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MEMBER UPDATE

The Nature Conservancy
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maine




Penobscot River Restoration:
reviving communities, traditions and habitats

Home Coming

Restoration invites fish and people back to the Penobscot

It was spring and something about the water told her it was time. Silver and streamlined, she left the warming Gulf Stream and found the mouth of the river. As she struggled against the current, the compass of her biology guided her along the path her ancestors had traveled for thousands of years. Her blue-green eyes were determined as she searched for the place she was born. But something was wrong; something was blocking her way.

Even for the Atlantic salmon, a fish that can leap over waterfalls, dams on the Penobscot River represent fractures in a critical natural cycle. Those that manage to ascend the awkward fish ladders emerge battered and exhausted; those that fail to ascend miss an essential chance to spawn—one reason migratory fish have disappeared rapidly from this river and thousands of others around the world.

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Hopes rose this year with the steadily climbing numbers of the spring salmon run. "It was the best migration season in decades, but the occasional good year is not enough to ensure a stable population," says Josh Royte, conservation planner for The Nature Conservancy in Maine. Fewer than 3,000 Atlantic salmon are thought to be returning to the Gulf of Maine, and 70 percent of them come to the Penobscot River each year. The restoration of this river is their last best hope.

But as Royte points out, restoration is not just about salmon but about the millions of alewife, shad and herring that should be migrating with them. The Nature Conservancy, a world leader in migratory-fish conservation, saw how the removal of these dams would send a ripple of positive results through the entire watershed.

"Think of migratory fish as biological couriers," explains Royte. "They feed in the ocean and use that energy to move upstream to spawn, bringing with them ocean nutrients that feed birds and fertilize riparian lands that extend thousands of miles inland." Eventually, the river's flow sends energy back downstream in the form of sediments, organic debris and more fish. "When we restore these conveyors of energy and nutrients, life rebounds not only in the river, but on land and in the sea."

For nearly 200 years, migratory fish have faced obstructions en route to their breeding grounds. But together, Conservancy staff and partners have plotted out a route home for the fish. When the Penobscot restoration project is complete, more than 1,000 miles of habitat in the watershed will be accessible to sea-run fish. Add to this project hundreds of smaller efforts to remove dams and improve culverts throughout the watershed, and the Penobscot could see a few thousand alewife turn to millions in just decades. There's also the potential for a million shad. When the river is restored, the Penobscot Indian Nation will again follow the paths of the fish across the seasons in birch-bark canoes. Families will picnic at the shore among trout lily and cardinal flower. The osprey will circle above, and the salmon will lay her eggs in the cool gravel stream bottom. *All* will be able to come home.

The Eyes of the World
Three Questions for Colin Apse

People in Maine are excited about the results the Penobscot River's restoration will have for migratory fish, riverfront communities and cultural traditions. But at RiverSymposium, a global freshwater summit in Australia, the project generated excitement of a different kind—as a model for sustainable freshwater management in the developing world. We spoke with Colin Apse, the Conservancy's deputy director of freshwater science for the eastern United States, to find out more.

Q: What can the Penobscot project teach us about the apparent conflict between hydropower generation and ecological protection in the developing world?

Apse: When we try to reconcile the soaring energy needs of developing countries with the realities of climate change, it becomes immediately clear that hydropower is going to be part of our future. What we are doing on the Penobscot is exactly what we need to be doing proactively in places like Africa and China: We need to find ways for hydropower to work with the ecology of the region.

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Q: Working across the eastern United States, you are involved in dozens of restoration projects. What's special about this one?

Apse: The scale of this project is hard to ignore: We're restoring the second-largest river in the Northeast, the last vestige of habitat for the vast majority of Atlantic salmon remaining on the East Coast of the United States. And with the hydropower company increasing production at existing dams on tributaries to ensure that energy generation remains close to the same, the project is a real win-win. Dam removals can be contentious, but here all parties came together to find a way to make it work.

Q. What are some of the results you are looking for?

Apse: We're hoping to see improvements for fish in the river, but also for species like cod that feed on these fish when they travel to and from Penobscot Bay. We're also hoping that nutrients coming in and going out will make for more productive estuaries. As the climate changes, it will become increasingly important to integrate our freshwater and marine work in this way. I hope this project inspires energy planners to place dams in locations that are least disruptive to key processes, like migration, and to operate them in ways that maintain all of nature's key services. The best thing you can do to make an ecosystem more resilient is to keep it together.

Read the full interview with Colin Apse at nature.org/maine.

River Revival

When rivers come together, so do communities

This July, more than 400 people gathered along the Penobscot River in Bangor for the first Penobscot River Revival, a festival celebrating the coming return of the Penobscot's migratory fisheries and free-flowing waters. Colorful kayaks dotted the rippling water, and people danced to the lively fiddles and down-home harmonies of Blue Northern and the Eric Green Band. At the water's edge, a mother and daughter watched a hummingbird feed on orange jewelweed flowers.

"The benefits this project will have for people are becoming abundantly clear," says Tom Rumpf, associate director of The Nature Conservancy in Maine. "The restoration of the Penobscot is encouraging a renewed sense of stewardship and reminding Mainers of how closely we're connected to this landscape and to the fish and wildlife that share our home."

It is not often that communities get the chance to revitalize a river, but that's what's happening in towns from Lincoln to Bangor. When the Great Works and Veazie dams are gone, the ecosystem will begin to recover and there will be countless new recreational opportunities—including canoeing, kayaking, fishing, river festivals and wildlife watching. In anticipation of a revitalized river, local communities are celebrating unique chances for sustainable development.

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Take Old Town, for instance. In the 19th century, the Penobscot River was the backbone of Old Town's economy. The river was a conveyor belt, moving logs from the northern woods to lumber mills and out of Bangor on ships. In the 20th century, pulp and paper mills sprouted up along the river from Millinocket to Bucksport, and the advent of cheap hydropower attracted manufacturers of textiles and shoes.

When the paper industry suddenly declined, small towns like Old Town and Orono were affected first. Mills closed their doors, and people were turned out. The river, heavily polluted and dammed, became a living record of the harsh past. Now these communities are putting the river first, and through restoration they may again find prosperity.

Last November, the Conservancy and its partners helped pass a $35.5 million natural resources bond bill that included $5 million for rebuilding riverfronts that will leverage other public resources and private investment. Now, with ecological restoration close at hand, communities are developing proposals for everything from kayak tours of the Penobscot islands to old mills reimagined as cultural and interpretive arts venues. "This is perhaps the most important freshwater restoration project under way in North America," says Kate Dempsey, the Conservancy's senior policy advisor in Maine. "But it's not just ecosystems in Maine that benefit—it's entire communities of people, too."

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