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—SHERRY WHITE, U.S. FISH AND WILDLIFE



Bill Taylor, Rick Warren and Andy Goode at the Howland Dam Bypass. “We want to take two dams off the Penobscot and build a river around another dam. What do you think?” Andy Goode to Patrick Kelliher in 2000.

# AWESOME FINALE

THE HOWLAND BYPASS CAPS OFF THE PENOBSCOT RESTORATION PROJECT, AS ASF FOCUS NOW TURNS TO THE HEADWATERS OF THIS GREAT RIVER.

Sixteen years ago Patrick Keliher, Commissioner of the Maine Department of Marine Resources, received a phone call from Andy Goode of the Atlantic Salmon Federation.

“We want to take two dams off the Penobscot, and build a big river around another dam,” he queried. “What do you think?”

Keliher, speaking to an enthusiastic crowd gathered to celebrate the completion of the Howland River Bypass remembered how he responded: “I said a few words, I don’t think I can say here today. But I did manage, ‘Hey? You know what? Maybe that will work.’”

Now, the final component of the project that was the subject of that phone call—the Howland Bypass, the largest, longest naturalized fish passage structure ever built in North America—was in full operation. Migrating fish could now swim up and down a free flowing river *around* a dam. The artificially created stream is curved and holds alternating segments of rapids and quieter pools. The channel itself is 320 metres (1050 ft) in length and about 50 metres (170 ft) in width. Numerous fish species, including Atlantic salmon and river herring, are already using the channel to access upstream spawning areas and to move downstream to and from the western branch of the Penobscot, known as the Piscataquis River. Keliher continued by noting how the naturalized bypass in particular, and the Penobscot restoration in general, has become a model now studied by river conservationists from around the world.

After 16 years of planning, meetings, fundraising, action and yes, let it be said, dreaming, this last major project of the Penobscot River Restoration was complete. Now, on a windy, overcast day in mid-June hundreds assembled—conservationists, Penobscot First Nation members, government representatives, local residents and others who had shared the vision of a dammed river allowed to run free. Different people, with different backgrounds and from different places, all shared one overpowering feeling—awe that this day had come.

The crowd warmly applauded Laura Rose Day who, as executive director of the Penobscot River Restoration Trust (PRRT), had guided the project from the very beginning. Always modest to the core, she shone the spotlight on the many people who had worked behind the scenes to make the bypass a reality.

“It has taken a huge team to complete the Penobscot restoration, with many private and public funders. Rick Warren and Tony Grassi made the capital campaign happen,” she said. “We have had the full support of the Maine Congressional delegation, and support from the Town of Howland, who voted to allow the bypass.”

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## AWESOME FINALE

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Sherry White from the US Fish and Wildlife Service, another PRRT partner also spoke, “This river is like a highway for many species, and they each have special needs when it comes to a fish passage,” she told those attending. “This, the largest nature-like bypass in the U.S., will let each kind of fish find a way to complete their passage upstream.”

Although the bypass was designed to look natural, its design had required extremely rigorous modeling by Kleinschmidt Associates. During an on-site discussion before the completion ceremony, Kleinschmidt biologist Brandon Kulik explained how they had come up with the final product.

“We needed to have a channel that worked whether the flows were high or low, so we designed it with a narrow, deeper channel in the middle, and a far wider full channel,” he said. “The computer model took into account the effect of the slopes, and the placement of boulders in particular locations. We allowed for the different ways in which fish need to ascend rapids—



A pedestrian walkway allows visitors to view the bypass up close.

TOM MOFFATT (2)



Final touches: Wild seeds are spread to strengthen the banks of the bypass area.

some having great power and others needing to find paths with very little current.”

Boulders and other structures were used to break up the currents and pools to provide temporary shelter and resting places for fish. Building it so the actual construction mirrored the computer models was another challenge. “It now seems to be working well,” Kulik added with a hint of pride.

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Now with this last major component complete, the obvious question is: What’s next?

The answer, provided by Andy Goode, ASF vice president of U.S. programs, is that much work remains to be done on the smaller tributaries where fish spawn and the young feed and seek shelter from predators and extreme weather and temperature events. This work goes hand-in-hand with the larger elements of the Penobscot restoration project.

“With the mainstem projects complete,” Goode says, “our Maine Headwaters initiative is very active, having completed about 18 fish passage projects on the tributaries, and we have another 10 to go.”

—TOM MOFFATT