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Seafloor Characterization for Trawlability Using the Simrad ME70 Multibeam Echosounder in the Gulf of Alaska

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Rockfish (*Sebastes spp.*) stocks that associate with rugged seafloor types are difficult to assess with bottom-trawl sampling gear. Alternative methods including acoustic remote sensing and video imagery may improve rockfish assessment in untrawlable locations. Acoustic remote sensing can also be applied to quantify regions of trawlable or untrawlable seafloor and thus identify locations where alternative assessment methods may be required. We are using the Simrad ME70 multibeam echosounder (ME70), Alaska Fisheries Science Center (AFSC) trawl survey data, and video imagery to assess seafloor trawlability for locations in the Gulf of Alaska (GOA).

We surveyed areas of the GOA (20-500 m depth) using the ME70 aboard the NOAA Ship *Oscar Dyson* during summer 2011, from the Islands of Four Mountains, in the Aleutian Islands (169°59'0"W 52°43'11"N) to eastern Kodiak Island (151°5'25"W 57°20'46"N). Multibeam acoustic data was collected continuously along the ship trackline (1-20 nmi trackline spacing) and at fine-scale survey locations with 100% bottom coverage ($n = 21$). Video data was collected at fine-scale survey sites using a drop camera to groundtruth the acoustic seafloor characterization and to identify associated fish and invertebrate species ($n = 47$ camera dives). At locations where historical bottom trawl hauls and 2011 camera drops were conducted, the acoustic-derived seafloor parameters that were most discriminatory in characterizing trawlable and untrawlable seafloor types were identified using a stochastic modeling approach. The extension of this approach to fish habitat characteristics will also be discussed.