

Fish Population Monitoring by Autonomous Sailboat

The goal of this project is to demonstrate the feasibility of using a low-cost, long-duration autonomous sailboat to monitor tagged fish in the Boston Harbor area. Improved data capture from tagged fish leads to a better understanding of species population dynamics and behavior enhancing our ability to make data driven, fisheries management decisions.

The target species for the study is winter flounder (*Pseudopleuronectes americanus*), which have been tagged with 69 KHz acoustic trackers. We will outfit our 2 m Marine Robotics, LLC sailboat with a custom data acquisition system featuring a high-performance hydrophone and a commercial fish tracking receiver. The autonomous sailboat will drive a search pattern near existing stationary receivers. By comparing the contacts received by stationary receivers, our mobile receiver, and the hydrophone, we will be able to determine the performance of the mobile receiver, and suitability for this application.

This project touches on acoustics, digital signal processing, marine autonomy, and autonomous sailing algorithm development.



Status:	Ongoing since February 2023
Sponsors:	Sea Grant, Marine Robotics LLC
People:	Mike Sacarny, Ching-Tang Hung (Visiting from NTU), Mike Benjamin (PI)
Vehicles:	Autonomous Sailboat by Marine Robotics, LLC