

Town of Plymouth

Eel River Headwaters Restoration Project

Completed Fall 2010

The project consists of restoring approximately 40 acres of in-active cranberry bogs to native wetland habitats including over 17,000 Atlantic white cedar trees. From the headwaters of the Eel River extending 1.75 miles, a natural stream channel and floodplain will be restored, including in-stream habitat features.



Two road crossing culverts will be replaced both repairing the road as well as improving fish and wildlife passage. The Sawmill Pond Dam will be reconfigured to open upstream areas to fish and wildlife after being cut off for over 150 years.



Large Woody Debris Installation

**Project
Design/Oversight:**

[Inter-fluve Inc.](#)

Project Contractor:

[SumCo Eco-Contracting](#)

Presentation by Inter-fluve and Underwood Associates on
[Planning for Large Scale Atlantic White Cedar Restoration](#)



Channel Construction

[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project



Pre-Restoration 2008



Reconstructed channel as of 1/2010



Town of Plymouth

Eel River Headwaters Restoration Project



Reconstructed channel as of 1/2010



[Return to Home](#)

Town of Plymouth Eel River Headwaters Restoration Project



Conditions Oct 2010



Town of Plymouth Eel River Headwaters Restoration Project



Construction Photo's



[Return to Home](#)

Town of Plymouth Eel River Headwaters Restoration Project



Construction Photo's



[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project



Berm Removal



Seepage Reservoir Bog 6

Construction Photo's



Seepage Reservoir Bog 2



View of new channel

Town of Plymouth Eel River Headwaters Restoration Project



Pond bypass setup



Pond bypass setup

Construction Photo's



Pond bypass installed



*Pond bypass siphon
installation*

Town of Plymouth

Eel River Headwaters Restoration Project



Historic Raceway at Sawmill



Dewatered Impoundment

Construction Photo's



Historic Spillway at Sawmill



*New Channel through
Sawmill Dam site*

[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project



Construction of Bog 2/3 Riffle



Bog 1 Channel Construction

Construction Photo's



Bog 1 Channel Construction



Bog 1 Channel Construction

Town of Plymouth Eel River Headwaters Restoration Project



TNC Culvert Replacement

Construction Photo's



TNC Culvert Replacement



Box culverts at TNC

Town of Plymouth Eel River Headwaters Restoration Project



March 2010 Bog 7 Atlantic white cedar plantings



June 2010 Bog 6/7 with Atlantic white cedar planted

Construction Photo's



July 2010



June 2010

Deer Exclusion Fence

[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project



Long Pond Rd Culvert Replacement



LPR Culvert Replacement Waterproofing

Construction Photo's



Long Pond Rd Culvert Replacement



Culvert substrate/large woody debris

[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project



Footbridge - Sawmill



Footbridge - Sawmill

Construction Photo's



Footbridge - Sawmill



*Culvert substrate/large
woody debris*

[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project



Footbridge - Sawmill
Construction Photo's



Bog 2 Post-Restoration



Bog 1 Post-Restoration

[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project



In-active bog prior to restoration

Project Design/Oversight:
[Inter-fluve Inc.](#)

Project Contractor:
[SumCo Eco-Contracting](#)

Total Project Cost:

\$1.9million

Lead Agency:

Town of Plymouth – Environmental Management

Partner Agencies:

[MA Department of Fish Game](#) / Division of Ecological Restoration (DFG DER), [U.S. Fish and Wildlife Service](#) (USFWS), U.S. Department of Agriculture, [Natural Resource Conservation Service](#) (NRCS), [Americian Rivers](#) (AR), [The Nature Conservancy](#) (TNC), [MA Department of Environmental Protection](#) (DEP) [Corporate Wetlands Restoration Partnership](#) (CWRP), [Horsley Witten Group](#) (donated permitting assistance via CWRP) [SumCo Eco-Contracting](#) (donation for post-monitoring).

Major Funders:

USFWS (\$1million), USDS NRCS (350K), MA DEP s.319 (\$400K) thru [Environmental Protection Agency](#)

Project Objectives

- Dramatic improvements to wetland and riverine habitat will result in new and more abundant fish and wildlife in the headwaters of the Eel River.
- The planting of 17,000 Atlantic white cedar trees marks the first large scale restoration of this rare wetland type in Massachusetts
- The project will provide additional nutrient, sediment and contamination retention capacity to the coastal system.
- The restoration of 40-acres of wetlands at Eel River will contribute to the state's ten-year 3,000 acre wetland restoration goal.



17,000Atlantic white cedars growing

A portion of this project has been financed with Federal Funds from EPA to MADEP under an s.319 competitive grant. The contents do not necessarily reflect the views and policies of EPA or MADEP, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

[Return to Home](#)

Town of Plymouth
Eel River Headwaters Restoration Project
Dedication Ceremony – October 30th

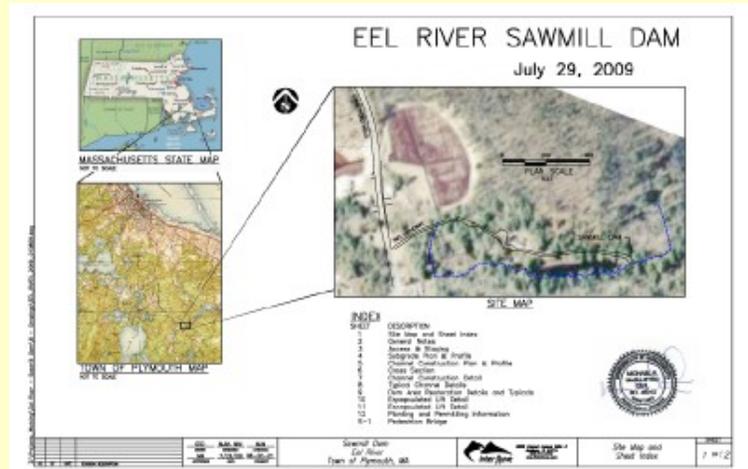
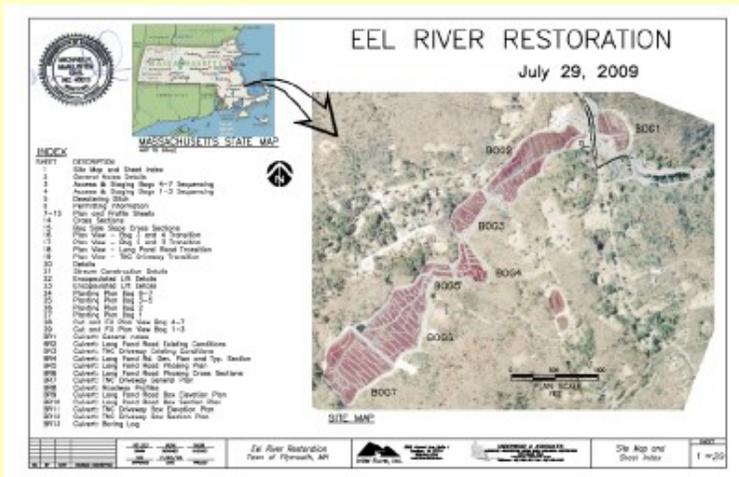


[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project

Eel River Final Design Plans (7/29/09)



Permitting

Permit	Agency
MEPA (Environmental Notification Form)	EEA
Notice of Intent	Local Conservation, DEP
Clean Water Act, Section 404	US Army Corps of Engineers
NEPA	Environmental Protection Agency
Federal Water Pollution Control Act, Section 401 Water Quality Cert	Department of Environmental Protection
National Historic Preservation Act, Project Notification Form Section 106	MA Historic Commission
NPDES	Environmental Protection Agency
Dam Safety Permit	DCR Office of Dam Safety
Turtle Enhancement & Construction Plan	Natural Heritage & Endangered Species Program
Chp 91	Department of Environmental Protection

[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project

Restoring Natural Habitat & Wildlife



Mature Atlantic white cedar swamp



Eastern brook trout



Mature Atlantic white cedar



Eastern Box turtle



Bridle shiner



Woody debris for river fish/wildlife habitat

[Return to Home](#)

Town of Plymouth

Eel River Headwaters Restoration Project

Sawmill Pond Dam Reconfiguration



Pre-reconfiguration



Digital rendering after reconfiguration
with potential footbridge

Town of Plymouth

Eel River Headwaters Restoration Project

Collecting Data for Design & Continual Monitoring



Installing Peizometers for water level survey in bog cells



Stream flow measurements

Peizometer Study

