



Seminar Announcement

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Woods Hole Oceanographic Institution ~ AOP&E and Biology Departments

Identifying Biological Hotspots from Fishery Acoustic Surveys in Species-Rich, Untrawlable Habitats in Coral Reef Ecosystems

Wednesday, December 03, 2014 at 12:15 p.m.

NEFSC Stephen H. Clark Conference Room, NOAA Aquarium Building

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ABSTRACT

Reef fish distributions are patchy over time and space, intimately linked to biological interactions and geomorphology of the seascape. Identifying biological hotspots such as fish aggregations in these ecosystems is a top priority for coastal fisheries managers. Visual and optical methods provide the highest level of detail on benthic habitats and the fish communities, but are limited by many factors including inefficiencies in covering large areas at fine spatial resolution. Fishery and multibeam sonars are used to rapidly surveys large areas, providing multiple layers of inference on the seafloor types and distribution of fish biomass in the watercolumn. We are beginning to address some challenges in acoustic surveys such as species classification in reef systems as well as detection of fishes over rugged seafloors. Maps of acoustically derived fish density show distribution patterns relative to management zones and have been used to infer potential boundary effects in existing marine protected areas. Similar to reef fish visual census studies, our habitat use and distribution models have confirmed the importance of seafloor structure in explaining the distribution of acoustically derived fish biomass. Integrated acoustic surveys are filling gaps in living marine resource assessments in coral reef systems and enhancing data support tools used by managers in ecosystem management and marine spatial planning.