

Maine

Sea-Run Fish Restoration: Penobscot River

Blackman Stream Fishway, Bradley

A variety of federal, state, private organizations and individuals are capitalizing on the landscape-scale benefits of the Penobscot River Restoration Project by working together to restore sea-run fish to the larger watershed. Prior to European settlement, sea-run fish were likely widely distributed in Maine, except when blocked by natural barriers like waterfalls.

Alewife, a type of herring, is one of the focus species for restoration in the drainage. Sea-run alewives depend on migration to grow and reproduce, and their decline across Maine is linked to dams and other factors inhibiting their life cycle. Each spring, adult alewives migrate from the ocean to freshwater to spawn and then migrate back to the ocean. Juvenile alewives spend two to five months in ponds and lakes and then migrate to the ocean for about four years to become adults.

An old logging dam blocked fish at Blackman Stream

Blackman Stream flows below Chemo Pond into the Penobscot River above Veazie Dam. Alewives were historically present in the pond, but likely had not reached it since the construction of various dams on the main stem of the Penobscot River in the late 1890s.

The only structure blocking the stream below Chemo Pond was Leonards Mills Logging Museum Dam. The rock/crib dam and sawmill operation dates back to the 1700s. Today the dam provides water to a historic sawmill used for educational purposes.

Returning fish to Chemo Pond

The Service's Gulf of Maine Coastal Program and partners worked collaboratively with the museum to balance conservation priorities with historic preservation. In 2001, the U.S. Fish and Wildlife Service provided the



Fishway installed at Blackman Stream.

concept for a rock and pool fishway at the dam site. The Atlantic Salmon Federation and its Maine Council provided extensive support to the effort by working with local communities and providing overall project management.

This unique partnership produced a fishway fitting the historic character of the site that both restores access for fish and provides an educational

The 1,223-acre Chemo Pond has the ability to restore a run of 270,000 alewives, pouring more than 100 million juvenile alewives into the main stem of the Penobscot River for the benefit of Atlantic salmon and the entire Penobscot ecosystem.

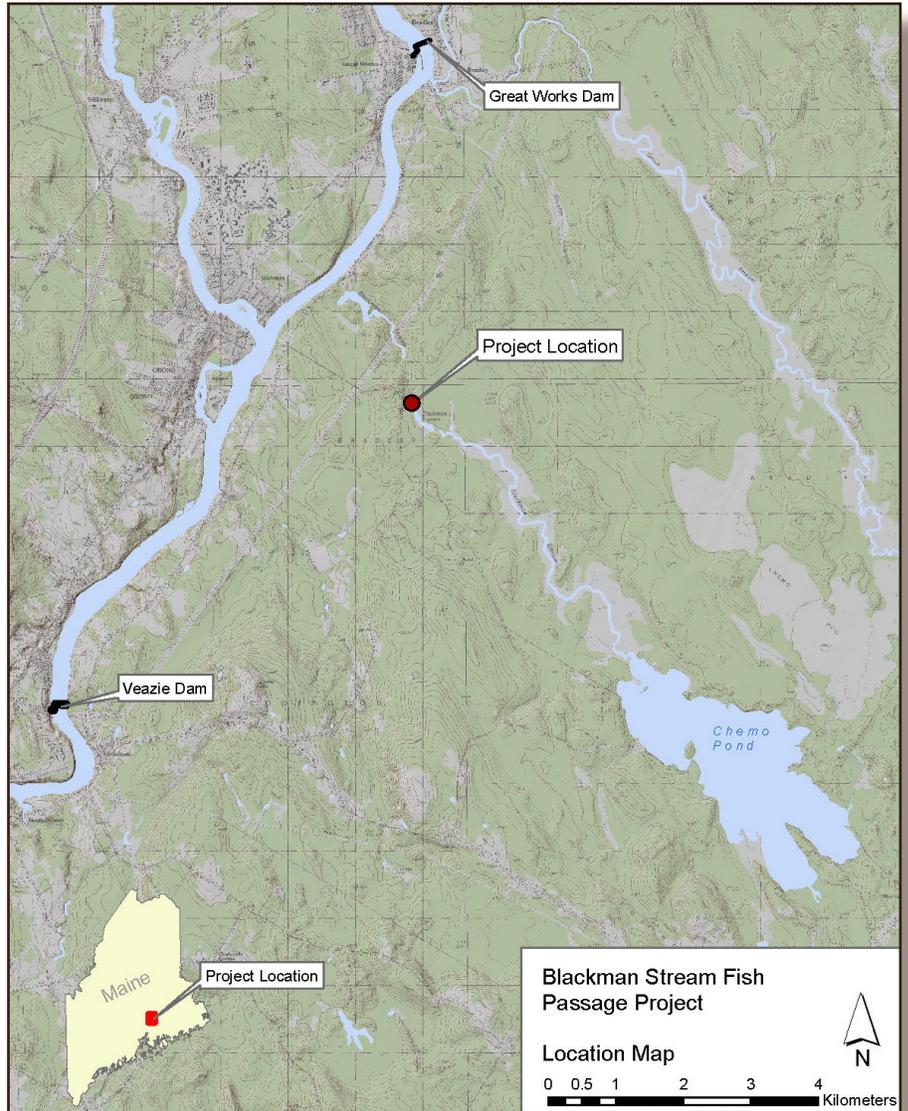


Bedrock excavation.

centerpiece for fish passage restoration. A trail, two viewing bridges and a kiosk contribute to the experience of visitors to the museum.

The fishway was constructed by excavating a 4-foot-wide channel in the bedrock next to the existing dam. A stone mason constructed a series of 17 weirs and rock pools leading to the top, where a fish ladder allows fish to pass during varying flows. The structure now allows for fish passage over a wide range of flows and restores both access to upstream pond and stream habitats.

In addition to alewives and American eel, sea-run trout may also benefit from the project. Atlantic salmon will benefit indirectly from the project, as alewives serve as a prey buffer during multiple phases of their life cycle and bring marine-derived nutrients (nitrogen, phosphorous and carbon) into the watershed. These nutrients can enhance the diversity and abundance of insects and other life in the benthic



community, which in turn will benefit juvenile salmon in the river.

Funding the project

The Service provided partial planning, permitting, design and construction of the fishway. Partners include the Atlantic Salmon Federation, Maine Forest and Logging Museum, Maine Department of Marine Resources, NOAA-Fisheries, Penobscot Indian Nation, Penobscot River Restoration Trust, Maine Corporate Wetlands Restoration Partnership, The Nature Conservancy and others.

Contact project coordinator Jed Wright at 207/781 8364 or jed_wright@fws.gov.



U.S. Fish & Wildlife Service
1 800/344 WILD
<http://www.fws.gov>

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The fishway began operating in 2010.