Project Title: Relating Population Abundance of Groundfish Species to Habitats using Predictive Models and Broad-scale Seafloor Maps

Principal Investigator(s): Mary Yoklavich, NOAA/SWFSC, Fisheries Ecology Division, 110 Shaffer Rd., Santa Cruz, CA 95060, (831) 420-3940 mary.yoklavich@noaa.gov

Goals:

Predictive models and maps of density for various demersal species, population size (total abundance and biomass, when coupled with size composition) can be estimated in the study area. These results will have direct applications to coastal and marine spatial management, especially on local and regional scales, in addressing such needs as (1) the design and monitoring of marine protected areas, (2) identification of essential fish habitats, and (3) identification of areas important to the restoration or rebuilding of depleted stocks.

Approach:

The first objective of this project is to develop statistical models that predict densities of individual demersal fish species and multi-species fish assemblages over broad spatial scales. The second objective is to couple these models with the broad-scale seafloor habitat maps in a geographical-information-systems (GIS) environment to forecast fish densities on a regional basis. Most of this work will not begin until a post-doc researcher has been hired.

Work Completed:

The entire proposed budget was intended to cover the salary/benefits/overhead of a contracted post-doc to work on this project. The funds have been obligated to a grant for this purpose through a new cooperative institute (CIMEC). Until the third week of September, there had been no firm commitment from NOAA to the University of California to fund CIMEC (which comprises many projects, post-docs, etc. in fisheries ecology); the status from NOAAs perspective was that CIMEC was under review by NOAAs Grants Management Division (GMD). CIMEC was signed off by NOAA around 20 September 2010, but as of 26 October 2010 funds have not been released by NOAAs GMD. It is anticipated that the post-doc recruitment process will begin on or about November 1st. Tasks completed thus far: (1) we have successfully established the contracting vehicle with which to hire the post-doc researcher; (2) we are poised to start recruitment for such a position on or about November 1; and (3) we have been preparing the database with which the post-doc will work to relate population abundance of demersal fish species to habitats using predictive models and broad-scale seafloor maps. It is anticipated that a post-doc researcher will be identified for this project by December.

Applications:

No applications to date. However, it is our intent that these results will provide managers, policy makers, and the public with information that can be used in the conservation and management of sustainable marine resources (both the fisheries and associated habitats). Development of models of co-occurring species and associated habitats will have application to

ecosystem-based management, providing information needed to manage a more complete demersal fish community. By including measures of spatial variability, this work will advance our understanding of the ecological processes that influence demersal fish distribution and abundance.

Publications/Presentations/Webpages:

N/A