

Request for Proposals:

HOUSATONIC RIVER NATURAL RESOURCES RESTORATION PROJECT  
CONNECTICUT SUBCOUNCIL REQUEST FOR PROPOSALS (RFP)

**Part A: RESPONDER AND PROJECT SUMMARY FORM**

Please read "RFP: Overview of Selection Process" before completing this form.

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INLAND FISHERIES

Part A must be completed using Submittal Form A. Responses may be entered electronically using the Microsoft Word version of Part A of this form available on the Housatonic River Basin Natural Resource Restoration Project in Connecticut website (www.housatonicrestoration.org), saved and printed. Alternatively, the responder may print the form and complete it with black ink. An Adobe Acrobat version of the entire form (Part A and Part B) is also available on the Housatonic River Basin Natural Resource Restoration Project in Connecticut website

**Project Name** Provide a brief working name.

Restoration of Coarse Woody Habitat in Housatonic River Mainstem Impoundments.

**Responder** – if there is more than one party involved in the project, please provide the information for the primary or lead party.

David A. Santos

Name

Environmental Director

Title

Connecticut B.A.S.S. Federation Nation

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**Type of Entity**

Check the box that best describes the primary respondent.

- Private individual
- Non-profit organization
- Municipal government
- State government
- County government
- Federal government
- Tribal government
- Corporation or Business
- Academic Institution
- Other (explain)

**Project Implementation**

Does the responder plan to be the Project Sponsor and respond to the Request for Supplemental Information (RSI) pending approval of this Proposal?

Yes  No

If yes, please list any other project participants. Peter Aarrestad, CT DEP - Inland Fisheries Division - Habitat Conservation and Enhancement Program

**Request for Proposals:**

If the responder does NOT plan to be the Project Sponsor and does NOT intend to respond to the Request for Supplemental Information (RSI), is the responder interested in being a project participant and assisting a different Project Sponsor on this project?

Yes       No

## Request for Proposals:

**Restoration Priority Funding Category** See Sec. 3 of "RFP: Overview of Selection Process" for category descriptions.

**Primary Restoration Category.** Check the restoration category that is the primary goal of the project.

Check one box.

- Aquatic Natural Resources Restoration/Enhancement  
 Riparian & Floodplain Natural Resources Restoration/Enhancement  
 Restoration/Enhancement of Recreational Uses of Natural Resources

**Secondary Categories.** Check all relevant boxes.

- Aquatic Natural Resources Restoration/Enhancement  
 Riparian & Floodplain Natural Resources Restoration/Enhancement  
 Restoration/Enhancement of Recreational Uses of Natural Resources

**List Specific Injured Natural Resources and/or Impaired Natural Resource Services to Benefit from Project**

Impaired aquatic habitat and riverine biota as well as reduced recreational opportunities (recreational angling in particular) will all be enhanced by the proposed project.

**Project Location** (if known) See directions and "RFP: Overview of Selection Process" for additional materials to provide (maps, aerial photographs)

Municipality/ies:

New Milford and Bridgewater at the upstream project limits (northern end of Lake Lillinonah) downstream to Derby and Shelton (southern end of Lake Housatonic at Derby dam).

Longitude for approximate center of project area: 73 degrees 12' 27.9" DMS (~ center of Lake Zoar; the central of the three impoundments)

Latitude for approximate center of project area: 41 degrees 25' 12.8" DMS (~ center of Lake Zoar; the central of the three impoundments)

**Project Budget Estimate** (if known)

Total Project Cost Estimate: \$ Exact figures not known at this time (not expected to exceed \$50,000)

Housatonic River NRD Fund Estimate: \$ Not known at this time

## **Restoration of Coarse Woody Habitat in Housatonic River Mainstem Impoundments.**

### **PART B**

#### **Item 1. Project Narrative:**

##### **1) Project Goals and Objectives:**

The proposed project is intended to restore Course Woody Habitat (CWH) in Lakes Lillinonah, Zoar, and Housatonic, the three major Housatonic River mainstem river impoundments in Connecticut. CWH (AKA large woody debris or LWD) serves a critical role in sustaining desirable fishes and communities in lakes, and changes in CWH can produce longterm effects at the ecosystem scale (Sass et al 2006). This proposal will actively restore natural resources and services through a physical restoration project that will integrate public involvement and avoid adverse environmental impact.

##### **2) Project Benefits:**

The Debris Management Plan developed by the Northeast Generation Company (NGC) (currently Northeast Energy) and approved by the Federal Energy Regulatory Commission (FERC) as part of the relicensing of the Housatonic Hydroelectric Project requires the licensee (per FERC order issued Sept. 15, 2005) to conduct skimming operations on Lake Lillinonah and Lake Zoar between May 1 and September 1 annually for the purpose of removing floating debris, including natural woody debris. Such annual removal efforts will ultimately reduce the amount of CWH in these two impoundments as well as within Lake Housatonic, the next impoundment downstream of Lake Zoar.

This proposed habitat restoration plan is intended to (1) enhance near-shore fisheries habitat, and (2) mitigate the loss of CWH from the three impoundments as a result of the aforementioned Debris Management Plan. It will do so by placing CWH of various types at appropriate shoreline and submerged locations in all three impoundments. By securely anchoring the CWH, public concern over navigation safety will be sufficiently addressed, the ecosystem habitat value of CWH will be maintained, and the structures will enhance recreational angling opportunities in the Housatonic River mainstem for various fishes including largemouth bass, smallmouth bass, black crappie, and sunfish species. These three impoundments are all popular destinations for both shore and boat based recreational anglers. Lake Lillinonah, at 1,547 acres, is the third most popular bass tournament site behind Candlewood Lake and the Connecticut River (CT DEP Inland Fisheries Division), supporting 77 tournaments in 2006. Lake Zoar, at 909 acres, is the fifth most popular tournament site in Connecticut, whereas Lake Housatonic at 328 acres still ranks within the top 20.

##### **2) General Tasks:**

The project will be implemented in four general phases within each impoundment. Phase 1 consists of surveying the impoundments to determine the most appropriate locations for the various CWH structures. Surveys will be done visually, through electronic means to assess bottom type and existing habitat complexity, and through review of maps and other data to determine ownership and potential access points for selected shoreline habitat restoration locations (access via the water would be the norm). Phase 2 involves acquisition of any permits that may be required from state or local government, or where

applicable, from Northeast Energy. Phase 3 consists of project implementation at the selected sites. Phase 4 will consist of monitoring of all structures to assess longevity and success of the various CWHs, and will include provisions for replacing or augmenting the CWH. Phase 4 is considered critical to long-term success and it will thus continue well into the future and beyond the funding opportunities of this grant. As such, it will ensure that sufficient CWH remains within all three impoundments to support aquatic biota, ecosystem function, and enhanced fishing opportunities over the long term. Consultation with other interested parties including but not limited to the DEP, various lake authorities, municipalities and Northeast Energy will be undertaken as appropriate during all project phases.

**General overview of CWH project types:**

CWH would either be sunk in predetermined areas of sufficient depth (to prevent conflict with navigation), or anchored along the shore in shallow waters where a portion of the trees would be visible, similar to natural tree drops. The larger pieces of CWH, including whole trees that would be best suited for habitat enhancement, may well be the same floating materials that are too large for mechanical skimming. As such, in-lake deployment as fish habitat of some of this larger material that would otherwise be disposed of off site will be explored. If an insufficient supply of CWH that would otherwise be removed by skimming cannot be obtained from the skimmed stock of floating debris, some wood may have to be obtained from offsite. This will result in costs for both material acquisition and transportation to the lakes. In addition, material will be needed to secure the CWH to shoreline and anchored locations in deeper water (concrete weights, stainless steel cable, etc.). Wood meeting the following criteria has been described elsewhere as being most suitable for CWH projects:

- At least 10 feet long
- At least 1.0 to 1.5 feet in diameter
- Pieces with rootwads attached
- Pieces with some remaining branch structure

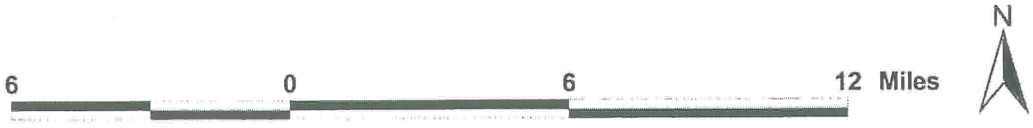
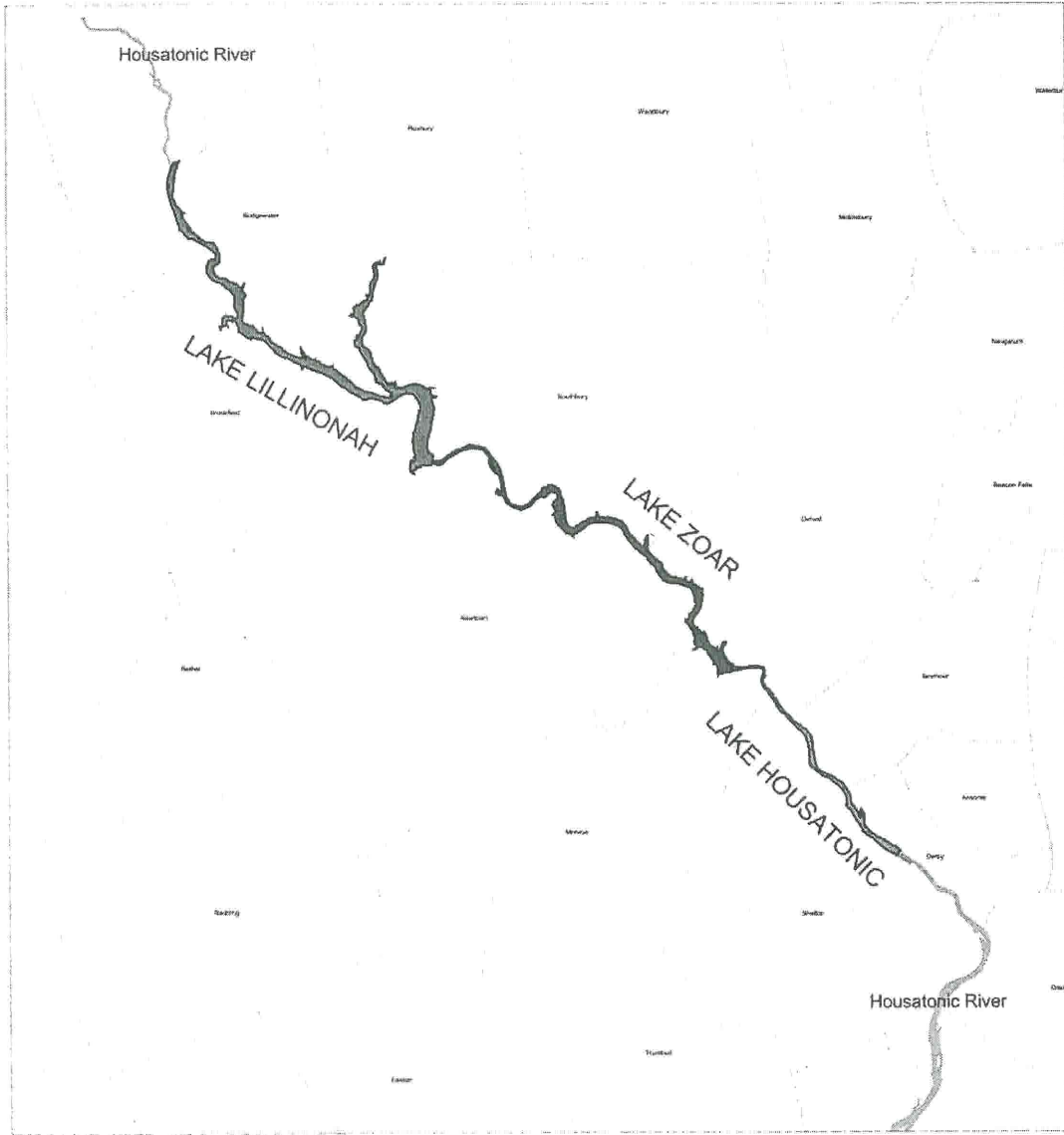
More detailed information on the design of various CWHs is available upon request.

Lake Lillinonah offers an extensive shoreline that is currently forested, providing numerous opportunities for shoreline anchoring of CWH. In addition to a significant shoreline fronted by Paugusset State Forest, Northeast Energy, municipalities, and land conservation organizations own other lands. As such, there would seemingly be numerous locations where shoreline anchoring would be suitable, provided the riparian landowners would approve. Though it has a more heavily developed shorefront, Lake Zoar also supports vast areas under state, Northeast Energy and municipal ownership. Lake Housatonic also provides areas with state and municipally owned shoreline property.

**Literature Cited:**

Sass, G.C., J.F. Kitchell, S.R. Carpenter, T.R. Hrabik, A.E. Marburg, and M.G. Turner. 2006. Fish Community and Food Web Responses to a Whole-lake Removal of Coarse Woody Habitat. *Fisheries*. 31(7) 321-330.

**Item 2. Project Location:** The project area encompasses Lake Lillinonah, Lake Zoar, and Lake Housatonic in their entirety.



**Item 3. Criteria Statements**

Criterion	Response	Additional information
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	
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	
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?	NO <sup>1</sup>	<sup>1</sup> FERC order issued Sept. 15, 2005 specifies that the licensee will consult with CT DEP in regards to debris retention for fish habitat. However, such order does not mandate that the licensee complete any such fish habitat management plan. Copy available upon request.
4. Is the Proposed Project inconsistent with any federal, state, or local law or policy?	NO	
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?	NO	