

## The American Eel in Kennebec Lake by Gray Merriam



In 2019, Jill Mark provided another report of an American Eel in Kennebec Lake. The last observation of an eel in the Lake was in the late 1980's also along the south shore in the west end. A young angler paddled by Mark Wideman caught on something in shallow water. He hauled it up to find a fine fishing rod and reel. On reeling in the line of found rod, there was a dead eel about 3 feet long.

Eels are rare in Kennebec Lake and, as we shall see, they may be very old and may have been landlocked in the Lake for a long time. Kennebec Lake, near the headwaters of the Salmon River watershed, is a long journey from the Sargasso Sea. Recent observations of eels puts Kennebec Lake and the Salmon watershed in global perspective and remind us of the recent ecological history of the lake and its watershed.

The American eel spawns in seawater but spends most of its life in freshwater lakes and streams. When hatched the larval eels, called leptocephali, grow to 50 to 60 millimetres and then transform into glass eels which migrate toward fresh water. On reaching fresh water they transform again into elvers, miniature eels, that proceed upstream to find habitats in fresh water lakes. Eels are thought to live and grow as long as 50 years in freshwater. Older females can grow to well over a metre long weighing over 7.5 Kilograms. Jill estimated the one she observed to be up to five feet long. Males are much smaller. In our region, the majority of the population is females.

The eels' spawning habitat is the Sargasso Sea east of the Bahamas and southwest of Bermuda in the North Atlantic Ocean at reported depths of up to 1,400 feet. Each female lays up to 4 million eggs and dies after spawning. The life history requirement to return to the Sargasso Sea has been impacted by our imposition of barriers and death traps along the eels' migratory route, especially the return trip from our Lake to the Sargasso Sea for spawning.

American Eels were a highly prized food source for Aboriginal people living near the upper St. Lawrence and Lake Ontario, especially during the winter months and when travelling. Until the early 1990s, the American Eel was one of the top three species making up the commercial fishing harvest from Lake Ontario. In Indigenous languages, like Mi'kmaq, it is known as k'at or g'at, the Algonquins call it pimzi or pimizi, in Ojibwe bimizi, in Cree Kinebikoinkosew and the Seneca call it goda:noh.

The eel's diet is diverse. It will eat almost anything in its immediate environment including insects, fish, fish eggs, crabs, worms, clams and frogs. Eels will even eat dead animal matter. As a top predator, the American eel probably helped maintain a balanced fish fauna before our intervention.

Eels studied in Mississippi Lake had to get past six hydroelectric dams, most with turbines, to get back to the spawning grounds. It was estimated that only about 2.8 percent of them made it past the turbines and only 1.4 percent survived to salt water. On average the mortality is optimistically estimated by the Ministry of Natural Resources to be 40 percent. Other anthropogenic threats include, dams inhibiting upstream migration, lake habitat degradation, parasites and overfishing.

The eels being found in Kennebec Lake may have entered the lake as elvers before the logging era built dams in the Salmon River or they may have moved in more recently. Before the dams, elvers freely moved from the St. Lawrence and Lake Ontario into Kennebec and other lakes to grow into adults. Jill's five foot eel likely is very old and may have been prevented from migrating to the Sargasso Sea to breed.

More Info

MacGregor, R., T. Haxton, L. Greig, J. Casselman, J. Dettmers, W. Allen, D. Oliver, L McDermott. 19XX. The demise of the American Eel in the

upper St. Lawrence River, Lake Ontario, Ottawa River and associated watersheds: Implications of regional cumulative effects. American Fisheries Society Symposium 78:149–188, 2015 © 2015 by the American Fisheries Society.

<http://hww.ca/en/wildlife/fish-amphibians-and-reptiles/american-eel.html>

<http://www.dfo-mpo.gc.ca/Library/247448.pdf>