

ENF

<i>For Office Use Only</i> <i>Executive Office of Environmental Affairs</i>	
EOEA No.:	<u>14415</u>
MEPA Analyst:	<u>Holly Johnson</u>
Phone:	617-626- <u>1023</u>

Commonwealth of Massachusetts
Executive Office of Environmental Affairs ■ MEPA Office

Environmental Notification Form

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Lower Ox Pasture Brook Dam Removal		
Street: N/A - William Forward Wildlife Management Area		
Municipality: Rowley	Watershed: Parker River	
Universal Transverse Mercator Coordinates: -70.71 42.61	Latitude: 42.7396 N	Longitude: -70.8876 W
Estimated commencement date: June 2009	Estimated completion date: September 2009	
Approximate cost: \$ 64,449	Status of project design: 85% complete	
Proponent: Riverways Program, Massachusetts Department of Fish and Game		
Street: 251 Causeway Street, Suite 400		
Municipality: Boston	State: MA	Zip Code: 02114
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Tim Purinton, Acting Director		
Firm/Agency: Riverways Program	Street: 251 Causeway Street, Suite 400	
Municipality: Boston	State: MA	Zip Code: 02114
Phone: (617) 626-1542	Fax: (617) 626-1505	Email: tim.purinton@state.ma.us

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
 Yes No (Dam is not jurisdictional per Office of Dam Safety – 310 CMR 11.03(3)(a)(4) does not apply)

therefore
 Has this project been filed with MEPA before?
 Yes (EOEA No. _____) No

Has any project on this site been filed with MEPA before?
 Yes (EOEA No. _____) No

Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:
 a Single EIR? (see 301 CMR 11.06(8)) Yes No
 a Special Review Procedure? (see 301 CMR 11.09) Yes No
 a Waiver of mandatory EIR? (see 301 CMR 11.11) Yes No
 a Phase I Waiver? (see 301 CMR 11.11) Yes No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres):

Mass Riverways Program, Department of Fish and Game, \$50,229

Are you requesting coordinated review with any other federal, state, regional, or local agency?
 Yes (Specify:) No

List Local or Federal Permits and Approvals: **Department of the Army section 404 Permit, 401 Water Quality Certification and Town of Rowley Wetland Bylaw**

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- | | | |
|--|---------------------------------------|--|
| <input type="checkbox"/> Land | <input type="checkbox"/> Rare Species | <input checked="" type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input type="checkbox"/> Water | <input type="checkbox"/> Wastewater | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Air | <input type="checkbox"/> Solid & Hazardous Waste |
| <input checked="" type="checkbox"/> ACEC | <input type="checkbox"/> Regulations | <input type="checkbox"/> Historical & Archaeological Resources |

Summary of Project Size & Environmental Impacts	Existing	Change	Total	State Permits & Approvals
LAND				<input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input type="checkbox"/> Chapter 91 License <input checked="" type="checkbox"/> 401 Water Quality Certification <input type="checkbox"/> MHD or MDC Access Permit <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input type="checkbox"/> Other Permits (including Legislative Approvals) – Specify:
Total site acreage	1,882 ac. (WMA)			
New acres of land altered		.18 ac. (temp)		
Acres of impervious area	0 ac.	0 ac.	0 ac.	
Square feet of new bordering vegetated wetlands alteration		1.04 ac. (Net Gain)		
Square feet of new other wetland alteration		1.30 ac. (Loss of Land Under Waterway)		
Acres of new non-water dependent use of tidelands or waterways		0 ac.		
STRUCTURES				
Gross square footage	0	0	0	

Number of housing units	0	0	0
Maximum height (in feet)	0	0	0
TRANSPORTATION			
Vehicle trips per day	0	0	0
Parking spaces	0	0	0
WASTEWATER			
Gallons/day (GPD) of water use	0	0	0
GPD water withdrawal	0	0	0
GPD wastewater generation/ treatment	0	0	0
Length of water/sewer mains (in miles)	0	0	0

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

Yes (Specify _____) No

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

Yes (Specify _____) No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

Yes (Specify: Estimated and Priority Habitat located further downstream to the north, Exemplary Natural Community (Estuarine Intertidal: Salt Marsh) encompasses wetlands below Dam project site, MassWildlife has concurred that there is no rare species concerns at the site per letter dated 8/17/06 (see Appendix F)) No

HISTORICAL /ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

Yes (Specify: _____) **No Project is near, but not within Native American Site # 19-ES-127, see attached letter from Mass Historical Commission**

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

Yes (Specify _____) **No Project is near, but not within Native American Site # 19-ES-127, see attached letter from Mass Historical Commission**

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

Yes (Specify: Project is adjacent to the Great Marsh ACEC) No

PROJECT DESCRIPTION: The project description should include (a) a description of the project site, (b) a description of both on-site and off-site alternatives and the impacts associated with each alternative, and (c) potential on-site and off-site mitigation measures for each alternative (You may attach one additional page, if necessary.)

A. Project Site and Description

The Lower Ox Pasture Brook Dam Removal project is a priority habitat restoration project for Massachusetts Department of Fish and Game, Riverways Program. Partners include; the Mass Division of Fish and Wildlife, United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, American Rivers, Mass Wetlands Restoration Program and the Mass Corporate Wetlands Restoration Partnership (ERM). The project was designed by Stantec Consulting Services Inc. (formally Woodlot Alternatives).

The primary goal of this project is to restore diadromous and resident fishes to Ox Pasture Brook by removing an existing barrier to fish passage (the dam) and restoring both stream and wetland habitat in the currently impounded portion of the Brook upstream of the dam. Although specifically designed to benefit rainbow smelt, American eel, and other fish that currently spawn or otherwise use the area immediately downstream of the dam will also benefit. This project is also expected to enhance the overall ecological function of the area by restoring tidal hydrology and stream continuity within the larger Mill River and Parker River systems.

The Lower Ox Pasture Brook Dam is owned by the Massachusetts Division of Fisheries and Wildlife and is located entirely within the 1,882 acre William Forward Wildlife Management Area. This property is maintained for wildlife habitat conservation and passive public recreation. Public access to the site is limited to foot traffic. The dam is located near the head-of-tide on Ox Pasture Brook, and consists of a 61 meter (200 feet) long earth and rubble embankment with a partially collapsed concrete spillway near the east end. The dam currently limits tidal influence in the Brook to the seaward (downstream) side of the dam. Freshwater and brackish tidal marsh communities associated with the Great Marsh Area of Critical Environmental Concern begin approximately 30 meters (98 feet) downstream of the dam.

Upstream of the dam is a 3.5 acre backwater impoundment composed of open water and emergent marsh communities. These freshwater, non-tidal lacustrine habitats have developed in a formerly intertidal reach of Ox Pasture Brook. A band of Red Maple Swamp occurs along the sloping western shoreline of the impoundment and extends southward along most of the un-impounded portion of the Brook. The surrounding forest community is strongly influenced by the acidic, generally well drained nature of the underlying soil substrate, and may best be classified as a Mixed Oak Forest. Dominant species include black oak, northern red oak, white and yellow birch, red maple, white pine, mountain laurel, highbush blueberry, lowbush blueberry, and witch-hazel. An existing dirt cart path (unimproved forest road) off of Fenno Drive parallels the impoundment to the east, crossing Ox Pasture Brook approximately 9 meters (30 feet) downstream of the dam.

This project proposes to remove the Lower Ox Pasture Brook Dam and deteriorated concrete spillway structure. The work will involve the mechanical excavation and disposal of approximately 316 cubic yards of rock and soil material from embankment of the dam. Construction equipment and vehicles will access the dam area via the existing dirt cart path to minimize disturbance. Excavation of the dam will temporarily impact portions of the Brook immediately downstream of the dam and result in the permanent loss of approximately 1.30 acre of Land Under Waterway in the current impoundment area. Approximately .26 acre of Land Under Waterway would be retained.

Following dam removal, however, this waterway will be fully restored to a natural riverine and intertidal wetland system. It is expected that the restored river will be similar in both function and ecological value to that found before the dam was constructed. In particular, approximately 1,770 linear feet of Inland Bank and 11,353 square feet of Land Under Water will be restored in the former impoundment to provide increased spawning and foraging habitat for diadromous and resident fishes (i.e., a "Fish Run"). In addition, it is expected that the re-establishment of tidal flows above the dam will promote the development of intertidal and non-tidal emergent marsh, mud flat, and scrub-shrub swamp communities within the former 3.5-acre impoundment. For purposes of this ENF all of the restored wetlands in this area have been described as Bordering Vegetated Wetlands.

B. Alternatives Analysis

To help assess the relative impacts and benefits of the proposed project, two project alternatives were

evaluated. Alternative A represents leaving the Lower Ox Pasture Brook Dam in place and in its existing condition. This alternative was put forth as a baseline for comparison of other alternatives and the existing project design. Alternative A would result in no adverse impacts to adjacent regulated resource areas above existing levels. However, this alternative would not provide any ecological or hydrological benefit to Ox Pasture Brook. Specifically, Alternative A would not meet the project goals of restoring diadromous fish to the Brook because it would not provide passage over the dam nor increase the availability of spawning, feeding, and shelter habitat through stream and wetland restoration. Lastly, this alternative would not restore tidal flows or provide other hydrological benefits such as sediment flushing to the currently impounded portion of the Brook. Thus, Alternative A is not “substantially equivalent” in terms of project goals to the current project proposal.

Alternative B consists of leaving the dam in place and constructing a fish pass structure near the current spillway. This alternative would minimize impacts to adjacent regulated resource areas considerably as it would not require the mechanical excavation and sediment transport associated with dam removal. As discussed previously, the concrete spillway to Ox Pasture Brook Dam is in very poor condition. The spillway’s western retaining wall has collapsed onto the spillway apron and rubble from the exposed embankment is eroding into the spillway. Thus, the entire spillway structure would need to be reconstructed before a fish pass could be installed. More importantly, Alternative B would not fully meet the project’s goals of restoring diadromous fish to Ox Pasture Brook. As mentioned previously, one of the target species of this project is the rainbow smelt. Rainbow smelt are not capable of ascending available fish pass designs due to their relatively weak swimming ability. Thus, installation of a fish pass would not provide a means for this species to reach the upper portions of Ox Pasture Brook. Alternative B would also not allow for the restoration of critical stream habitat and spawning grounds within the dam’s impoundment. As with Alternative A, installing a fish pass structure would not restore the hydrological continuity or overall ecological value of the stream. Given the logistical constraints posed by the deteriorated condition of the spillway and the limitations of existing fish pass designs, Alternative B is not considered a viable option.

Given a review of Alternatives A and B, dam removal was determined to best met the goals of ecosystem restoration and is therefore is preferred. For more information on alternatives considered see attached Feasibility Study and Conceptual Alternatives Analysis (Appendix C.)

C. Mitigation Measures

Given that this project is a pro-active habitat restoration that seeks to improve natural resource capacity no mitigation is proposed.

This restoration will require temporary alterations to Bank, Bordering Vegetated Wetlands, Land Subject to Flooding, and Riverfront Area, but will result in a net benefit for all these resources and a significant gain in Bordering Vegetated Wetlands. Please refer to the project report for further information on the preservation of resource area interests. Please note issues like time-of-year restrictions, best management construction practices and optimizing work in the dry will be employed and likely conditioned.

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1))
 ___ Yes **X** No; if yes, specify each threshold:

II. Impacts and Permits

A. Describe, in acres, the current and proposed character of the project site, as follows:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Footprint of buildings	<u>0 ac</u>	<u>0 ac</u>	<u>0 ac</u>
Roadways, parking, and other paved areas	<u>0 ac</u>	<u>0 ac</u>	<u>0 ac</u>
Other altered areas (describe)	<u>0.11 ac (dam)</u>	<u>-0.11 ac</u>	<u>0 ac</u>
Undeveloped areas	<u>1,882.04 ac</u>	<u>0 ac</u>	<u>1,882.15 ac</u>

B. Has any part of the project site been in active agricultural use in the last three years?