

### New Research

1. Maine Department of Marine Resources is working with NH Fish and Wildlife and MA Department of Marine Fisheries on the **Gulf of Maine Collaborative Rainbow Smelt Survey**. Beginning in April 2008, department staff will be sampling spawning sites, population dynamics, and water quality at coastal index stations, including Tannery Brook at the outlet of Silver Lake. Contact Claire Enterline, [claire.enterline@maine.gov](mailto:claire.enterline@maine.gov).

2. **Striped bass** are an important sport fish on the East Coast and are considered to be one of the migratory fishes that will be significantly affected by the proposed Penobscot River Restoration Project. However, the movements of striped bass in the lower Penobscot River are not well characterized; a significant resident population may exist. Dr. Joseph Zydlewski, Maine Cooperative Fish and Wildlife Research Unit, will use acoustic telemetry to track the movements of striped bass in the Penobscot River estuary and analyze telemetry data already collected from 32 fish in 2007. The researchers will employ otolith analysis (laser ablation) to characterize the movements of striped bass in marine versus freshwater (based on the ratio of strontium to calcium). The tracking will use an existing hydroacoustic receiver array in the river and bay maintained in cooperation with the National Marine Fisheries Service and the University of Maine. Contact [jzydlewski@usgs.gov](mailto:jzydlewski@usgs.gov).

3. Dr. Joseph Zydlewski and a graduate student will be starting a new project in the fall studying the **sea-run brook trout** population of Cove Brook. Developed to mirror similar research being conducted under the auspices of the Eastern Brook Trout Joint Venture at Stanley Brook in Acadia National Park, the new brook trout study will revisit Al Meister's landmark thesis on this tributary of the Penobscot estuary, which is also a DPS salmon river.

4. Blackman Stream flows out of Chemo Pond, through Leonard's Mills and the Penobscot Experimental Forest, and into the Penobscot River in Bradley. The U.S. Fish and Wildlife Service, Atlantic Salmon Federation, and other partners are working to **improve fish passage** at a dam on Blackman Stream, to allow sea-run alewives to once again spawn in Chemo Pond. This pond, as well as Parks and Davis ponds, once supported over 300,000 alewives. Planners are currently considering fishway designs. In 2007, Maine Department of Inland Fisheries and Wildlife discovered that largemouth bass had been illegally introduced into Chemo Pond.

4. Brandon Kulik of Kleinschmidt Associates (contractor for the Penobscot River Restoration Trust), along with Steve Coghlan and Gayle Zydlewski of the University of Maine, will conduct a late spring/early summer IBI-style **electrofishing survey** at 10-15 sites in the Penobscot between Howland and Bangor to assess spring populations of local and migratory fish.

### Research Updates

The Maine Bureau of Sea Run Fisheries and Habitat has published the final **Strategic Plan for the Restoration of Diadromous Fishes to the Penobscot River**, and have begun drafting an Operational Plan, with partners from ME DIF&W, Penobscot Nation, NOAA, and The Nature Conservancy. The plan is available at <http://www.maine.gov/dmr/searunfish/index.shtml>.

The Penobscot River Restoration Trust has posted **draft applications to FERC** for surrendering the licenses of the Howland, Great Works, and Veazie hydroelectric projects at [www.penobscotrivers.org](http://www.penobscotrivers.org).

New Publications

Lewis, L., C. Bohlen, and S. Wilson. 2008. Dams, dam removal, and river restoration: A hedonic property value analysis. *Contemporary Economic Policy* 26:175-186.

Penobscot Indian Nation Water Resources Program. 2008. *Water Quality Assessment Report 2007*. Indian Island, ME: Penobscot Nation.  
[hwww.penobscotnation.org/DNR/Water/resources/resources.html](http://www.penobscotnation.org/DNR/Water/resources/resources.html)

Science News

The Maine Center for Invasive Aquatic Plants will be conducting an invasive plant survey in the Penobscot River this summer.

The Penobscot River Revival will take place on Saturday, July 26, on the Bangor waterfront. Nonprofits, agencies, and other groups will be exhibiting, food and entertainment will be available, and prizes for the Striped Bass Tournament will be awarded. Please support this exciting event in celebration of a renewed Penobscot River.

The Penobscot Nation has received a grant to conduct stormwater BMP training in Penobscot River communities.

In April, representatives of the Penobscot River Oil Pollution Abatement Committee (PROPAC) met with faculty and staff of the University of Maine School of Marine Sciences to discuss the efforts of PROPAC and shared information needs. PROPAC has identified areas in the Penobscot estuary that are sensitive to oil spills, and practices emergency response training on the river. The discussion following the presentation focused largely on needs for physical data and analysis, though there are biological and chemical issues as well. PROPAC would be first responders in the event of an oil spill, but they would not be involved in clean-up, so the more biological and chemical issues would be addressed by other organizations. The physical research needs expressed at the meeting relate to accurate bathymetry, hydrodynamic characterization at all stages of tides (ebb-flood, neap-spring) and river flow (spring freshet-low summer flow), a predictive hydrodynamic model, the behavior of oil on ice or in ice flows, and the role of turbidity in influencing oil mixing into the water column. A small group of UM researchers is pursuing collaboration. Contact James McCleave, [mccleave@maine.edu](mailto:mccleave@maine.edu).

The Penobscot River Restoration is one of 18 projects from nine countries featured at The Nature Conservancy's meeting on Strategy Effectiveness Measures in Boulder, CO.

Maine Tidal Energy Company, a subsidiary of Oceana Energy Company, received a preliminary permit from FERC in May 2007 to study the feasibility of tidal power development around Verona Island. In their most recent progress report, the company states that discussions continue with agencies and stakeholders and that they have mapped the area and pulled together data on circulation. <http://www.oceanaenergy.com/>