

# Lower Pawtuxet River Restoration

## Warwick and Cranston, R.I

### *Project Update: May, 2010*

**Project & Purpose:** A team of local, state and federal partners is working to remove Pawtuxet Falls Dam in Pawtuxet Village. By restoring a free-flowing river and natural bedrock waterfall, we will re-establish and increase populations of native fish and wildlife; reduce property flooding; and improve habitat and water quality in the Pawtuxet River and Narragansett Bay.

**Approach:** We are proposing to remove two of the three existing concrete dam spillway sections which make up Pawtuxet Falls Dam. The partial dam removal will uncover the natural bedrock across most of the river and reduce the height of the water immediately upstream of the dam. By allowing fish and wildlife to move freely upstream, the restoration will reconnect the river, biologically, to Narragansett Bay.

**Benefits:** The project will restore the historic river mouth of the Pawtuxet in order to:

- Restore annual spawning runs of American shad, river herring and other native fish—an estimated 100,000 fish will return to spawn in the river each Spring. By restoring the natural food web, the fish runs will help increase the abundance of other salt and fresh water species—from striped bass, bluefish and fluke to herons, osprey and largemouth bass.
- Reduce property flooding along the Lower Pawtuxet River during modest flood events (up to the “ten year,” or ten percent probability flood) by lowering river levels and increasing the flood-storage capacity of the wetlands.
- Improve water quality in the lower Pawtuxet River by increasing dissolved oxygen, reducing water temperature, reducing algae growth, bacterial production and unpleasant odors.

**Process & Status:** The partners completed major engineering studies of the river, developed alternatives and selected the partial dam removal as the restoration action which will provide the greatest ecological improvement to the Pawtuxet River and Narragansett Bay, while providing a modest reduction to flooding problems upstream. In developing the studies and preparing for permitting, the partners reviewed existing information and completed extensive on-site surveys of the river, wetlands, and public access areas. We used computer modeling to study river flows under all conditions and to predict water levels following the restoration. We sampled sediments to analyze for toxic contaminants. We hosted several public meetings in Pawtuxet Village to share information on the project and hear citizens’ concerns. Now, the project must be permitted by the R.I. Dept. of Environmental Management, U.S. Army Corps of Engineers and R.I. Coastal Resources Management Council before construction can begin. Subject to regulatory approval, we’ll begin construction this Fall by undertaking dredging for the project, followed by removal of the dam in Summer, 2011. We’ll host one public meeting during the application review process, and another next Spring, in order to keep the community up-to-date on the project.

**Issues:** The community has raised several issues of potential concern, which we’re addressing as follows:

- **Historic and Aesthetic concerns:** We’ve considered aesthetics in designing the restoration, and are developing architectural renderings to communicate the appearance of the dam removal. We are consulting with the state historic preservation office to ensure that the restoration respects the historic character of Pawtuxet Village.
- **Sediment Exposure:** We have analyzed sediment samples from the riverbanks and reviewed existing data from the Ciba-Geigy cleanup and other sources. The analysis found low levels of common contaminants in the

## Restoration Issues, Sediment Exposure, Cont'd

sediments, as is typical of urban rivers. We found no contamination which clearly came from Ciba-Geigy and no significant difference upstream vs. downstream of the site. The dam removal will expose a band of sediment along the riverbanks, which we will plant with native wetland shrubs in order to help stabilize the shoreline, accelerate the natural process of regrowth, and reduce opportunities for human exposure.

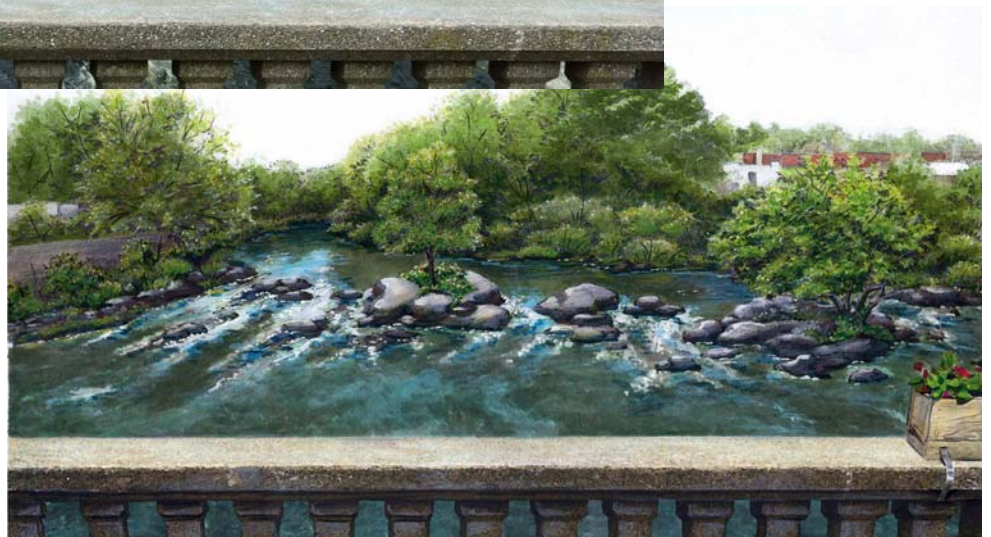
- **Sediment Movement:** We intend to dredge up to 3,000 cubic yards of sediment from behind the dam, to prevent the dam removal from affecting the marinas in Pawtuxet Cove.
- **Recreation:** While the river channel will be slightly narrower and shallower upstream of the Falls following the restoration, it will still be wide and deep enough for canoeing, kayaking and other forms of small-boat recreation for which it is used now. The partners are working with Rhodes-on-the-Pawtuxet to improve the canoe launch there following the restoration.
- **Wetlands:** We have undertaken extensive surveys of the wetland areas upstream of Pawtuxet Falls. Our studies indicate that the project will not cause wetland loss, but will improve the ecological value of the wetlands by increasing their flood storage capacity and by reconnecting them to the river and Bay ecosystems.

**Partners:** The Pawtuxet River Restoration Project is being accomplished through a partnership of non-governmental, state, federal and private organizations, united in the goal of improving the environment of the river and the community. Project partners are Pawtuxet River Authority, Narragansett Bay Estuary Program, U.S.D.A. Natural Resources Conservation Service, Save The Bay, R.I. Coastal Resources Management Council, R.I. Department of Environmental Management, National Oceanic and Atmospheric Administration, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, American Rivers and R.I. Corporate Wetlands Partnership.



**Above:**  
Pawtuxet Falls today, viewed from Broad St. Bridge in Pawtuxet Village

**Right:**  
The Falls as it will appear following partial dam removal (artist's rendering)



**For more information:**  
Tom Ardito,  
Narragansett Bay Estuary Program  
(401) 874-6492 [tom@nbep.org](mailto:tom@nbep.org) [www.nbep.org](http://www.nbep.org)