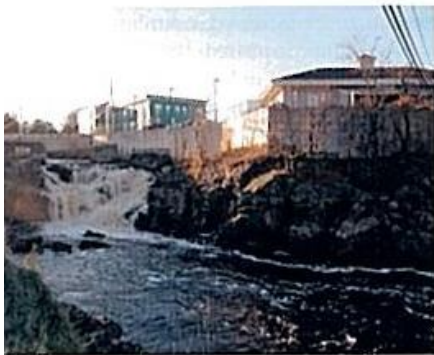


THE STORY AND PHOTOS BY CATHERINE SCHMITT

# CAN DO CREW

NO ONE IS GIVING UP ON THE SMALL RIVERS OF EASTERN MAINE.



Bad Little Falls in downtown Machias, where mills and lumber yards once lined the river from the falls out to the bay. Dwayne Shaw, top, on the deck of the new demonstration Heritage Fish Camp. Built by volunteers (in background) on the banks of the Pleasant River, it serves to remind visitors of the benefits of restoring Maine's anadromous fish populations.

JUST FORTY MILES EAST OF THE PENOBSCOT, AMERICA'S BEST HOPE FOR Atlantic salmon restoration, the Downeast salmon rivers flow through boulder-strewn blueberry barrens, and scraggy logging yards cut from mossy forests of spruce and fir. Here, the dams are few and getting fewer, and the salmon are still genetically unique, native, and wild. There is hope here, too.

While the trials and tribulations of the Downeast salmon rivers have remained in the shadow of the higher-profile Penobscot River Restoration Project, recent developments on these smaller runs are well worth illuminating. The Downeast Salmon Federation (DSF) has overseen the restoration hopes for salmon and other sea-run fish since 1982, when local anglers banded together in order to pool resources and regain some political clout, which had been lost to the bigger river to the west.

The salmon rivers of Downeast Maine—the Narraguagus, Pleasant, Machias, East Machias, and Dennys—are some of the wildest rivers in Maine. But this wasn't always the case. The watersheds were logged intensely and mill owners erected dams that later were converted to generate electricity. Today, this is an economically depressed region of corporate domination, from wreath-maker's plantations of bright-tipped balsam fir, to berry barons' vast barrens and bogs,



## RESTORATION



to working forests managed by global paper and timber investment firms. The conflicts of these small and large industries—over aerial biocide spraying, timber harvesting, and water withdrawals—have polarized the small, rural communities that cluster around coastal Route 1 and the roads running north to the interior.

No one has watched the play of light and dark on these waters more than Dwayne Shaw, DSF's executive director. A Rhode Island native, Shaw first came to Maine for an education. As a college student, he worked for the Maine Atlantic Salmon Commission monitoring water quality and fish passage in the Pleasant River. A failed attempt to take advantage of 1970s energy tax breaks had left behind a defunct dam at the head of tide, in the center of Columbia Falls. Salmon never used the concrete fishway and the rusted assemblage of salvaged turbines in the abandoned powerhouse never generated any electricity.

Shaw also started salmon fishing, an art learned early on from his mother's family in New Brunswick. He left to join the Peace Corps and built carp ponds in Nepal, then returned to eastern Maine and worked at a shellfish hatchery, managing community-based restoration of clams, lobsters, and oysters.

When Shaw started working for DSF in the late 1980s, the organization moved into that same abandoned powerhouse next to the Pleasant River. DSF completed removal of the dam. "They didn't realize that the blasted-out dam

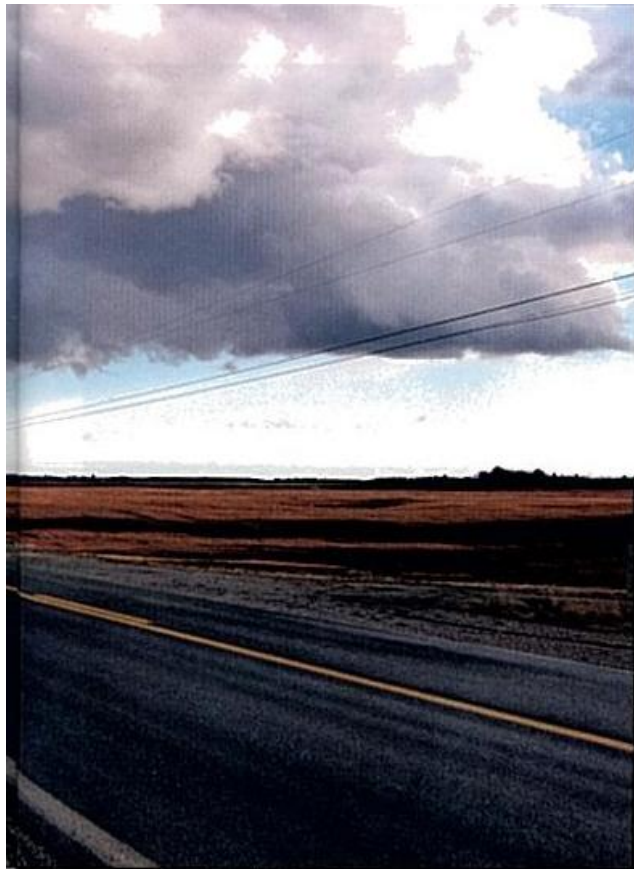
was still a problem for other fish, and that changed flow patterns left smelt eggs high and dry when the tide went out in spring," remembered Shaw.

The controversies, conflicts and successes of river restoration attracted interest to the region and increased understanding of environmental issues. "People started paying attention, they knew who we were and what we stood for," he said. "Memberships increased, contributions of money and volunteer time increased. DSF emerged stronger."

Today, a fine display of this strength is over on the East Machias River, where volunteers are rapidly finishing a \$1.25 million laboratory and conservation hatchery—another community project DSF built on the ruins of one more abandoned hydroelectric facility. It sat by a salmon river where DSF had orchestrated the removal of yet another dam. After some \$400,000 in renovations, including many salvaged and donated parts, the new building has room for expansion beyond salmon production including laboratory facilities, group meeting space, and of course education programs.

Using flowing water from the river, the hatchery is rearing 50,000 Atlantic salmon fry a year for introduction to the East Machias River. And this year, they will initiate a fall parr-stocking program in partnership with the North Atlantic Salmon Fund and with help from Peter Gray of the United Kingdom.





Gray is somewhat of a salmon celebrity, having managed the restocking program on the River Tyne for a quarter century (see Turn Around Tyne, *ASJ*, Winter 2007). He thinks parr stocking was a crucial part of the successful effort there. NASF wanted to replicate the Tyne recovery elsewhere, and it just so happened that DSF was working on the East Machias plan.

"It's obvious that stocking fry isn't working," said Shaw. "We've tried parr in the past, but not parr that have been raised in local waters with the methods that we're planning."

Peter Gray, with over 50 years of practical experience in stocking, has been called a maverick. At times, he has been at odds with more academically trained fisheries biologists. Perhaps this is why he seems a good match for the Downeast rivers, where the approach has always been, "We'll do it ourselves."

"We find alternatives," said Shaw. When no one listened to their concerns about acidification of the salmon rivers, DSF dumped ten tons of clamshells in the upper Machias River watershed, and are closely monitoring the pH to see if there are any changes. DSF also pays close attention to dams and tide gates ignored by almost everyone else. And where obtaining fish from government hatcheries has always been a challenge, they are now working to raise their own, with support from state and federal agencies.



1. A 416-acre community forest surrounds the Pleasant and Eastern Little rivers. 2. A wind turbine and bank of solar panels in front of the new East Machias Aquatic Resource Center. Volunteers with the Beehive Design Collective of local artists and designers painted the fundraising sign. 3. The coastal edge of Downeast Maine quickly yields to flat expanses of cultivated blueberry barrens. Chemical and water use on blueberry fields has been a point of controversy in the Downeast watersheds for years. 4. The Narraguagus River in Cherryfield. 5. Fish camps new and old line the banks of the Pleasant River. In the background, the annual Downeast Smelt Fry is about to get underway beneath the big, white tent.

Every year, Maine's two federal conservation hatcheries produce three million salmon eggs, two million fry, 350,000 parr, and 650,000 yearling smolts, but in the past, there hasn't been enough to go around. Shaw envisions conservation hatcheries on every Downeast river, with dozens of volunteers distributing parr from their trucks and canoes. "Fall parr is one of the strategies that is being used for Atlantic salmon and it seems to be working in some areas," says Antonio Bentivoglio, a biologist at the U.S. Fish and Wildlife Service. "Dwayne's vision is a great one, and if he can pursue it, we support him. Organizations like DSF, that get the local community involved, are essential to the recovery of Atlantic salmon. They provide the manpower that we don't have," he added.

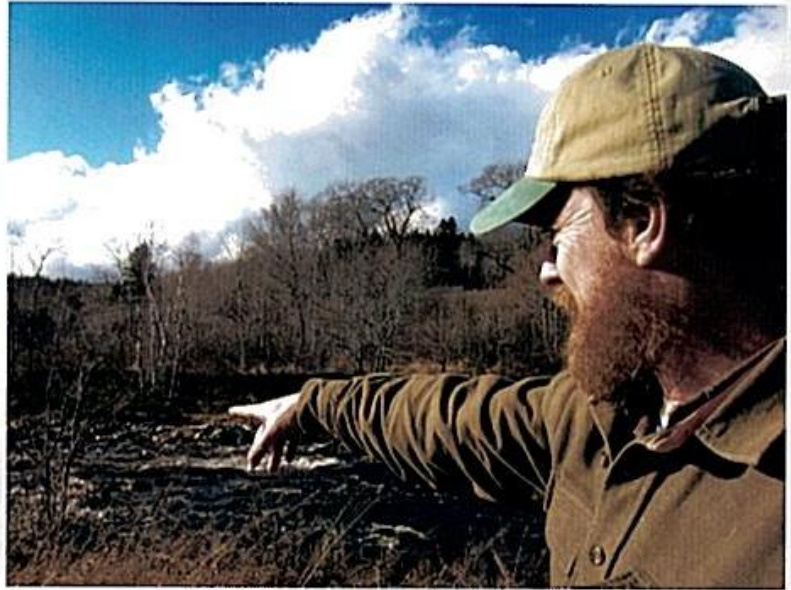
With less federal funding, private sector support combined with the technical know-how of volunteers is propelling DSF forward and expanding their capacity. "We've gone from put-and-take, where federal hatchery fish go into the river and anglers take them out, to watershed management that requires working with landowners," said Shaw.

DSF established the Downeast Rivers Land Trust (DRLT) in 2000, after searching in vain for an existing organization with a focus on riparian corridors and river access. At the time, most conservation effort was being spent on the coast. When DSF started contacting local towns and property owners, they found an overwhelming interest. The DRLT now holds easements and conserva-





Through the Downeast Rivers Land Trust, DSF provides public access to, and educational opportunities on, the Downeast salmon rivers, above. Dwayne Shaw points out the new intake for the East Machias River salmon hatchery, right.



tion properties totaling in excess of 2,000 acres, including more than 15 miles of river and stream frontage, three portage trails, two public campsites, as well as wilder areas in the upper watersheds.

Shaw credits the relatively good quality salmon habitat in the Downeast rivers to these lands, and the tremendous sand and gravel aquifers that underlie the region and supply clean, cold groundwater to streams. There are other fish in these rivers, too: lamprey, alewives, smelt, tomcod, shad, eels, that support some of the last commercial fisheries for sea-run species on the east coast of the United States. Each April, the Downeast Smelt Fry draws a crowd of people from near and far out of hibernation to feast and celebrate the season's bounty.

"The dam removal on the Pleasant restored smelt habitat, and we were the closest to the fishery being right here," said Shaw, who is now documenting and surveying anadromous rainbow smelt in Washington County streams, as part of a regional assessment by state and federal resource agencies. DSF recently rebuilt a fish camp on the Pleasant, one of several historic shacks where salmon and other species were harvested for hundreds of years. And they are planning to smoke alewives, known locally as "bloaters," next to the new facility in East Machias.

"These are the last watersheds that hold intact, wild populations of these fish," said Shaw. "Our members and audiences are intrigued by migratory fish in general, by the mystery of their comings and goings."

DSF did not progress linearly from one area of focus to the next. "These are all common concepts among conservationists. An ecologically-based way of thinking makes sense, rather than just focusing on a single-species approach," said Shaw.

The diversification of DSF's activities is also a natural result of being in eastern Maine, where human population and resources to support conservation and restoration

work are limited. "Merging these diverse features has been key to our sustainability and community support."

Clearly, DSF is a conservation organization that yields results, much of which are highly visible. But many of their accomplishments are beneath the surface, and that's where their education work comes in. A network of volunteers allows for rapid response in emergency situations, such as when 750 gallons of fuel oil spilled into the Pleasant River last year. Multiple generations of volunteers have driven DSF, spending thousands of hours over decades on behalf of eastern Maine's rivers. Young people who went through DSF education programs and learned about salmon habitat as students, who now work in the woods and the machine shops and the factories, continue to serve as stewards.

Nature seems to be rewarding the dedication and hard work, with 2011 bringing the largest salmon runs in years—more than 3,000 fish returned to the Penobscot River, and 196 came back to the Narraguagus (See Rewarding Restoration, page 53). Ernie Atkinson with the Maine Bureau of Sea-Run Fisheries and Habitat reported finding a significant increase in redds in the Downeast rivers, including those dug by wild fish. Managers are adjusting their methods in response to the encouraging numbers, such as the 57 salmon estimated in Old Stream, a tributary of the Machias River. "There's a lot of evidence that says we're in tune with natural rearing, so where we see natural spawning occurring, we're not going to stock fry," said Atkinson.

And on Maine's Downeast rivers it is hoped that being in tune with nature will continue to reap benefits far, far into the future.

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