

Oregon Ocean Science Trust (OOST) Pilot Projects

OOST seeks funding for six pilot projects to begin its work to address priority research and monitoring needs in the nearshore environment.

Project 1- Mapping Tool for Fisherpersons; \$50,000

Currently there is no central repository for fisherman and fisherwoman to place observations of changing and unusual conditions in the nearshore. Fishers are usually the first to observe changes in the ocean because they use certain places where their fisheries occur on a regular basis. Having a mapping tool that would allow for these observations to be recorded in real time would provide scientists, fishers, agencies, tribes and the public to access to this important data.

Project 2- Determining how Adult Dungeness Crab Respond to Hypoxic and Acidified Waters in the Nearshore; \$500,000

Crab are one of the most important economic resources off of Oregon's coast supporting and sustaining many families, businesses and ports. The OAH Fishermen-Scientists Meeting in 2018 identified this as an important project. Developing rugged high-tech crab pots equipped with underwater sensors, including sensor development, and data loggers, that could provide quality information on how crab respond in hypoxic and acidified waters could fill in data gaps and lead to adaptation strategies for maintaining the population in the long-term. In addition this project seeks to: collect "living history" information about crab and hypoxia events through interviews with fishermen, scientists, agency staff, tribal members and others; conduct studies on crab response behavior and migratory movements using hydro acoustics; and initiate physiological studies to examine thresholds for crab behavior.

Project 3- Researching the Impact of Ocean Acidification and Unusual Events on Forage Fish; \$150,000

There is a need for tracking and recording unusual events (e.g., the "Blob", pyrosome bloom) that may impact forage fish, important sources of food in the marine environment. Little baseline data exists about the status and trends for forage fish species. This project seeks to fill data gaps and record impacts of unusual events using fisher images and observation and sonar to identify location, water temperature and other water column properties, examining the stomach content of caught fish and using log books to record these observations. This would require development of a data portal so the information can be shared.

Project 4- Developing a Conservation and Fisheries Management Plan (CFMP) for Abalone; \$250,000

The state (ODFW) seeks to develop a Conservation and Fisheries Management Plan (CFMP) for Abalone along the Oregon Coast. Red abalone are suffering from high levels of stress and mortality likely due to warmer waters and die off of other species leading to increased purple sea urchin populations who compete with red abalone for food. As a result red abalone are starving and the population has declined to a level that is not sustainable. The CFMP will specifically address the need for new conservation measures that will effectively protect red abalone populations located at the northern limit of their biogeographic range. In addition, the CFMP will also identify guidelines, goals, monitoring

activities, performance metrics, action thresholds, research gaps, and resource needs within the framework of a regional abalone recreational fishery management plan.

Project 5- Expanding Collection of Baseline Data Along Oregon's Coast; \$1,000,000

Adding hydrographic lines along Oregon's coast would allow managers and scientists to better hone in on areas of the ocean facing the biggest threats and changes from acidification and hypoxic events. One line exists at Newport and the state's goal is to build a total of five lines covering the coast from north to south. Each line would collect physical, chemical and biological information starting at the shore and extending 3 miles off the coast.

Project 6- Raising Awareness of Changing Ocean Conditions; \$100,000

Many Oregonians are unaware of the impacts of climate change on ocean conditions and marine resources. This project seeks to develop various media (social, print, video) for use in educating the broader public about issues facing Oregon's nearshore and its marine resources.