

**Abstract:**

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Intertidal Weirs as Fish Monitoring Platforms for FORCE: Temporal Patterns in Fish Presence and Abundance in Minas Basin Weirs

The Bay of Fundy is recognized as an area of high ecological importance and is home to a diverse fish assemblage that includes fish of commercial and recreational significance. FORCE, a leading test center for tidal energy research and development is currently assessing the potential for tidal energy development in the Bay of Fundy's Minas Passage. Since 2009, FORCE's Environmental Effects Monitoring (EEM) program has utilized a variety of strategies to gain a better understanding of fish presence and activity within the turbine test area. This project examines the use of commercial intertidal weirs along the shores of Minas Basin to address identified information gaps within the EEM program, in particular the seasonal abundance and presence of fishes near the FORCE test site. The purpose of this investigation was to examine the temporal and environmental (e.g. temp, tide height) patterns in the presence and abundance of resident and migratory fishes, as observed in the fish catches at two Minas Basin weirs during April – August 2013. Sampling was conducted near weekly during daytime low tides from weirs in Bramber, NS and Five Islands, NS. Diel patterns were examined during two one-week periods during late July and early August at the Bramber site. Weir catches included 20 fish species at Bramber and 16 at Five Islands. Pelagic fishes, especially those of the Clupeidae family, dominated catches. Abundance and species richness varied seasonally, in part due to the spawning patterns of migratory fishes. Day/night sampling was conducted on 14 consecutive low tides during 12-19 July at Bramber. Considerable variation in abundance was observed, with greater fish captures during low tides at dusk/night. Overall, the study showed that intertidal weirs are significant sampling platforms that can strengthen on-going environmental monitoring near tidal energy development sites.