

Project Title: Effects of environmental conditions on halibut bycatch rates in the Gulf of Alaska, Bering Sea, and Aleutian Islands groundfish fisheries

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CRM conducted market research on available mini data loggers to learn about any manufacturers who make mini data loggers that collect temperature, depth, and conductivity for data ranges that would be observed in the GOA and BSAI. CRM found that Star Oddi was the only manufacturer of such data loggers. Wildlife Computers makes similar mini data loggers that measure temperature, depth, and light, and have a “wet/dry sensor” that works by way of sensing conductivity. CRM and SB were able to obtain 4 real Star Oddi mini data loggers, 8 dummy Star Oddi data loggers, and 2 mini Wildlife Computer data loggers to deploy on fishing boats in order to compare quality of measurements between the two types of sensors. In addition, previous projects using the Star Oddi mini data-loggers reported some problems with delays in data collection and fragility of data loggers. Hence, CRM designed housing for the Star Oddi data loggers to optimize strength of housing and water flow-through while minimizing costs. CRM and SB obtained all the materials necessary to make 4 housing designs for data loggers and crafted the housing. All real and dummy data loggers were deployed to test performance over a 2-week period in the GOA, BSAI, and on a shrimp fishing boat in Oregon. Data loggers were shipped back to NOAA, the data were downloaded and results were compared. CRM found that the Wildlife Computer data loggers did not collect quality conductivity measurements, while Star Oddi data loggers collected sensible conductivity, temperature, and depth measurements. All data loggers survived the test; none broke. Hence, the purchasing process was initiated to buy Star Oddi mini data loggers for this project with plans to purchase the remainder of materials for making additional data logger housing for the newly ordered data loggers. These data loggers will be deployed for a second test run in December to work out any problems and all data loggers will be deployed for the full-scale project in January.