

# Rivers key to healthy aquatic ecosystems



Courtesy of Friends of Merrymeeting Bay

Many fish are killed at the Brookfield dam over the Androscoggin River in Brunswick, according to Friends of Merrymeeting Bay. It was part of a winter talk moderated by Ed Friedman.

**INTERTIDAL**



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You might find it strange that a column usually dedicated to marine issues is focused this week on Maine's rivers. Perhaps I should entitle this column "Interconnected" instead of "Intertidal," because that is exactly why I'm focusing on rivers.

The health and vitality of Maine's rivers are critical to the health of its oceans. They are like the arteries of the ocean, cycling nutrients in from the Gulf of Maine and then sending them back out with the tides, recycling the basic foundation of the food chain necessary for the myriad creatures found throughout the whole system. Along with these nutrients, fish move in and out, requiring unique combinations of temperature and salinity during different times in their life cycle to reproduce and grow. There's a beauty in the free flow of all that water, nutrients, and wildlife . . . until it stops.

One fall afternoon, while walking across the Androscoggin, I saw loads of floating dead fish and puzzled over what had happened. That free flow had been stopped by a nearby hydro-power dam — thousands of fish trying to get back out to sea were stunned or caught in the turbines along the way.

As an ocean-focused person, I don't always pay attention to the river, which is right down the street from my house. And, I've never given much thought to the dam. I know it produces electricity and that there is a fish ladder designed to help some of the river's fish travel upstream. But, I'm embarrassed to say that I've never seen the fish ladder in action and that it has been a bit of a mystery as to when the water over the dam is flowing and when it is not. So, how is all this designed to work, and what happens when it doesn't?

A recent presentation, "Talking Fish-Heads" at Curtis Memorial Library in Brunswick brought together a trio of experts working together to solve this problem. This was part of Friends of Merrymeeting Bay's 20th annual Winter Speaker Series.

In this presentation, Nate Gray, project leader for Kennebec Hydro-power Developers Group, a program of the Maine Department of Marine Resources, talked about the resurgence of the herring population from 100,000 to over 3 million with the installation of multiple fish passages on the Kennebec River.

Doug Watts shared his experience as a fishery consultant, author, activist, and president of Kennebec Reborn, specifically his work on protection of the American eel. And, Ed Friedman, chair of Friends of Merrymeeting Bay, a non-profit that works on several issues including the protection of migratory fish, moderated the discussion.

The issues presented are as complex as the ecosystem they aim to protect and the species that rely upon them.

To set the stage, Maine has a lot of dams. Somewhere upward of 750 or so, about 137 or 18 percent of which are hydro-power dams. This is important because hydro-power dams are licensed by the Federal Energy Regulatory Commission under an antiquated system that granted lengthy license terms of 20-50 years. This started under President Franklin Roosevelt's Rural Electrification Administration, which guaranteed power companies enough time to recoup their initial investment. This system prevents adoption of innovative changes that generally can only happen at the time of relicensing unless initiated by the dam owner.

The other critical piece to understand is the wacky behaviors of the fish that travel in the river. There are two types migratory fish — anadromous fish are born in freshwater, spend most of their life in the ocean and return to freshwater to spawn, or reproduce. In Merrymeeting Bay, these include alewives, blueback herring, Atlantic salmon, rainbow smelt, striped bass, American shad, and two species of sturgeon.

Then, there are the catadromous fish, which do the opposite — they live in freshwater and go out into the ocean to reproduce. This is one of the neatest stories — eels that are born in the Sargasso Sea, drift into the Gulf Stream, migrate into rivers as strange translucent glass eels, and then metamorphose into elvers and spend the next 20-50 years in the river system before traveling out to do it all again. Add to that, salinity may determine their sex — those in the freshest water become

females and those in the saltiest become males.

To circle back, hydro-power dams are a big issue to tackle, but there are also the other 80 percent of dams. Groups like Friends of Merrymeeting Bay have been working to restore passage at both types. A priority for FOMB and Kennebec Reborn is initiating fish passage into the Cobboseecontee drainage by removing the small non-hydro dam just upstream from Gardiner. This watershed, if opened would provide the greatest amount of river herring habitat of any Kennebec tributary. Another example is the partnership with the Friends of Sebago Lake to reestablish 100 percent passage up the Presumpscot to Sebago and its tributaries.

Public awareness and education is also key to finding solutions. You can stay updated about these issues by checking the Friends of Merrymeeting Bay website. Or, by becoming a member, you will receive its regular newsletter and opportunities to express support for river restoration.

As you know from my previous comments, I am a proponent of education programs, which FOMB also makes a priority. The more people understand about the issues, the more invested they are in finding solutions that benefit not only their local river, but the entire interconnected ecosystem. Together, we can restore that lovely free-flowing system once again. *Susan Olcott is a Coastal Journal contributing writer. She can be reached at: [susan.olcott@gmail.com](mailto:susan.olcott@gmail.com)*