



## COASTAL COMMUNITY GRANTS: Coastal Habitat Restoration

### Town of Woolwich - KELT Nequasset Fishway Restoration



*“This restoration project has not only effectively improved this historic fishery and retained an important local economic asset, but has galvanized the local community. Hundreds of concerned citizens and a wide array of conservation organizations have been involved, and we’ve increased the awareness of, and pride in, this critical natural and cultural resource.”*

Carrie Kinne, KELT Executive Director



#### **PARTNERS**

Kennebec Estuary Land Trust (KELT), Woolwich Fish Commission, Bath Water District (BWD), NOAA, Wright Pierce Engineers, Woolwich Historical Society, Trout Unlimited (TU), Maine Department of Marine Resources (DMR), US Fish and Wildlife Service, Bowdoin, Bates and University of Southern Maine researchers

#### **PROJECT DESCRIPTION (completed December 2014)**

This community supported habitat restoration project replaced a 58 year old concrete pool and weir fish ladder on one of the top alewife runs in Maine. The ladder had deteriorated and was no longer effective at passing fish over Nequasset Dam. Engaged stakeholders consulted with fisheries experts and engineers to design, fund and build a new ladder in the same location.

#### **APPROACH**

Prior funding from the Maine Coastal Program enabled early project planning such as deed research and site survey, yielding critical legal easements; an archaeological records review and interpretive outdoor signage. A new engineering design was made by Wright Pierce based largely on the 1955 structure with minor modifications to minimize maintenance and flow adjustments and adapt to increasing high water events due to climate change with support from a NOAA/Trout Unlimited partnership.

#### **RESULTS**

The project went to bid in December 2013 and a Woolwich based contractor, Atlantic Mechanical, Inc. started work after the spring 2014 fish run. The 1955 ladder was demolished that summer and forms were installed and concrete poured for the new ladder in August. The channel through the dam surface was widened in order to reduce water velocity and ease fish passage in the final feet of the ladder. This section was further enhanced with denil style passage. A natural rock approach



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channel in the stream bed was installed to mimic the one that harvesters had created over decades with small stones. The larger boulders should enhance the channel, effectively attracting fish across the stream bed to the base of the ladder, and should not require maintenance. On October 20, 2014 a public opening ceremony was held with the Fish Commissioners and the Select Board in addition to harvesters, count volunteers, community members and resource managers.

KELT will continue to enumerate the number of adult alewives that utilize the fish ladder each spring. Since 2012, volunteers have counted fish for the entirety of the in-migration. These data provide an overall efficiency rating and escapement for the ladder's ability to pass fish at the old ladder, as well as data for assessing efficiency of the new ladder. Ninety-five volunteers participated in 2014. A video of how to count fish was created in partnership with Bates College (<http://vimeo.com/65967411>). The BWD retains responsibility for maintaining the new ladder, as they did for the old one. A formal operation and maintenance agreement is being drafted.

### NEXT STEPS AND OPPORTUNITIES

A few outstanding issues remain to fully conclude this restoration and the contractor will need to wait until warm weather to remedy these issues. KELT is in discussion with community members and town officials on the design of a public viewing area to safely accommodate the growing number of visitors this site is receiving; installation of an "iron ranger" to collect visitor donations, and additional educational signage.

### LESSONS LEARNED

Be inclusive and aggressively pursue community involvement. Honor local wisdom and knowledge of place. Invest in project management, planning, site research and surveys. Make no assumptions about ownership – research titles and deeds. Document and formalize historic working relationships to establish a platform for the future. Find common ground.

### RECOMMENDATIONS

Financial support to restore passage of migratory species is critical to restoring entire ecosystems. Systematically and strategically improving one culvert or one stream at a time will yield watershed-wide rewards in biodiversity, economically valuable species and vibrant communities with pride of place.

### ADDITIONAL INFORMATION

<http://kennebecestuary.org/resources/nequasset-fish-ladder-restoration>

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