The Oregon Department of Fish and Wildlife provides the following description of proposed research for the Pacific Fishery Management Council's information:

## Assessing benthic habitat impacts and recovery processes in association with major changes in bottom trawl closed areas off the Oregon coast

Amendment 28 to the West Coast Groundfish Fishery Management Plan (FMP) will reopen the trawl Rockfish Conservation Area (RCA) off Oregon and California and modify the configuration of Essential Fish Habitat Conservation Areas (EFHCAs) closed to bottom trawling. Implementation is expected on January 1, 2020. The areas to be reopened "provide unprecedented opportunities to facilitate applied research to address management questions about impacts and recovery of habitats and associated species, and the benefits of long-term closures for fish populations", as noted by the Pacific Fishery Management Council (Council) in its 2018 Research and Data Needs document. These questions were among the highest priorities under Ecosystem Based Fishery Management and Groundfish FMP issues.

Oregon State University (OSU) and the Oregon Department of Fish and Wildlife (ODFW) propose to take advantage of this unprecedented opportunity to study the habitat impacts and recovery from groundfish trawling with current gears and practices in an area off the central Oregon coast near Heceta Bank. Using ODFW's remotely operated vehicle and OSU's benthic landers, we plan to obtain high-definition video of the substrate, invertebrates, and fish, as well as sediment and bottom water chemistry, before and after trawling recommences in the trawl RCA within the study area. Engagement by trawl fishermen familiar with the area will be sought to inform survey design and interpretation of the results.

The full project concept includes repeat surveys over several years. The 2019 surveys, prior to reopening, will establish a permanent record that may be used to evaluate habitat and species recovery after an extended closure, and will serve as a baseline against which to compare habitat condition at varying time intervals after trawling recommences to examine impacts and recovery processes. Funding has been secured for the 2019 phase, which is critical to taking advantage of the one-time opportunity before the study area reopens to trawling. Future work is dependent on the availability of additional funding to support follow-up surveys and data analysis. Results from the full study are expected to inform the Council's understanding of the impact of modern groundfish trawling on benthic habitats, and may be valuable in the Council's next review of groundfish EFH.