



Abstract:

Jeremy Broome, Acadia University
Research Advisor: Dr. Anna Redden
Category: Environment

Slipping Through the Cracks: Challenges Tracking American Eels in Minas Passage, NS

A collaborative, multi-year, acoustic telemetry project was developed to investigate fish movements in and near the FORCE in-stream tidal energy test site within Minas Passage, Bay of Fundy, NS. One of the species selected for study was the American eel, which is currently listed as threatened by COSEWIC. Results of two seasons of American eel tracking will be presented. Forty-five (45) eels were acoustically tagged during the fall of 2011 and 2012. Twenty-one (21) eels were detected within Minas Passage, of which eight (8) were detected within the FORCE site. Presence within Minas Passage occurred over a short time frame due to the single passage nature of eel out-migration. Little selectivity was shown for a specific migration pathway. Depths of transit through Minas Passage were highly variable among individuals, ranging between surface and 110m. Patterns in movement through Minas Passage, with regard to time of day and tidal stage, that might help inform when eels could be most at risk during the installation and testing of TISEC devices, were not well resolved. Long range detection of a single eel was reported through an Ocean Tracking Network (OTN) collaborator. This eel had not been previously detected exiting Minas Passage, indicating that during some tidal conditions, overlapping receiver coverage was degraded sufficiently to permit undetected escape.