternative projects are believed to have activities that will result in the discharge of contaminated dewatering wastewaters.

## **6.3. Federal**

### **6.3.1. Review and Permitting Requirements**

Beyond CERCLA and NEPA, federal permits may be required for some of the projects, depending upon the nature of proposed work. As federal agencies (via the federal Trustees) are involved in the decision to provide funding to the projects included in the proposed preferred alternative, these projects must comply with the following federal authorities, policies, and directives.

Clean Water Act (CWA) (a.k.a., Federal Water Pollution Control Act), 33 U.S.C. §1251 et seq.

The CWA is the principle law governing pollution control and water quality of the Nation's waterways. Section 404 of the law authorizes a permit program for the disposal of dredged or fill material in the Nation's waters, administered by the ACOE. In general, restoration projects which move significant amounts of material into or out of waters or wetlands--for example, dam removal--require 404 permits. In such cases, the project proponent will obtain the appropriate permits before implementing the regulated activities. In granting permits to applicants for dredge and fill, the ACOE may require applicants by to undertake mitigation measures such as habitat restoration to compensate for losses resulting from the project.

Under Section 401 of the Clean Water Act, restoration projects that entail discharge or fill to wetlands or waters within federal jurisdiction must obtain certification of compliance with state water quality standards. The CT DEP implements the 401 Water Quality Certification Program. In general, restoration projects with minor wetlands impacts (i.e., a project covered by an ACOE Programmatic General Permit) are not required to obtain 401 Certification, while projects with potentially large or cumulative impacts to critical areas require certification.

*Endangered Species Act (ESA), 16 U.S.C. §1531 et seq.*

The ESA establishes a policy that all federal departments and agencies seek to conserve endangered and threatened species and their habitats, and encourages such agencies to utilize their authorities to further these purposes. Under the Act, the Departments of Commerce and/or Interior publish lists of endangered and threatened species. Section 7 of the Act requires that federal agencies and departments consult with the Departments of Commerce and/or Interior to minimize the effects of federal actions on endangered and threatened species.

The CT SubCouncil reviewed the projects included in the Proposed Preferred Alternative against the Natural Diversity Data Base (“NDDB”) maintained by the CT DEP. The NDDB provides comprehensive information regarding both federally and state listed Endangered and Threatened Species as well as Species of Special Concern. Listed species were identified as located on or adjacent to the geographic scope of nine of the projects. Although the preliminary conclusion was that adverse affects on any such species could be avoided, the sponsors of these projects will be required to consult with the CT DEP and the USFWS to ensure project implementation does not result in net adverse effects to such species.

*Fish and Wildlife Coordination Act (FWCA), 16 U.S.C. §661 et seq.*

The FWCA requires that federal agencies consult with the USFWS, the National Marine Fisheries Service, and state natural resource agencies for activities that affect, control, or modify waters of any stream or bodies of water, in order to minimize the adverse impacts of such actions on fish and wildlife resources and habitat. The federal agencies required to consult include permitting agencies such as the ACOE. This consultation is generally incorporated into the process of complying with Section 404 (see Clean Water Act, above), NEPA or other federal permit, license, or review requirements.

*Rivers and Harbors Act, 33 U.S.C. §401 et seq.*

The Rivers and Harbors Act regulates development and use of the Nation's navigable waterways. Section 10 of the Act prohibits unauthorized obstruction or alteration of navigable waters and invests the ACOE with authority to regulate discharges of fill and other materials into such waters. Restoration actions that require Section 404 permits (see Clean Water Act, above) are likely to also require permits under Section 10 of the Rivers and Harbors Act, but a single permit generally serves for both; therefore, the CT SubCouncil can ensure compliance with the Rivers and Harbors Act through the same mechanisms as used for any Section 404 permits.

*American Indian Religious Freedom Act of 1994 (42 U.S.C. 1996)*

Under this statute, it is the policy of the United States government to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the federally recognized American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. Information on religious freedom must

receive good-faith consideration during restoration planning and decision-making. There are no federally-recognized Native American Tribal Nations in the Connecticut portion of the Housatonic River watershed.

*Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001-3013)*

This law protects Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony on federally owned or controlled lands, Indian tribal lands, and Native Hawaiian land. The proposed Preferred Alternatives will not occur on lands that are owned or will be owned by the federal government or federally recognized Indian tribes.

*Antiquities Act (16 U.S.C. 431-433) and Archaeological Resources Protection Act (ARPA), as amended (16 U.S.C. 470aa-470 mm)*

The Antiquities Act was enacted in 1906 to protect historic and prehistoric ruins, monuments, and objects of antiquity on federally owned or controlled lands. The ARPA protects resources that are determined to be archaeological interest, at least 100 years old, and located on lands owned by the federal government or federally recognized tribes. The proposed Preferred Alternative does not involve land that is or will be owned by the federal government or federally recognized Indian tribes.

*National Historic Preservation Act of 1966 (16 U.S.C. 470)*

Section 106 of this statute requires that federal agencies consider the effects of their actions on sites listed or eligible for listing on the National Register of Historic Places. If federal actions will affect such sites, the federal agency must consult with the state and local Historic Preservation Officers. Two sites, the Beckley Furnace (Cornwall) and the Covered Bridge (West Cornwall), on the National Registry of Historic Places may be affected by the proposed projects included in the Proposed Preferred Alternative (P-08 and P-54, respectively). The project sponsors will be required to consult the state and local Historic Preservation Officers during the feasibility studies and engineering designs of the restoration projects.

*Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668-668d)*

This law prohibits the killing, capturing, collecting, molestation, or disturbance of bald and golden eagles, their nests, and critical habitat. The proposed Preferred Alternative is not anticipated to adversely affect bald and golden eagles, their nests, or critical habitat.

*Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-712 et seq.)*

Under this law, it is unlawful to kill, import, export, possess, buy, or sell any bird listed under the MBTA or its feathers, body parts, nests, and eggs. The proposed Preferred Alternative is not anticipated to result in these activities.

*Federal Advisory Committee Act (FACA) of 1972 (86 Stat. 770, 5 U.S.C. Appendix 2)*

The FACA applies to a formal group of private citizens brought together at the request of a federal agency to provide consensus advice or recommendations to the federal agency. Such a "FACA Committee" is required to be chartered with Congress. The federal Trustees on the CT SubCouncil did not request consensus advice from any group of private citizens. The CT Trustee, however, convened a CT Trustee's Advisory Committee (CTAG) to advise the CT Trustee. The federal Trustees were not involved in any aspect of the CTAG's activities, nor did they receive the consensus advice of the CTAG.

Americans with Disabilities Act (ADA), 42 U.S.C. §12101 et seq.

The ADA prohibits discrimination against people with disabilities and to guarantee them equal access to employment, public services, public accommodation, and telecommunications. Under Title III, places of public accommodation are defined to include places of recreation.

Architectural barriers in existing facilities are to be removed when it is readily achievable to do so. Similarly, new facilities, when it would not change the fundamental nature of the activity, are to be constructed such that they are readily useable by people with disabilities. In conforming to the standards, the level of accessibility will be determined by the nature of the area and program, and will be consistent with the obligation to conserve natural resources and the quality of the passive recreation experience.

### **6.3.2. 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 FWS 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 CT SubCouncil does not anticipate that the proposed Preferred Alternative will 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. The proposed Preferred Alternatives are consistent with this directive in that no development is being endorsed in floodplains other than low-impact recreational amenities that cannot be constructed elsewhere and still achieve the recreational goals of the project. Best management practices and environmentally-responsible engineering/design will minimize any short-term impacts. In addition, some of the proposed Preferred Alternatives will conserve, protect, and enhance the wildlife habitat values in floodplain areas of the Housatonic River through the establishment of conservation restrictions that will prevent future development.

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 any of the proposed Preferred Alternatives will adversely affect wetlands. However, projects that will affect wetlands will obtain appropriate regulatory permits before construction begins. Along with these regulatory processes, the CT SubCouncil will work with the Applicants to ensure that wetland impacts are avoided and/or minimized.

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. (Also see Section 5.2.2.).

*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 (e.g., P-33 Wetland Habitat Restoration on the Lower Housatonic River Through the Control of the Non-Native Invasive Plant, Phragmites).

## 7. DOCUMENT PREPARERS

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The following individuals, agencies, and organizations have prepared this Restoration Plan/EA/EIE.

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## **8. AGENCIES, ORGANIZATIONS, AND PARTIES CONSULTED FOR INFORMATION**

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In addition to the parties that submitted restoration project proposals, the CT SubCouncil consulted the following agencies, organizations, and parties for information during the preparation of this document.

Connecticut Commission on Culture & Tourism  
Historic Preservation and Museum Division  
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Connecticut Department of Environmental Protection  
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79 Elm Street, 6th Floor  
Hartford, CT 06106

Connecticut Department of Environmental Protection  
Bureau of Natural Resources, Inland Fisheries Division  
79 Elm Street, 6th Floor  
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Connecticut Department of Environmental Protection  
Bureau of Water Protection and Land Reuse, Inland Water Resources Division  
79 Elm Street, 3rd Floor  
Hartford, CT 06106

Connecticut Department of Environmental Protection  
Bureau of Materials and Waste Management, Remediation Division  
79 Elm Street, 4th Floor  
Hartford, CT 06106

Connecticut Department of Environmental Protection  
Bureau of Water Protection and Land Reuse, Inland Water Resources Division  
79 Elm Street, 3rd Floor  
Hartford, CT 06106

Connecticut Department of Environmental Protection  
Bureau of Outdoor Recreation, Boating Division  
333 Ferry Road  
Old Lyme, CT 06371

Connecticut Department of Environmental Protection  
Bureau of Outdoor Recreation, State Parks Division  
79 Elm Street, 6th Floor  
Hartford, CT 06106

Connecticut Department of Transportation  
Bureau of Policy and Planning, Office of Intermodal and Environmental Planning  
2800 Berlin Turnpike  
Newington, CT 06131-7546

Connecticut Office of Protection and Advocacy for Persons with Disabilities  
60B Weston Street  
Hartford, Connecticut 06120-1551

National Oceanic and Atmospheric Administration  
Restoration Center  
28 Tarzwell Dr  
Narragansett, RI 02882

U.S. Environmental Protection Agency  
Region 1, Emergency Response and Removal Section  
1 Congress Street, Suite 1100  
Boston, Massachusetts 02114-2023

U.S. Fish and Wildlife Service  
Endangered Species Program  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, New Hampshire 03301

U.S. Army Corps of Engineers  
New England District, Regulatory Division  
696 Virginia Road  
Concord, MA 01742-2751

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## Appendix A

### Notice of Scoping Housatonic River Basin Natural Resources Restoration Project

**Municipality(ies) where proposed project will be possibly be located:** North Canaan, Salisbury, Cornwall, Sharon, Kent, Litchfield, Sherman, New Milford, Roxbury, Brookfield, New Fairfield, Southbury, Newtown, Beacon Falls, Seymour, Derby, Shelton, and Stratford.

**Address(es) of Possible Project Locations:** Housatonic River Watershed.

**Project Description:** The Connecticut SubCouncil of the Housatonic River Natural Resource Trustee Council is reviewing projects for potential disbursement of the Connecticut portion of the Housatonic River Natural Resource Damages (NRD) recovery funds. The NRD funds were obtained from the General Electric Company (GE) as compensation for the injury to natural resources resulting from the release of hazardous materials into the Connecticut portion of the Housatonic River from the GE facility in Pittsfield, MA. The project will result in the development and implementation of a restoration plan. Projects under consideration include those that propose to restore aquatic natural resources; riparian and floodplain natural resources; and recreational uses of natural resources.

**Project Map:** Attached.

**Written comments from the public concerning the nature and extent of any environmental impacts of the proposed action are welcomed and will be accepted until the close of business on Monday, June 30, 2008.**

**There will be a Public Scoping Meeting for this project at:**

**Date:** June 24, 2008

**Time:** 7:00 p.m.

**Place:** Kent Town Hall, 41 Kent Green Boulevard, Kent, CT

Written comments should be sent to:

Name: Michael Powers, Restoration Coordinator  
Agency: Connecticut Department of Environmental Protection  
Address: 79 Elm Street, Hartford, CT 06106  
Fax: (860) 424-4070  
Email: [michael.powers@ct.gov](mailto:michael.powers@ct.gov)

Questions about the public meeting or other question about the scoping for this project should be directed to Michael Powers at:

Email (preferred contact method): [michael.powers@ct.gov](mailto:michael.powers@ct.gov)  
Phone (leave message for call-back): (860) 424-4102

The Trustee SubCouncil expects to release a Draft Environmental Impact Evaluation for this project for public review and comment in September 2008.

## Appendix B

### List of Public Information Meetings, Special Focus Meetings, and Formal Meetings of the Trustee SubCouncil for Connecticut

Note: All of the meetings were held at the Kent Town Hall, in Kent, CT. All meeting dates are Tuesdays.

DATE	PUBLIC INF. MTG.	CTSC BUSINES S MTG.	SPECIAL FOCUS MTG.	NOTES/MEETING PURPOSE
<b>2002</b>				
June 18	Y	Y		First meeting on the project – Authorize Consultant Team to prepare Scope of Work (SOW) for Phase I
August 27	Y	Y		Status report
October 22	Y	Y		Approve Phase I SOW and funding.
<b>2003</b>				
March 25	Y	Y		Present Draft Restoration Planning Process Document (RPPD)
April 22	Y	Y		Present Draft Public Participation Plan (PPP) Adopt RPPD
July 22	Y	Y		Status report on Phase II SOW development Adopt PPP
October 28	Y	Y		Present draft Phase II SOW
November 25	Y	Y		Discuss Response to Comments on the Phase II SOW and Budget
December 16	Y	Y		Present Final Response to Comments Approve Phase II SOW and Budget
<b>2004</b>				
April 27	Y	Y		Present Draft Eligibility Criteria

<b>2005</b>				
April 26	Y	Y		Discuss project status Approve Funding for Phase II Contract
<b>2006</b>				
February 28	Y			Project update
March 28	Y			Project update and status of consulting contract
April 25	Y	Y		Adopt Eligibility Criteria
July 25	Y			Update on project schedules
August 22	Y			Present Draft Evaluation Criteria Present Restoration Categories
September 26			Y	Take public comments & questions on the proposed Evaluation Criteria
October 24	Y	Y		Update on Eligibility Criteria revisions in response to public comment
November 28			Y	Request For Proposals Workshop
<b>2007</b>				
February 27	Y			Discuss the Draft Eligibility Report and take questions on the report
March 27	Y	Y		Approve Final Eligibility Report
April 24			Y	Request for Supplemental Information Workshop
December 18	Y	Y		Present Draft Natural Resources Restoration Proposal Evaluation Report
<b>2008</b>				
January 23	Y		Y	Receive Public Comment on the Draft Natural Resources Restoration Proposal Evaluation Report (“Short List Report”)
April 22	Y	Y		Approval of the “Short List” contained in the Natural Resources Restoration Proposal Evaluation Report
June 23	Y		Y	CEPA Scoping Meeting

Appendix C

**Trustee Approval  
of the Housatonic River Basin  
Draft Natural Resources Restoration Plan,  
Environmental Assessment and  
Environmental Impact Evaluation  
for Connecticut**

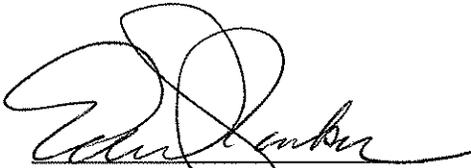
**Connecticut Trustee Approval  
of the Housatonic River Basin  
Draft Natural Resources Restoration Plan,  
Environmental Assessment and  
Environmental Impact Evaluation  
for Connecticut**

By my signature, I acknowledge that I have reviewed all project proposals and the preferred alternative, and hereby approve the Draft Housatonic River Basin Natural Resources Restoration Plan, Environmental Assessment and Environmental Impact Evaluation for Connecticut.

The Draft Restoration Plan, Environmental Assessment and Environmental Impact Evaluation, including the list of projects that comprise the preferred alternative, will be presented for public review and comment from March 3 through April 17, 2009. The Final Restoration Plan, Environmental Assessment and Environmental Impact Evaluation may include revisions following consideration of comments received.

This approval does not extend to the Final Restoration Plan, Environmental Assessment and Environmental Impact Evaluation.

Approved:



Edward C. Parker

Trustee Representative

Connecticut Department of Environmental Protection

2/23/09

Date

**U.S. Department of the Interior Approval  
of the  
Housatonic River Basin  
Natural Resources Restoration Project in Connecticut**

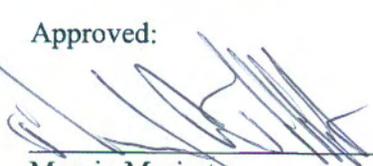
**Draft  
Restoration Plan and Environmental Assessment**

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 Housatonic River case is the Regional Director for the U.S. Fish and Wildlife Service's Northeast Region.

By the signatures below, the draft Restoration Plan/Environmental Assessment (RP/EA) 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.

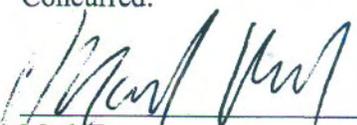
Approved:

  
Marvin Moriarty  
Regional Director  
Northeast Region  
U.S. Fish and Wildlife Service

Acting

2/20/09  
Date

Concurred:

  
Mark Barash  
Senior Attorney  
Northeast Region  
Office of the Solicitor

2/20/09  
Date

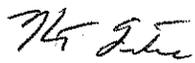
**National Oceanic and Atmospheric Administration  
of the Department of Commerce  
Trustee Approval  
of the Housatonic River Basin  
Draft Natural Resources Restoration Plan,  
Environmental Assessment and  
Environmental Impact Evaluation  
for Connecticut**

By my signature, I acknowledge that I have reviewed all project proposals and the preferred alternative, and hereby approve the Draft Housatonic River Basin Natural Resources Restoration Plan, Environmental Assessment and Environmental Impact Evaluation for Connecticut.

The Draft Restoration Plan, Environmental Assessment and Environmental Impact Evaluation, including the list of projects that comprise the preferred alternative, will be presented for public review and comment from March 3 through April 17, 2009. The Final Restoration Plan, Environmental Assessment and Environmental Impact Evaluation may include revisions following consideration of comments received.

This approval does not extend to the Final Restoration Plan, Environmental Assessment and Environmental Impact Evaluation.

Approved:

  
\_\_\_\_\_  
Ken Finkelstein, PhD  
Trustee Representative  
National Oceanic and Atmospheric Administration

24 Feb 2009  
Date