

# FINAL Supplemental Environmental Assessment and Finding of No Significant Impact

## Wiswall Dam Fish Passage Project Durham, NH



Photo: LiDAR generated 2-Foot Contours projected over high resolution imagery of Wiswall Dam and Historic Park.

USDA - Natural Resources Conservation Service  
May 2011

Supplement to August 2005 US Army Corp of Engineers – New England District  
Draft Environmental Assessment “Wiswall Dam Aquatic Ecosystem Restoration”

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## **Finding of No Significant Impact for the Supplemental Environmental Assessment on The Wiswall Dam Fish Ladder Project Durham, New Hampshire**

In accordance with the Natural Resources Conservation Service (NRCS) regulations (7 Code of Federal Regulations Part 650) for implementing the National Environmental Policy Act (NEPA), NRCS has completed an Environmental Assessment (EA) of the following Proposed Action:

### **To install a Denil Fish Ladder and migration notch in the spillway of the Wiswall Dam on the Lamprey River.**

The purpose of the project is to improve fish passage at the dam allowing anadromous fish to access an additional 43 miles of river habitat upstream of the dam. The work is authorized under the Wildlife Habitat Incentives Program of the 1996 and 2002 Farm Bills.

To determine significance of the action analyzed in the EA, NRCS is required by NEPA, 40 CFR 1508.27 and NRCS regulations to consider the context and intensity of the proposed action. Based on the review of NEPA criteria for significant effects and the analysis in this EA and supporting documents, I have determined that the Proposed Action would not have a significant effect upon the quality of the human environment. Therefore, preparation of an Environmental Impact Statement (EIS) on the final action is not required under Section 102(2) (c) of NEPA, CEQ implementing regulations (40 CFR Part 650). This Finding is based on the following factors:

- 1) Cultural Resources - Installation of the fish ladder will require excavation at the Wiswall Falls Historic Site as well as disassembly and reassembly of an historic foundation wall. NRCS has hired Cultural Resource experts from Public Archaeology Lab (PAL) for on-site investigations and documentation during the planning process. PAL will also be on-site during construction. NRCS has worked with consulting parties on the Section 106 process and has a signed MOA documenting the process and agreed-to mitigation including avoiding the "corner" the historic mill foundation, providing funding for an interpretive panel, archival photographs and documentation of the site before disturbance. The removal of the Wiswall Dam was considered, but was not the preferred alternative due in part to the historic status of the site.
- 2) Prime and Unique Farmlands – a small (0.3 ac) area of Soils of Local Importance may be disturbed during the construction process. We completed a Farmland Conversion Impact Rating Form and upon review the impact was not determined to be significant and the project can move forward in full compliance with the Farmland Protection Policy Act.
- 3) Threatened and Endangered Species – we have consulted with US Fish and Wildlife Service, NH Fish and Game (NHFG) and NH Natural Heritage Bureau (NHB). The proposed action will not adversely affect endangered or threatened species, marine mammals or critical habitat. The proposed action will have overall positive benefits to several species of concern including: American Shad, Alewife and Blue Back

herring. Consultation has occurred with New Hampshire Fish and Game and New Hampshire Heritage Bureau to provide guidance for the timing of construction operations and impoundment draw-downs to reduce impacts on state listed species. In addition, regular monitoring and supervision by NHFG and NHB will occur as needed throughout the construction process and oversight will be provided to the Town of Durham during operation and maintenance of the fish ladder. We will continue to work closely with NHFG to provide passage for American eels at the site.

- 4) Wild and Scenic Rivers – The Wiswall Dam is located on a section of the Lamprey River that is designated as a Wild and Scenic River with a “Recreational” classification. The proposed action will not negatively impact river recreation opportunities long-term and will enhance wildlife viewing and fishing opportunities. We have consulted with the Lamprey River Advisory Committee (LRAC) among others. The LRAC management plan lists fish passage at the Wiswall Dam as a “key future action” to benefit wildlife and ecology.
- 5) The Proposed Action does not violate Federal, State or Law or requirements imposed for protection of the environment. The major laws identified include the Clean Water Act, Clean Air Act, Magnuson-Stevens Fishery Conservation Act, the Endangered Species Act, National Historic Preservation Act, the Marine Mammal Protection Act, the Executive Order on Environmental Justice and the Migratory Bird Treaty Act. The Proposed Action is consistent with the requirements of these laws.

Based on my review and evaluation of the environmental affects as presented in this Environmental Assessment, I have determined that the Wiswall Dam Fish Passage Project is not a major Federal action significantly affecting the quality of the human environment. Therefore, I have determined that this project is exempt from requirements to prepare an Environmental Impact Statement.



Richard P. Ellsmore,  
New Hampshire State Conservationist  
Natural Resources Conservation Service  
United State Department of Agriculture

5/16/2011  
Date

**FINAL Environmental Assessment**

**Wiswall Dam Fish Passage Project**

**Lamprey River, Durham, NH**

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**SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT**  
**for the Wiswall Dam Fish Passage Project – Lamprey River**  
**Durham, NH**

**1. Introduction**

This document supplements the *Wiswall Aquatic Ecosystem Restoration – Durham, NH* draft Environmental Assessment (dEA) which was prepared by the U.S. Army Corp of Engineering (ACOE) in August 2005 and also includes a Finding of No Significant Impact (FONSI). The ACOE dEA (Appendix 1) provided extensive evaluation for no action and three alternatives to provide anadromous fish passage to 43 miles of riverine habitat upstream of the dam. The preferred alternative in 2005 was to construct a nature-like bypass channel around the Wiswall dam. The two other alternatives considered in detail were dam removal and installation of a Denil fish ladder. Since that time, the Town of Durham has reconsidered their original decision and has partnered with the United States Department of Agriculture – Natural Resources Conservation Service (NRCS) on this project which includes a Denil fish ladder and downstream migration notch in the spillway to provide for fish passage for several species. One of the key benefits of the new preferred alternative is the minimal impact to the Wiswall Dam site which is on the National Register of Historic Places and the area is listed as a National Register Historic District. Selection of the fish ladder alternative allows for the fish passage project to move forward in significantly improving access to upstream habitat while balancing the desire to protect historic and cultural resources.

The purpose and scope of this Supplemental Environmental Assessment (EA) are limited to providing new information based on additional consultation and public outreach as well as to provide specific details for the Denil fish ladder alternative and the potential impacts that may occur as a result of those changes. With the exception of the points described in the following sections, the dEA (Appendix 1) accurately represents: the project’s purpose and need; the analyses of the project alternatives, including the alternative of no action; and the potential environmental impacts associated with each alternative.

**This EA will follow the organization of the ACOE dEA (except where noted) and will reference sections and page numbers to allow the reader to cross-reference the dEA. Only sections with new or updated information will be included in this document.**

***A. Study Authority (Section Section 1.1, pg 1)***

The Federal Agricultural Improvement and Reform Act of 1996 (Section 387) and the Farm Security and Rural Investment Act of 2002 (The 1996 and 2002 Farm Bills) authorized NRCS to work with landowners to develop wildlife habitat on their property through the Wildlife Habitat Incentive Program (WHIP). WHIP is a voluntary program that provides technical and financial assistance to landowners and others for the creation of high-quality wildlife habitats that support wildlife populations of National, State, Tribal and local significance. In 2008, NRCS entered into a WHIP contract with the Town of Durham, NH in order to provide fish passage at the Wiswall Dam.

## ***B. Study Purpose (Section 1.2, pp 1-2)***

This supplemental report serves as a NRCS Environmental Assessment to document the proposed action and alternatives, environmental resources in the affected areas, and the environmental effects of the proposed project. This report also provides the NH NRCS State Conservationist with information for determining whether a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS) should be prepared for the Proposed Action to comply with the Federal National Environmental Policy Act (NEPA).

## **2. Project History – (Section 2.0, pp. 7-10)**

In March 2000, the NH Department of Fish and Game (NHFG) initiated a study of the Lamprey River to determine options for fish passage beyond the Wiswall Dam and partnered with the US Army Corp of Engineers (ACOE) as the lead Federal Agency. In November 2005, ACOE completed a draft Environmental Assessment (dEA) analyzing several alternatives and selected a preferred alternative of a nature-like fish bypass around the Wiswall Dam in Durham, New Hampshire. During the scoping and planning process the ACOE also looked at several other options to provide fish passage at Wiswall Dam including: dam removal, fish ladder, and no action. The project was put on hold for several years and in 2008 the Town of Durham began working with the United State Department of Agriculture’s Natural Resources Conservation Service (NRCS), as the new lead Federal Agency, to revisit options for fish passage at the Wiswall Dam. The Town of Durham has reconsidered their options and decided that a Denil Fish Ladder, which was one of the alternatives analyzed in detail in the dEA, would better fit their needs due to the significant reduction in site disturbance and alteration of the landscape. The Denil Fish Ladder will allow fish to pass the dam and will minimize impacts to cultural and historic resources, abutter’s property, the Town’s water supply and recreational activities on the river. The dam removal alternative was revisited, as it is the best alternative for fish and eel passage, but was not selected as the preferred alternative due to its impacts on cultural and historic resources. Through this process and as stated in this document, **the Town of Durham and NRCS have selected the installation of fish ladder and a downstream migration notch as the new preferred alternative.**

Since the ACOE’s dEA examined the Denil Fish Ladder alternative extensively, the NRCS and Town of Durham are adopting the dEA from August 2005 and are supplementing that document with scoping and consultation activities that have taken place since the nature-like bypass alternative was abandoned. **Based on two public scoping meetings, numerous partner meetings, and several historical consulting parties meetings, NRCS is issuing a new FONSI as part of the NEPA process with the intention of installing of a fish ladder and downstream migration notch during the summer of 2011.**

## **3. Formulation of Alternatives - Alternative 3. Fish ladder and spillway notch (Section 3.1.3 pg. 18)**

The fish ladder concept is not a new one and was first proposed at this site in the 1980s. By statute NRCS has consulted with United States Fish and Wildlife Service (USFWS) on the design of the fish ladder (Appendix 2). This consultation makes the determination that river left or the east side of the river is the only suitable place for the ladder based on river geomorphology. Also of interest are flows moving through the fish ladder during migration. The fish ladder can accommodate a wide range of flows which are typical during spring migration of river herring. The town of Durham will accept responsibilities for the operation and maintenance of the fish ladder with the assistance of NHFG (Appendix 3). The fish ladder will help the town keep run-of-river conditions during low flow periods. During the first few seasons careful monitoring of the fish ladder will determine if fine adjustments need

to be made to flows entering the ladder vs. the use of the flood gates and the flow being directed over the spillway. In addition to the fish ladder, the project also includes installation of the downstream migration notch in the spillway. Detailed designs of the fish ladder and spillway notch are available upon request.

The fish ladder and spillway notch will significantly improve fish passage but do little to benefit upstream migration for American eel. We have worked closely with the Town of Durham and US Fish and Wildlife Service (USFWS) to determine how best to provide passage for American eel, while protecting the Cultural and Historic Resources at the site. The USFWS recommends determining the most appropriate eel passage measures after reviewing any site characteristic and condition changes after installation of the fish ladder (USFWS letter to NRCS 3/10/2011, See Appendix 17). The USFWS is interested in working with NRCS and the Town of Durham to provide technical and financial assistance, pending available funding.

#### **4. Comparison of Alternatives (Section 4.0 – pp 25 - 41)**

These sections of the original document were included to meet ACOE decision document requirements. This level of detail is not required for NEPA compliance and will not be updated in this supplement.

#### **5. Affected Environment - Historical and Archaeological Resources (Section 5.4 pp 56 – 58)**

##### *Historical Period (Section 5.4.1 pg 56)*

The Wiswall Falls Mill Site was listed in the National Register of Historic Places in 1988. In 2005, as part of the Section 106 consultation for the Wiswall Bridge Replacement Project, the Federal Emergency Management Agency and New Hampshire State Historic Preservation Officer, determined that the Wiswall Falls Mill Site, Wiswall Dam, and a number of other resources in the surrounding area, are eligible for listing in the National Register as a contributing properties in a Wiswall Falls Historic District. The preparation of documentation to formally list the Wiswall Falls Historic District in the National Register is currently being carried out in accordance with the Memorandum of Agreement (Appendix 4) for the Wiswall Bridge Replacement Project, which was executed in 2009. The Wiswall Falls Mill Site and the Wiswall Falls Historic District have been the subjects of extensive primary and secondary historical research for National Register documentation purposes. As part of the current investigation, additional archeological investigations of the site were conducted by Public Archaeological Laboratory (PAL, Inc.) in May 2010. Archeological fieldwork related to installation of a Denil Fish Ladder included a Phase IB survey within the Area of Potential Effect (APE) to provide supplemental information concerning the potential significance of any cultural resources identified within the project area.

Fieldwork for the Phase IB survey was completed by PAL, Inc. in May, 2010 (Documented in Appendix 5). Initial observations are that the entire APE is characterized by heavily and deeply disturbed soils likely dating to the destruction/demolition of the various milling concerns on the east bank of the river and by subsequent dam construction activities on both sides of the river. Clear builders' trenches or stratigraphic sequences that could provide additional information about the surviving foundation elements of the ca. 1835 sawmill could not be identified, nor was there any evidence of buried, intact structural remains associated with any of the other mill buildings. No pre-contact cultural materials were recovered during the excavations.

Based on this analysis of the field and artifact data, no potentially significant pre- or post-contact cultural materials or features were identified during the Phase IB investigations. The majority of materials identified within the project area were cinder, clinker, coal, and coal ash related to the 1883 fire that destroyed the mill complex. Also found were nails, bottle and window glass, a redware and whiteware shard, brick, a glass button fragment, and a complete iron chisel. Very few datable materials or domestic or personal items were recovered from the site, and none of those recovered convey any substantive information about the construction and/or use of the mill complex or the day-to-day lives of its managers and employees. No additional archaeological surveys were recommended within the APE. This study completed the identification of historic features requirement of the National Historic Preservation Act, Section 106 in accordance with 36 CFR 800.4.

## **6. Environmental Consequences of Proposed Action (Section 6.0 pg 61 - 74)**

This section has been updated to follow NRCS standard organizational procedures for compliance with the National Environmental Policy Act (NEPA). We will cross-reference relevant sections of the ACOE dEA where applicable.

Environmental consequences of the proposed alternative are presented in the following sections. The Wiswall Dam Fish Passage Project would restore anadromous fish passage on the Lamprey River within the Town of Durham, New Hampshire. The following factors would not be impacted under the proposed alternative and are not evaluated in this document: land-use, geology and soils, coral reefs, and invasive species. The following factors were adequately discussed in the ACOE dEA and are not evaluated in this document: air quality (p. 70 – 72) and environmental justice (p. 59).

### ***A. Aquatic Resources***

#### Proposed Action

The Wiswall Dam Fish Passage Project (fish ladder and spillway notch) is expected to have an overall positive effect on the aquatic resources of the Lamprey River and would allow anadromous fish to access approximately 43 miles of historic spawning habitat upstream of the dam and will provide access to Pawtuckaway Lake. The Lamprey River is one of the most important fisheries in New Hampshire, and it supports the most important run of migratory fish in Great Bay, providing fish passage as Wiswall Dam will increase overall populations of migratory fish which are experiencing declining populations range-wide.

In addition to the installation of a fish ladder, there will also be a downstream migration notch created in the spillway on river right (the west side of the dam). Analysis of a bathymetric map of the river indicates that the river geomorphology below the downstream migration notch could be enhanced by improving the depths and flow of the river in this area by removing a few large boulders. This recommendation was provided by US Fish and Wildlife Service and New Hampshire Fish and Game (NHFG) (Appendix 6). The installation of these features are important improvements for fish moving back out to sea and will be facilitated in the field by NHFG staff. In the current design, NRCS is not providing any passage for American Eels, but there is on-going discussion with USFWS service to monitor the site after installation of the fish ladder and then determine the best course of action to facilitate eel passage. Additional comments about eel passage are location in section 3 (pg 2-3) and the USFWS letter is in Appendix 17.

### No Action

Under the No Action Alternative, impacts to aquatic resources in the Lamprey River would continue due to lack of fish passage facilities. In addition, resident fish populations in the vicinity of the dam would not benefit from the potential benefits mentioned above (and in the ACOE dEA) that would occur as a result allowing for fish passage the Wiswall Dam on the Lamprey River.

### ***B. Coastal Zone Management***

#### Proposed Action

The fish passage project will not impact coastal zone management. On-going upgrades at Wiswall Dam (not funded by NRCS) will improve Wiswall Dam's ability to safely pass a 100 year storm event. This improvement to hydrologic function may reduce sedimentation from erosion noted in the adjacent historic park.

#### No Action

Continued declining migratory fish populations and increased sedimentation from increased runoff from the watershed. Sedimentation is a major problem in the Great Bay Estuary, from years of land clearing and erosion; several critical habitats have been adversely affected.

### ***C. Cultural Resources***

#### Proposed Action

A change in status since the ACOE dEA and draft Finding of No Significant Impact (FONSI) were published in 2005, is the Wiswall Dam (circa 1918), and the original retaining/foundation walls of a saw mill (circa 1830), and several houses in the area were placed on the National Register of Historic Places as a Historic District. Because State of New Hampshire mandated repairs are necessary to the dam spillway, abutments and most notably the historic stone foundation wall which acts as a training wall for the dam, and several of these structures need to be upgraded to facilitate the installation of a fish ladder, impacts to some of the National Register listed and eligible features are unavoidable. The proposed Denil Fish Passage project alternative, funded in part by the NRCS, constitutes a federal undertaking and as such is subject to review under Section 106 of the National Historic Preservation Act, as amended.

Along with the Phase IB report provided by PAL, Inc (Appendix 5), the determination by NRCS that the project will have an unavoidable adverse effect on the Wiswall Falls Historic District was sent to the New Hampshire State Historic Preservation Officer (SHPO) on August 24, 2010. On September 22, 2010 NRCS received from the New Hampshire SHPO a letter of concurrence with finding of adverse effect and identification conclusions and recommendations (Appendix 5).

Adverse impacts to the site from the construction of this alternative will include disassembly and rebuilding of the downstream training wall that is part of the historic sawmill foundation; adding the Denil fish ladder; and re-grading of the existing ground surface.

The historic sawmill foundation wall is considered to be of prominent importance in locating the position of the historic saw mill, and efforts to preserve this feature through consultation with the NH SHPO and other consulting parties resulted in a design change to the angle of positioning the Denil Fish Ladder in relation to the dam. This change allowed for the preservation of the southwestern corner of

the saw mill foundation wall, but would still require deconstruction and reconstruction of a large portion of the wall closest to the dam.

According to the New Hampshire SHPO, the installation of the fish ladder at the dam would introduce a non-historic visual element into the historic site. NRCS has evaluated a number of facing treatments for the proposed structure, but based on input from the public, and consultations with NH SHPO and the Durham Historic Association the fish ladder will no longer be faced with stone or any technique to mask the age of the new structure. These materials would also decrease the lifespan and increase maintenance of the structure. The current plan is to proceed with a standard non-faced concrete surface.

Included as part of this EA, is the signed Memorandum of Agreement (MOA) by the consulting parties as part of the National Historic Preservation Act Section 106 process, which itemizes the stipulations and actions to mitigate the adverse effects to the Wiswall Historic District resource.

#### No Action

Under the No Action Alternative, no impacts to Cultural Resources would occur in the short-term, although given the significant erosion at the site, there could possibly be loss of Cultural Resources in the long-term.

#### ***D. Essential Fish Habitat***

##### Proposed Action

The fish ladder and spillway notch provide for fish passage along the Lamprey River which is designated essential fish habitat for declining migratory fish as well as Atlantic salmon. This project will not degrade any current critical habitat. See official correspondence from NHFG, which discusses sedimentation during construction as the major threat to fish habitat (Appendix 6).

##### No Action

Under the No Action Alternative migratory fish populations are limited in the amount of habitat they can access in the Lamprey River.

#### ***E. Floodplain Management and Riparian Areas***

##### Proposed Action

Installation of the fish ladder will impact the floodplain on river left including. The area to be impacted (approximately 543 ft<sup>2</sup>) is the same footprint as that described in the Wetland section (on pg. 9) and includes permanent impacts to flood plains and river edge as well as removal of large coarse woody material on the floodplain. Additional details and the location of the proposed impacts can be seen the the plan view design (Appendix 7), existing conditions plan view (Appendix 8) and the preliminary construction schedule (Appendix 9). A preliminary wetlands permitting meeting was held with relevant partners in July 2010 to discuss the construction schedule, and minutes from the meeting are available in Appendix 10. A full set of engineering plans will be made available from the town upon request.

##### No Action

No impacts to floodplains or riparian area are expected under the No Action Alternative.

## ***F. Migratory Birds/Bald and Golden Eagle Protection Act***

### Proposed Action

Under the proposed action there should be an increase in river fish populations, which are an important food source for eagles and other birds. There are no known nesting eagles in the immediate vicinity of the project which could potentially be disturbed during installation of the fish ladder.

### No Action

Under the No Action Alternative, no impact to Migratory Birds or Eagles would occur.

## ***G. Noise***

### Proposed Action

No permanent noise impacts would occur as a result of the Proposed Action. Minor, temporary noise impacts from construction vehicles and equipment would occur, but would be limited to the 6 month construction period at the dam. Under normal circumstances, these temporary impacts would occur between 6:00 am and 8:00 pm on business days.

### No Action

Under the No Action Alternative, no noise impacts would occur.

## ***H. Prime and Unique Farmlands***

### Proposed Action

Installation of the fish ladder will disturb 0.3 acres of Locally Important Farmland Soils. According to a Farmland Conversion Impact Rating by NRCS (Appendix 11), the construction of the fish ladder was determined to be a minor impact and the project can move forward in full compliance with the Farmland Protection Policy Act.

### No Action

No impacts to Prime and Unique Farmlands are expected under the No Action Alternative.

## ***I. Sediments***

### Proposed Action

The installation of a fish ladder at Wiswall Dam is not expected to result in permanent impacts resulting from sedimentation. This practice will require some of the historic wall to be disassembled and an earthen ramp constructed to facilitate tracked excavators to move into the river as well as removal of the left abutment, *see preliminary construction schedule* (Appendix 9). An erosion and sediment control plan would be prepared prior to the start of construction. During construction activities, best management practices would be employed to reduce any sedimentation such as booms, mulching, matting, seeding, riprap and other similar practices to facilitate erosion control. The construction is expected to start in early May when seasonal high flows can occur but are less common than in April. In the case of flooding or intense rain events, the contractor will have an emergency plan in place before construction begins which will be approved by the Town of Durham and NRCS. Best management practices (BMPs), such as cofferdams and silt fences would be installed to minimize impacts to aquatic life and water quality. In addition, consulting parties will be contacted immediately if contingency plans for erosion and sedimentation are enacted.

### No Action

Currently the Historic Park on river is eroding during large flood events releasing an unquantified amount of sediment into the Lamprey River. This scour has eroded a significant area behind the historic wall and created an unsafe situation from a dam safety perspective, because the historic foundation wall acts as a training wall for the dam and if this wall is to fail, a bypass channel around the dam could be formed causing a breach of the dam.

### ***J. Threatened and Endangered Species***

#### Proposed Action

The fish passage project is not expected to have any long-term negative effect upon the exiting wildlife in the Lamprey River. This project will have a positive benefit on American Shad, Alewife and Blueback herring which are state listed species. We have consulted with US Fish and Wildlife Service, NH Fish and Game (NHFG) (Appendix 6) and NH Natural Heritage Bureau (NHB) (Appendix 13) regarding Federal and State listed Threatened and Endangered Species. At the state level, there are 3 listed turtle species ( Wood, Blanding's, and Spotted Turtles) and one listed plant species (knotty pondweed- *Potamogeton nodosus*) known in the area of Wiswall Dam (See ACOE dEA for detailed information - Section 6.3.3 pp 66-76). The proposed action will not adversely affect endangered or threatened species, marine mammals or critical habitat. Consultation has occurred with New Hampshire Fish and Game (NHFG) and New Hampshire Natural Heritage Bureau (NHB) to provide guidance for the timing of construction operations and impoundment draw-downs to reduce impacts on state listed species (Appendix 6). In addition, regular monitoring and supervision by NHFG and NHB will occur as needed throughout the construction process. There is concern from NHFG that turtles may become trapped in the fish ladder. This will be monitored closely by NHFG and if it becomes a problem, NHFG will work with the Town of Durham to develop a solution. See official correspondence from NHFG included in Appendix 6.

#### No Action:

The No Action alternative would continue to exclude fish from 43 miles of river upstream of the dam.

### ***K. Vegetation***

#### Proposed Action

The fish passage project at Wiswall Dam is not expected to result in any permanent impacts on the existing vegetation in the vicinity of the project site. Temporary disturbances to adjacent upland vegetation may occur during construction to allow for access to the site. Upon completion of the project these areas would be stabilized and reseeded or replanted with native vegetation.

#### No Action:

Continued erosion from the historic park would allow sedimentation to impact spawning fish populations below the dam.

### ***L. Water Resources***

#### Proposed Action

The fish passage project will improve the ability of the Town to maintain "run-of-river" conditions. They will both facilitate improving wildlife habitat and recreation as well as maintaining a

critical emergency water supply for the Town of Durham and University of New Hampshire. The construction of the fish ladder at Wiswall Dam will not permanently impact water resources at the project site. Minor, temporary impacts to turbidity may occur. Best management practices (BMPs), such as cofferdams and silt fences would be installed to minimize impacts. An erosion and sediment control plan would be prepared prior to the start of construction. Installation of the fish ladder is not expected to have any permanent impacts on river geomorphology in the vicinity of the project site. Minor alteration of the streambanks and streambeds downstream of the dam may occur after the installation of the fish ladder, but the magnitude is difficult to predict, but it is unlikely as the river is dominated by bedrock, and soft sediments along the streambanks are altered regularly after high flow events. See appendix 7 and 8 for more details. Full construction plans are available from the Town of Durham upon request.

#### No Action

At low flows the Town of Durham is under mandate by NH Department of Environmental Services to keep flows below the dam at acceptable levels. Currently the aged flood gates are hard to control especially during flood events. Under the No Action Alternative, no impacts to water resources would occur. (Personal communication from David Cedarholm, Town of Durham Engineer – list as a reference)

#### ***M. Wetland Resources***

##### Proposed Action

The installation of a fish ladder at the Wiswall Dam is expected to have only minor permanent impacts to the wetland resources in the vicinity of the dam. The footprint of the fish ladder would result in approximately 1,116 ft<sup>2</sup> of permanent impacts to wetlands associated with the fish ladder structure and 6683 ft<sup>2</sup> are temporary impacts associated with mobilization of equipment to the site, installation of a coffer dam and the removal of boulders to facilitate operation of the downstream migration notch (Appendix 7). Minimal temporary disturbance to state-regulated shoreline adjacent to the river may occur as a result of the construction activities associated with the installation of the fish ladder. Best management practices would be utilized to ensure that these temporary disturbances are minimized.

Currently a wetland permit is in review. These wetlands provide limited function as wildlife habitat along the river. It is important to recognize that this site had been a functioning saw mill since the early 1800s and as an industrial site, with a retaining wall on much of the floodplain the habitat in this immediate area has been degraded for a long time. During the drawdown of the impoundment during the spring some 7 acres of wetlands which were created by the impoundment will be drier than normal for late spring (Appendix 1). This has a potential negative effect on amphibian and reptile populations which maybe foraging for egg masses or completing their lifecycles in vernal pools. To mitigate, the impoundment will be filled as soon as possible after construction is complete. Dewatering will happen slowly to allow muscles which move slowly the ability to move into suitable habitat. Also, in close proximity to the wetlands impacted by the draw down, there are several other similar wetland complexes which will not be impacted and will offer supporting habitat to several species. Overall the effects of the drawdown will be very limited and a letter of consultation from NH Fish and Game is in agreement with these steps to install the fish ladder (Appendix 6). Also, there will be some temporary impacts to wetlands which will facilitate machinery entering the river these impacts are detailed on plans provided from Stephens Associates for wetland permitting and included in the appendix (Appendix 7, 8, 10).

### No Action

Under the No Action Alternative, no impacts to wetland resources would occur.

## ***N. Wild and Scenic Rivers***

### Proposed Action

This section of the Lamprey River has a Recreation designation as a Wild and Scenic River. Downstream of the dam is an important fly fishing area which is managed by a local chapter of Trout Unlimited. The fish ladder will improve overall river health and increase fish populations of resident fish and improve opportunity for anglers to catch herring. The Lamprey River Management Plan (Lamprey River Advisory Committee, 2007) lists the need to provide for fish passage at Wiswall Dam as a key future action. LRAC members have participated in the project planning and have been active participants at public meetings. During construction there will be reduced parking, increased noise, and reduced fishing opportunities and wildlife viewing opportunities in the immediate vicinity of the dam, approximately 300 feet below the dam. In addition, the historic park will probably remain closed for much of the season.

### No Action

The Status of the Lamprey River would not change as a result of the no Action Alternative.

## **7. Coordination (Section 7 pp. 75 – 80)**

All abutters to the Wiswall Dam impoundment and several key abutters downstream of the dam were contacted with a formal scoping letter on December 24, 2008 (Appendix 13). Several responses to were received which indicated a positive sentiment toward a fish passage alternative including either dam removal or a fish ladder. Also several consulting parties were contacted with a similar scoping letter (Appendix 14). All parties were invited to a public meeting January 23<sup>rd</sup>, 2009 (Appendix 15). A list of all consulting parties and private landowners invited is located in this section, in addition to a sign-in sheet showing attendees. A DVD of the public meeting is available upon request.

A second Public Meeting was held at Durham Town Hall March 16<sup>th</sup>, 2010 (Appendix 16) again all consulting parties and abutters as well as a general announcement to the town residents was made via the town website. A DVD of this public meeting is also available upon request.

Agendas, sign-in sheets as well as official correspondence from consulting parties and private landowners are available in the following section.

Please see (Appendix 17) for public outreach and coordination documents not previously cited in other appendices.

Comments on the DRAFT version of the Environmental Assessment focused on a few key issues Appendix 17. Brief responses are provided in this section and the Final EA had been updated to more clearly address these issues.

### **1) Dam removal is a better alternative for fish passage than a fish ladder and migration notch.**

While we agree with this statement, it is important to note that this project must consider the overall impact on the human environment, including cultural and historic resources. Removal of

the dam would significantly impact the historic elements of the site. The installation of the fish ladder and migration notch will greatly improve upstream and downstream migration for many fish.

**2) The Town of Durham does not want to remove the Wiswall Dam because it will lose the storage volume associated with the Dam. The town has other drinking water supply sources (Spruce Hole Aquifer) and should reconsider Dam removal.**

The Town of Durham is investigating other supplementary sources of drinking water, like the Spruce Hole Aquifer) but decreased water storage was not the reason for moving away from the dam removal alternative. Large projects such as this require balancing complementary as well as competing resources and interests.

**3) Eel passage is not provided for in the preferred alternative.**

The nature-like by-pass and dam removal alternatives would not require additional actions for eel passage; however, as noted in the responses to the previous issues, a project such as this requires consideration of many different issues and competing interests. The fish ladder will greatly improve fish passage at the site, but does not offer as much passage for eels. NRCS and the Town of Durham have worked with USFWS on the best approach to improve passage for eels. The recommendation from USFWS is to monitor the site after installation of the fish ladder and then determine the best course of action to facilitate eel passage.

**8. List of Preparers for Supplemental EA:**

Natural Resources Conservation Service, New Hampshire:  
Don Keirstead –Resource Conservationist/Ecologist  
Kim McCracken – State Resource Conservationist  
Don Richard – Cartographer and Cultural Resources Coordinator

**9. Public Review**

The draft version of this document and original draft ACOE EA were available for public review at:

Durham Public Library  
7 Mill Road Unit H  
Durham, NH 03824  
603-868-6699  
Fax 603-868-9944

<http://www.durhampubliclibrary.org>

In addition, the drafts were posted on the NH NRCS website at:  
<http://www.nh.nrcs.usda.gov>

Interested persons, including those who disagreed with this proposal, were welcome to submit comments to NH NRCS for 30 calendar days from the date the draft version of this document was issued. No administrative action was taken on this proposed project prior to the expiration of this

comment period, which ended **March 7, 2011**. Comments, via letter, fax or email, were sent to Kim McCracken at the address listed below.

Kim McCracken  
USDA-NRCS  
Federal Building  
2 Madbury Road  
Durham, NH 03824  
Telephone: (603) 868-7581  
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NRCS assessed comments received, those comments, NRCS's responses, and this Finding of No Significant Impact will be forwarded to the NH NRCS State Conservationist for review and signature. If the State Conservationist signs this FONSI, it will not be re-circulated for review but will be available to any individual upon request. This EA and FONSI are the final versions.

#### **10. References Cited:**

Lamprey River Advisory Committee. 2007. Lamprey River Management Plan.  
[http://lampreyriver.org/Plan/LRMP\\_11.07\\_FINAL.pdf](http://lampreyriver.org/Plan/LRMP_11.07_FINAL.pdf) Accessed January 14, 2011.