

Mapping Red Hind Groupers at Spawning Aggregation Sites with an AUV and Long-Term Acoustic Recorders in Puerto Rico

David Mann, University of South Florida

The goal of this project is to apply passive acoustic techniques to study the spawning behavior of red hind (*Epinephelus guttatus*) off the west coast of Puerto Rico. Since many fishes, including groupers, produce sounds associated with mating behaviors, recording and analyzing the occurrence of these sounds can provide long time-series records of grouper spawning and use of spawning habitat. This project will also add an acoustic recorder to the SeaBED AUV which is currently funded to map red hind spawning habitat in Puerto Rico.

Objectives

1. Verify species-specific sound production of red hind with underwater video.
2. Place long-term passive acoustic recorders at three sites off Abrir La Sierra and Mona Island, Puerto Rico to document spatial and temporal patterns in grouper sound production for two spawning seasons.
3. Add an acoustic recorder to SeaBED to obtain continuous acoustic transects along with photographic mapping that is already taking place.

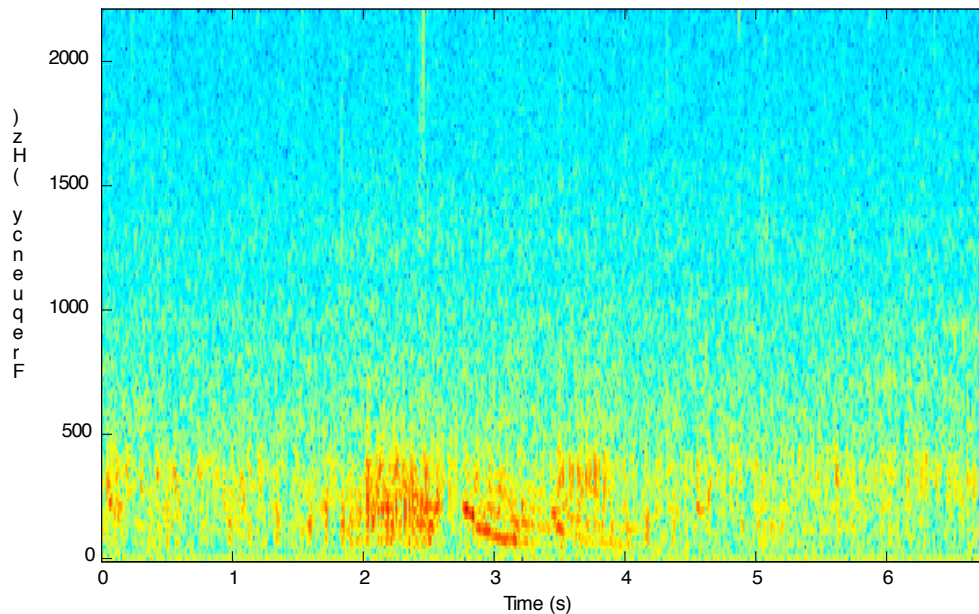


Figure 1. Putative red hind sound production recorded by a long-term acoustic recorder on a red hind aggregation site off Mona Island, Puerto Rico. Recorded January 12, 2006 at 2320 hrs. The figure shows a spectrogram of the recorded sound, which indicates that sound sound is low frequency (< 500 Hz) and lasts for about 1.5 seconds.