

Request for Proposals:

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

Part A: RESPONDER AND PROJECT SUMMARY FORM

RECEIVED
JAN 17 2007
INLAND FISHERIES

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

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.

Blackberry River Fish Passage Restoration

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

Donald J. Mysling

Name

Senior Fisheries Biologist

Title

CT DEP Inland Fisheries Division

Address

CT DEP Western Headquarters

Address

Harwinton CT 06791

City State Zip

(860) 485-0226 // (860) 567-8998

Phone

donald.mysling@po.state.ct.us

Email

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. Housatonic Valley Association, USDA Natural Resources Conservation Service

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

Injured natural resources to benefit: coldwater riverine fish species including brown trout and burbot, a State endangered species.

Impaired natural resource services to benefit: unobstructed fish movement, stream habitat continuity, streambank stability.

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

Municipality/ies:

Village of East Canaan within the Town of North Canaan.

Longitude for approximate center of project area: 73° 17' 34"

Latitude for approximate center of project area: 42° 00' 38"

Project Budget Estimate (if known)

Total Project Cost Estimate: \$ 500,000

Housatonic River NRD Fund Estimate: \$ 500,000

Part B: ITEM 1. - PROJECT NARRATIVE

1.1 Project Goals and Objectives. The project goal is to provide unobstructed fish passage and to reconnect segmented aquatic habitat at two dams constructed across the Blackberry River some 200 years ago.

The Blackberry River is a major tributary to the Housatonic River. The river forms at the confluence of Spaulding Brook and Wood Creek in Norfolk and flows westerly through North Canaan then discharges into the Housatonic River in the Village of Canaan. The Blackberry River has a watershed area of 46.57 square miles. The watershed of the Blackberry River is primarily forested with sparse residential development. Several large dairy farms are along the upper reaches of the mainstem while the more urbanized Canaan had been founded closer to the Housatonic River confluence.

The Blackberry River channel is of a moderate grade that creates a series of deep pools and riffles. The riffle-pool sequence and diverse instream habitat features (i.e. a heterogeneous mix of streambed materials, fallen and/or overhanging vegetation, undercut banks,) would characterize the river as coldwater. The Connecticut Department of Environmental Protection (CT DEP) classifies the Blackberry River as a *Class B* surface water. Designated uses for surface water of this classification include recreational use, coldwater fish and wildlife habitat, agricultural, industrial and other legitimate uses including navigation.

The CT DEP Inland Fisheries Division (Division) initiated comprehensive fish and habitat survey of the Blackberry River in 1992 and has been conducting fish surveys on an annual basis since that time. The sample locations are within the upper, mid, and lower river reaches. The initial and annual surveys confirmed the presence of a diverse coldwater stream fish community of the following species: brown trout, blacknose dace, longnose dace, slimy sculpin, common shiner, fallfish, creek chub, tessellated darter, and white sucker.

The State of Connecticut (the Division and its predecessor the Connecticut Board of Fish and Game) has been stocking hatchery-reared trout into the Blackberry River for nearly one century. Roughly the entire length of river is open to the public for fishing. Approximately 3,000 adult (9" – 12") brook, brown, and rainbow trout are stocked annually. Since 1999, the Division has also been stocking brown trout fry and fingerlings. Some 5,000 brown trout fry (1/2") and 7,500 fingerlings (1" – 2") have been stocked yearling within suitable habitat throughout the river. The success of the stocking (i.e. maturation of the young fish to adult size) prompted the Division to establish special angler harvest regulations in 2002. The segment of the Blackberry River from the Whiting River downstream to the Housatonic River became a *Class 3 Wild Trout Management Area*; it is one of fifteen watercourses so designated in Connecticut. Trout must have a minimum length of 9 inches to be harvested and anglers may not possess more than 5 fish per day.

In 2004, the Division and the University of Connecticut College of Agriculture and Natural Resources (UCCANR) collaborated on a study to determine the status of the burbot, a fish listed as *Endangered* by the CT DEP. The burbot was first reported in Connecticut in 1844 being found in streams in the upper Housatonic River watershed. Fish surveys of the 1950's and 1960's showed a significant decline in burbot distribution with the only viable population reported in the Hollenbeck River system. Surveys by the UCCANR in 2005 and 2006 confirmed the presence of burbot in the lower reaches of the Blackberry River.

The Blackberry River provided waterpower for the iron smelting industry that flourished in the North Canaan area in the late 1700's to the late 1800's. Two blast furnaces were constructed along Lower Road in the village of East Canaan relied on waterpower supplied from impoundments created by constructing dams across the Blackberry River. The dam at the John Beckley Furnace (Canaan No. 2) site remains intact and is referred to as Lower Pond Dam. The dam at the Samuel F. Adam Furnace (Canaan No.1) is unnamed and is located approximately 750 feet downstream (west) of the Lower Pond Dam. The dam was partially removed by the U.S. Army Corps of Engineers in 1957 as it was considered a hazard following severe flood events produced by a hurricane in mid-August 1955. Photographs of both dams are provided in Attachment 1.

The project objective is to modify the two dams in a manner that provides for upstream fish passage allowing resident fish species complete access to all suitable habitats throughout the entire the Blackberry River.

1.2 Project Benefits. The unnamed dam and Lower Pond Dam in East Canaan remain as the only artificial structures across the Blackberry River. Modifications to both dams would reconnect habitat through the entire nine-mile length of river. The project is intended to reconnect habitat for all resident stream fish and most importantly habitat for the State-endangered burbot.

Water quality degradation and/or physical habitat impairment within streams of the upper Housatonic River watershed are believed to be the have caused a decline in the population size and range of the burbot. Recent survey work by the UCCANR show the range of burbot in the Blackberry River is being restricted by the unnamed dam and Lower Pond Dam. Access to currently unavailable habitat (including that required for spawning and juvenile development) should increase the burbot population in the Blackberry River.

Burbot produced in the Blackberry River may also migrate downstream and recolonize in the Housatonic River mainstem. The development of a large population of burbot over a broad geographical range would ultimately remove the current State-endangered listing.

1.3 General Tasks.

1.3.1 Breach the remnants of the unnamed, privately-owned dam. The U.S. Army Corps of Engineers lowered the spillway elevation of the dam in 1957 to a height of approximately 5 feet. All, or portions, of the remnants should be further lowered to the surface elevation of the riverbed. The dam abutments and wingwalls should remain intact as they are stabilizing the steeply sloped river banks.

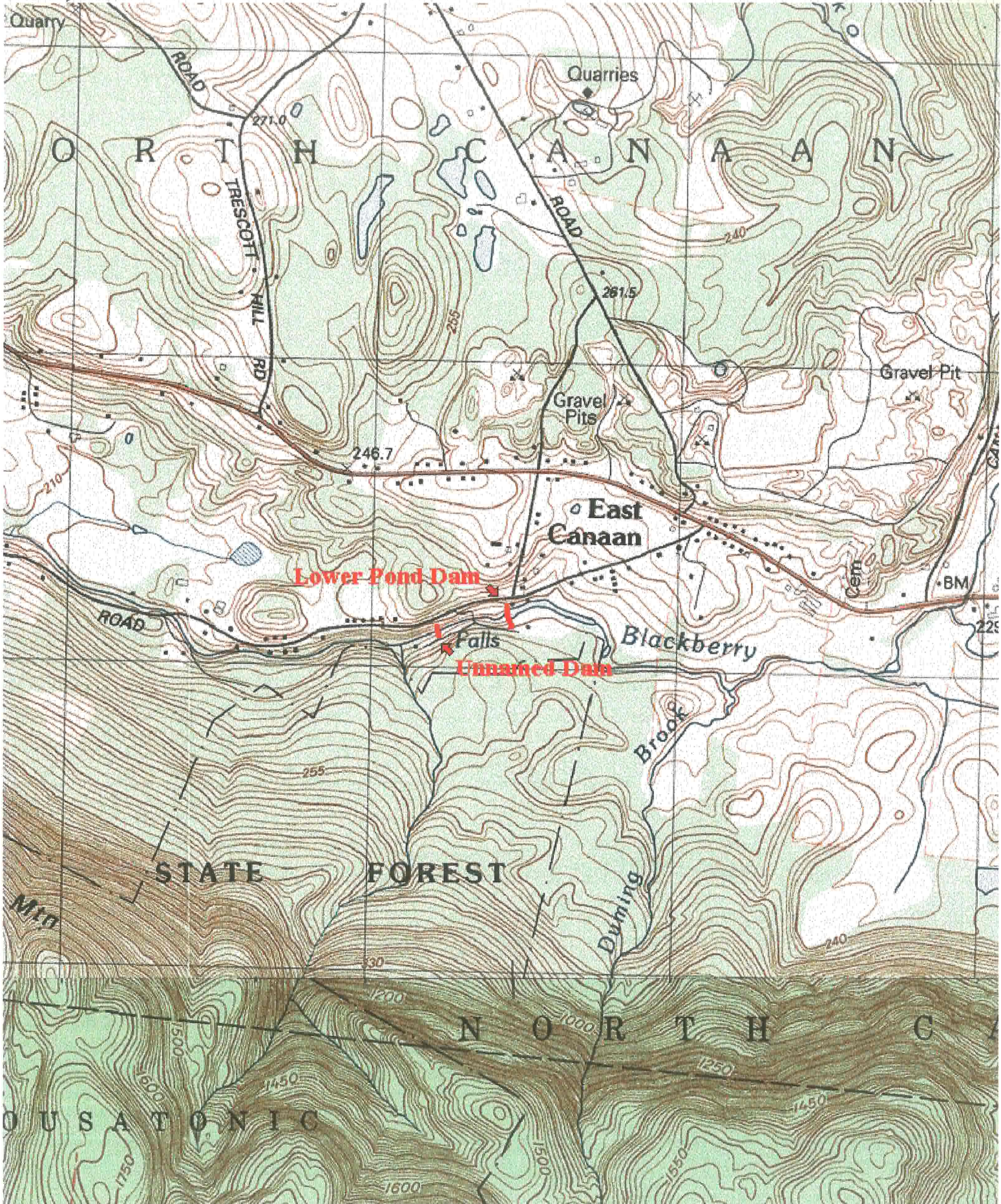
1.3.2 Create a bypass channel around the Lower Pond Dam. The Beckley Furnace site including the Lower Pond Dam were purchased by the State of Connecticut in 1946 for a park. In 1978 the furnace site and dam were placed on the National Register of Historic Places and in 1996 the CT DEP provided funds to repair and restore the site that is now known as the Industrial Monument Historic Preserve. Alteration to the Lower Pond Dam (e.g. breaching, removal) is not considered given the local and national historic importance. A bypass channel landward of the southerly dam abutment is proposed. The bypass channel will be located within the course of an abandoned channel and will constructed of natural materials to mimic the physical characteristics of small streams in the watershed. Attachment 2 provides a typical design for a bypass channel.

Part B: ITEM 2. - PROJECT LOCATION

The project location is identified on the USGS Topographic Map – Ashley Falls, MA-CT Quadrangle that is reprinted on the following page. The map scale is 1" = 1,350'.

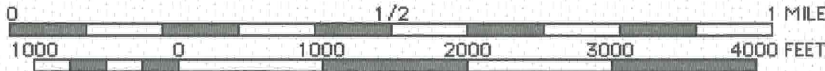
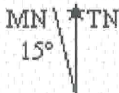
42°01'43", 73°18'40"

42°01'43", 73°16'19"



41°59'36", 73°18'40" NAD83

41°59'36", 73°16'19"



Printed from TOPO! ©1998 Wildflower Productions (www.topo.com)

Part B: ITEM 3. – CRITERIA STATEMENTS

3.1 Yes. The proposal contains the following information: (A) a completed responder and project summary form, (B) a project narrative, project location, and criteria statements, and (C) supporting materials consisting of a site map, site photographs, and conceptual plans

3.2 Yes. The proposal to modify the unnamed dam and Lower Pond Dam on the Blackberry River in East Canaan will reconnect aquatic habitat that had been segmented for nearly two centuries. The restoration of contiguous habitat will benefit a variety of coldwater fish species including the State-endangered burbot. The availability of additional habitat for burbot is anticipated lead to a population increase and future recolonization of historic habitat. Although suitable physical habitat for burbot is available in the Housatonic River mainstem, it may have been made unusable by past water quality degradation. The proposal places an emphasis entirely on the implementation of physical restoration that being the modification of two dams.

The following are being incorporated into the proposal to assure consistency with the CT SubCouncil goals. The Housatonic Valley Association (HVA) and the USDA Natural Resources Conservation Service (NRCS) have agreed to be project sponsors. The role of HVA will be to enlist public participation in the project such as assembling a volunteer work force for: any manual labor required for the project, assisting in future fish surveys, and preparing educational materials for posting at the sites of both dams.

NRCS staff have prior experience in designing dam breaches and bypass channels and their expertise will be utilized in the Blackberry River project. The NRCS makes use of the Natural Channel Design concept (the “NCD”) as the foundation for managed restoration projects. The NCD concept focuses on restoring “natural” form and function to a stream reach while minimizing the use of traditional, hardened stabilization practices. The NCD design will provide an appropriate stream morphology and address the streams ability to handle both the wide range of flows it experiences as well as the transport of the streams sediment supply. NCD projects use a combination of instream rock structures and vegetation plantings to provide effective channel stability.

The following measures are proposed to avoid adverse impacts associated with the dam modification proposal. The breach of the unnamed dam will be scheduled for the time period of June 1 through September 30. The Inland Fisheries Division routinely recommends that instream work be done during this timeframe as it is a seasonal low flow period and it is not a critical period for any life function (i.e spawning, egg incubation, fry development) of the resident fish population. The bypass channel around the Lower Pond Dam can be constructed in the dry. Off-site sediment transport will be prevented by erosion and sediment control devices deemed most appropriate by the CT DEP.

Flood events of October 2005 caused significant bank erosion along the Blackberry River adjacent to the unnamed dam and Lower Pond Dam. The restoration of the eroded banks using bioengineered techniques will be performed as mitigation for disturbances to riparian vegetation during construction.

3.3 No. Neither the breaching of the unnamed dam nor constructing a bypass channel at the Lower Pond Dam is an action that is presently required under other federal, state, or local law including, but not limited to, enforcement action.

3.4 No. The proposal to modify the unnamed dam and Lower Pond Dam to restore contiguous habitat in the Blackberry River is intended to benefit a variety of coldwater fish species including the State-endangered burbot. This is consistent with the overall goal of the *Connecticut Endangered Species Act* "...to conserve, protect, restore and enhance any endangered or threatened species and their essential habitat."

3.5 No. Neither the breaching of the unnamed dam nor constructing a bypass channel at the Lower Pond Dam is inconsistent with any known ongoing or anticipated remedial actions in the Housatonic River watershed in Connecticut. an action that is presently required under other federal, state, or local law including, but not limited to, enforcement action.