

## Growth variability of the splitnose rockfish (*Sebastes diploproa*) in the northeast Pacific Ocean: Pattern revisited

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Understanding patterns of somatic growth within populations greatly contributes to fisheries stock assessment and helps determine the proper model structure. Splitnose rockfish was reported as having a striking pattern of latitudinal growth variability from studies conducted in the 1980s. We investigated variation in growth parameters of splitnose rockfish by latitude using recent data from the NMFS Groundfish Survey (2003–2008), current ageing techniques and advanced modeling and statistical methods to provide an updated understanding of growth along this species' latitudinal range. Age data generated from sectioned otoliths was fit to a von Bertalanffy growth function incorporating ageing error. Growth parameters were estimated for each of five International North Pacific Fisheries Commission (INPFC) areas along the U.S. west coast. Generalized linear models and Akaike's Information Criteria were used to evaluate hypotheses for growth parameter relationship with latitude. We found that splitnose rockfish exhibited a cline in asymptotic length ( $L_{\infty}$ ) with  $L_{\infty}$  increasing with rising latitude. We also found that although the growth coefficient ( $k$ ) was smallest in the Conception INPFC area, there was no apparent cline along the coast; a northward cline in  $k$  has previously been reported in the literature. We propose that differences in fishing intensity could be responsible for cline in  $L_{\infty}$ , as higher fishing pressure in the south could skew the size distribution of the population in that region, and reduce southern  $L_{\infty}$  estimates. We also attribute slower growth in the Conception area to the oceanographic characteristics and low productivity of the area south of Point Conception.

## Mapping marine benthic habitats along the U.S. west coast: Current status, future plans and applications

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Seafloor mapping serves a variety of needs for habitat scientists and resource managers. Maps of marine benthic habitats are a fundamental part of any habitat assessment and are clearly useful for marine spatial planning. Many fish stocks have strong affinities for specific habitat characteristics, resulting in patchy spatial distributions of abundance. Incorporating habitat characteristics into survey designs and stock assessments could increase their accuracy and precision while potentially reducing field effort, resulting in improved identification and conservation of essential fish habitat (EFH). Working with academic and agency partners in 2003, NMFS developed the first comprehensive seafloor habitat map for the west coast as part of a habitat assessment of EFH for west coast groundfish. Although useful, the effort clearly illustrated gaps in the knowledge base for west coast benthic habitats. Since 2003, there has been a major increase in both coverage of high resolution swath mapping and habitat interpretations concentrated in the state waters of Oregon, California and Washington (Puget Sound) and at select deep water sites. Significant areas of the continental shelf and slope have not been mapped. Within the past several years, in part stimulated by the *Action Plan* of the *West Coast Governors Agreement on Ocean Health*, the three states have conducted seafloor mapping workshops to document the status of habitat assessments, identify seafloor mapping priorities and develop strategies to obtain funding. This presentation identifies initiatives and gains in mapping west coast marine benthic habitats over the past six years and presents plans and expectations for the future.

# PROCEEDINGS

## **11<sup>TH</sup> NATIONAL STOCK ASSESSMENT WORKSHOP**

*Characterization of Scientific Uncertainty in Assessments to Improve Determination of Acceptable Biological Catches (ABCs)*

## **JOINT SESSION OF THE NATIONAL STOCK AND HABITAT ASSESSMENT WORKSHOPS**

*Incorporating Habitat Information in Stock Assessments*

## **1<sup>ST</sup> NATIONAL HABITAT ASSESSMENT WORKSHOP**

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