



**Abstract:**

Kaycee Morrison, Acadia University  
Research Advisor: Anna Redden & Jeremy Broome  
Category: Environment

***Lobsters under FORCE: tracking their seasonal use of the Minas Passage, Bay of Fundy***

The American lobster (*Homarus americanus*) commercial fishery is Canada's most valuable seafood export, with significant catch sourced from the upper Bay of Fundy. Local lobster fishers report that lobsters undergo seasonal migration (into Minas Basin in spring; outwards in late fall) and use the Fundy Ocean Research Centre for Energy (FORCE) tidal turbine test area in Minas Passage as a migration corridor. This project examines movement patterns of electronically tagged lobsters and contributes to the assessment of potential impacts of turbine installation on this species. Vemco V13 or V13P acoustic transmitters were fitted to 125 adult lobsters, sourced from commercial catch in Minas Basin - lobster fishing area (LFA) 35. Bottom-mounted Vemco receivers (29 in 2011, 24 in 2012) were deployed in arrays within Minas Passage to detect migration of tagged lobsters. Seafloor video clips, photographs, and grab samples (N = 91, 1183, and 21, respectively) collected aboard the CCGS Hudson in June 2013 were examined quantitatively and qualitatively for macrobiota and substrate composition. In total, 130,217 detections from 38 (30%) lobsters were logged in Minas Passage, at 30 receiver stations, with 71% from the northern third of Minas Passage. Ten lobsters were detected at or near (within 200 m) the FORCE test area. Some outward migration through the passage occurred in late fall in both years. Receivers moored throughout winter months in 2012/2013 indicate lobster presence (including berried females) in the passage as late as February. Undetected lobsters may indicate some overwintering of lobsters in Minas Basin and/or dislodged transmitters. This study confirmed near year-round lobster presence in and near the FORCE test site and will contribute to the assessment of post-turbine installation environmental impacts.