

Green River Ecosystem Restoration Project Information Meeting

Meeting Purpose: *To present preliminary designs for the Green River Restoration Project, discuss historic review and interests, and address questions and comments on the designs and next steps for the project.*

January 2010

Project Background:

The 30-mile long Green River flows from its headwaters in Marlboro, Vermont to the confluence with the Deerfield River in Greenfield, Massachusetts – less than two miles from its confluence with the Connecticut River. The Green River is a cold water fishery and one of the most pristine river habitats in southern New England.

The only barrier to fish migration between the Green River and the Long Island Sound is the dam on the Connecticut River in Holyoke, which provides fish passage via a fish lift. In 2007, the Army Corps of Engineers (USACE) completed an environmental assessment and feasibility study for the four dams owned by the Town of Greenfield. The study considered several alternatives for improving habitat and providing fish passage along the Green River. Based on the study's findings and recommendations, the Town of Greenfield decided to move forward with removal of the lower two dams – the Wiley and Russell and Mill Street Dams – and to provide fish passage around the upper dams. Since then the Town of Greenfield has been working with the Connecticut River Watershed Council and American Rivers to secure grants for the design, permitting, and removal phases.

The Green River Ecosystem Restoration project provides multiple benefits:

- **Financial Benefits:** Eliminate the Town's long-term liability and maintenance costs; access more funding sources for removal vs repair of the dams; and alleviate the Town's responsibility to address dam safety deficiencies and hazards at the two lower dams.
- **Public Benefits:** Provide improved passive recreational opportunities, including fishing, paddling, and pathway connections to the downtown; revitalize a waterfront close to the downtown business district and generate economic potential for new businesses in the area.
- **Ecological Benefits:** Restore a migratory fish run all the way to Long Island Sound for Atlantic salmon, American shad, blueback herring, sea lamprey and American eel; benefit cold water resident species such as trout and white sucker by lowering water temperatures; improve water quality and stream health.

The engineering consultant, Fuss & O'Neill, was hired to complete preliminary designs for removal of the Wiley and Russell Dam and Mill Street Dam. The preliminary designs included:

- Technical review of existing information
- Survey of the river channel and analysis of predicted river changes
- Sediment sampling for volume, gradation, and quality
- Sediment mobility and redistribution analysis
- Assessment of potential upstream wetland impacts
- Cost estimate for the dam removals

Additional design work related to infrastructure protection, specific fish passage requirements, and construction staging is scheduled to be completed during final design phases.



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Key Report Highlights:

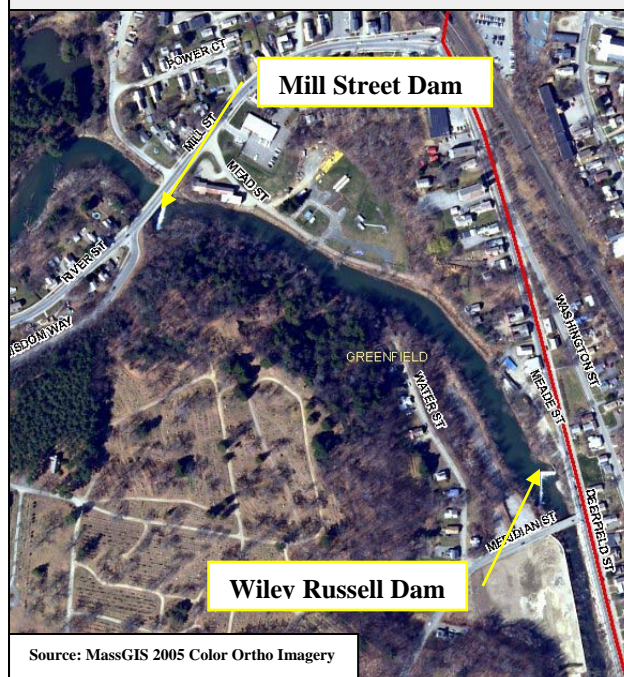
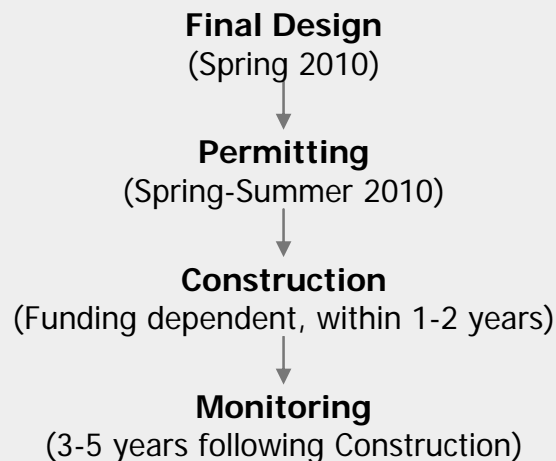
Fuss & O'Neill's Preliminary Design study produced the following conclusions and recommendations:

- Majority of sediment in the impoundments is exceptionally clean, except for one discrete location adjacent to the former Berkshire Gas site where the sediment has elevated Petroleum Aromatic Hydrocarbon (PAH) concentrations.
- The recommended sediment management option is to remove the contaminated sediment and allow gradual release of the remaining clean impounded sediment downstream. Downstream impacts will be limited to temporary, localized accumulations of sediment during the first year following dam removal. Beyond the short term adjustment period, the river will revert to its normal pre-dam sediment transport process.
- Fish passage as far as Swimming Pool dam to Long Island Sound will be possible following dam removal. In the future, by allowing fish passage at the upper two dams – Swimming Pool dam and Water Supply dam – migratory and resident fish species will have access to an additional 94 miles of habitat along the mainstem Green River and its tributaries.
- Recreational boating will be enhanced by removal of the dams, although there may be times during low flows when boating will be hindered (as occurs under current conditions).
- Utilities and bridge foundations should not be adversely affected by the dam removals, although the utility crossings near the Route 2A bridge needs to be examined in more detail to assess the possibility of relocating the utility pipes.
- Wetland areas upstream of the dams may recede as the as the impoundments narrow to a natural river channel. However, new wetlands will form on the newly exposed river banks.

Additional work conducted by Project Partners:

- The NOAA Restoration Center (NOAA) is the lead federal agency and has contacted the Massachusetts Historical Commission (MHC) and other consulting parties to continue consultation under Section 106 of the National Historic Preservation Act (NHPA). The Project Team has contracted with Public Archaeology Laboratory, Inc. to complete additional archeological investigations as requested by MHC in winter 2010.
- Project Partners began pre-restoration monitoring, including water quality monitoring, fish and benthic macro-invertebrate (aquatic bugs) surveys, photo-monitoring, and measurement of stream channel cross-sections, particle size, and longitudinal profiles to document changes in channel morphology.

General Timeline and Next Steps:



Project Funders:

This project has received funding from the National Oceanic and Atmospheric Administration (NOAA) Open Rivers Initiative, FishAmerica Foundation, American Sportfishing Association, the U.S Fish & Wildlife Service's Partners for Fish and Wildlife Program and Coastal Program, the Franklin Fund of the Community Foundation of Western Massachusetts, Massachusetts Environmental Trust, The Nature Conservancy, and American Rivers – NOAA Community-based Restoration Program.

Project Partners:

The project is also supported by the Town of Greenfield, Connecticut River Watershed Council, Deerfield River Watershed Association, and the Massachusetts Division of Ecological Restoration (Dept. of Fish and Game).