Situated on the Canadian/US border within the St. Croix River Watershed, East Grand Lake is where anglers from both the Canadian Maritime Provinces and the State of Maine flock to fish for large Togue (Lake Trout; *Salvelinus namaycush*) and elusive Lake Whitefish (*Coregonus clupeaformis*). Although there are internationally agreed upon and seemingly effective angling regulations in place on East Grand Lake, the trans-boundary nature of the lake has always made it challenging for both Provincial and State biologists to each effectively research and monitor the lake's fisheries resources. For how much angling pressure the lake receives, it is understandably, yet criminally understudied.

Beginning in 2025, the St. Croix International Waterway Commission (SCIWC) in partnership with Acadia University began an acoustic tracking project on East Grand Lake in cooperation with the New Brunswick Department of Natural Resources and Energy Development and the Maine Department of Inland Fisheries and Wildlife. Acoustic tracking, also known as acoustic telemetry, utilises two components: tags and receivers. Tags, which are surgically implanted or externally attached to an animal, transmits data about the fish's whereabouts and environmental conditions (depth and temperature) to an array of receivers deployed in the lake. The principal focus of this project is figuring out where, when, at what depth, and at what temperature both Togue and Lake Whitefish spawn in East Grand.

Over the 2025 Winter ice fishing season, SCIWC and Acadia biologists angled and surgically tagged 20 Togue and 15 Lake Whitefish with acoustic tags. Volunteer ice fishers provided us with caught fish, and invaluable intel on targeting depths, tackle, and methods. Fish were measured, then anesthetised before a tag was inserted through a small incision on the belly and sowed up with small sutures. Togue were tagged with an external dart tag as an indication to anglers if caught again, as well as a fin clip on the tip of the anal fin. The seemingly abundant Togue allowed biologists to be selective on which fish received a tag, ensuring good health after surgery and release, and a wide distribution of fish sizes were tagged with 20" being the smallest, and 32" being the largest. The Lake Whitefish, on the other hand, were not often targeted by other anglers on East Grand, were seldom caught by biologists, and delicate when they bit on exclusively small spoons. Their elusiveness and challenging surgery kept things interesting, until eventually 15 were tagged.

Preliminary tracking data through the winter showed us that Togue are often very active under the ice, changing depths very quickly, presumably chasing food. Lake Whitefish seemed much less "active", always at the same depth during daylight hours, however, they would often move very shallow as the sun set. We will keep those interested up to

date on tracking data, and we encourage anglers to release any Togue or Lake Whitefish in East Grand Lake that are suspected to be tagged with an acoustic tracker.

The plan going forward is to have receivers deployed in East Grand Lake over the spring, summer, fall, and winter for the next two years while the tag batteries are still active. Our hope is that we will be able to follow them up to their spawning grounds in the fall and learn a lot more about them along the way.

For more information on this project, please contact Biologist Matthew Warner at 902-489-2027 or at matthew.warner@stcroix.org

A Lake Whitefish receiving an acoustic tag during the winter of 24/25.