

SOUTHWEST FISHERIES SCIENCE CENTER
FOURTH QUARTER REPORT-FY 2002
For the Period July 1-Sept 30, 2002

Submitted by: John Hunter, Division Director, Fisheries Resources Division

Title of Accomplishment or Milestone: Provide population genetic data for management decisions regarding ESA status of copper and brown rockfishes in Puget Sound

Current Status: 1. For copper rockfish, data complete, analysis complete, ms to appear in Aug 2002 issue of Canadian Journal of Fisheries and Aquatic Science. 2. For brown rockfish, data complete, analysis complete, results presented at 132nd Annual Meeting American Fisheries Society, Baltimore, MD. 8/18-22,2002. ms in prep.

Background Information: NMFS was petitioned to list several stocks of rockfish living in Puget Sound Proper and the Greater Puget Sound Basin as sufficiently depleted to be worthy of protection under the Endangered Species Act. The Act provides for protection over the entire range of a species or for a Distinct Population Segment (DPS). Available data were not sufficient to determine if Puget Sound populations were DPS's and if so, what were the appropriate boundaries between DPS's.

Purpose of Activity: This study was, 1. to determine the degree of separation between copper and brown rockfish populations within the Puget Sound, the Greater Puget Sound Basin, and the outer coast, and 2. To determine if rockfish species in Puget Sound are at risk of extinction via introgressive hybridization in copper rockfish, *Sebastes caurninus*, and brown rockfish, *S. auriculatus*.

Description of Accomplishment and Significant Results: In a previous milestone we reported that the copper data indicated that Puget Sound populations were of post glacial origins and were probably founded by few individuals with little subsequent movement or connection between the Sound and the outer coast. Similar results were found for brown rockfish. Recovery of populations will be contingent upon preservation of and good recruitment from remaining stocks within Puget Sound. Hybridization between brown rockfish and quillback rockfish was observed within Puget Sound but not on the outer coast.

Significance of Accomplishment: Results confirm that Puget Sound populations of brown rockfish are also genetically distinct and worthy of consideration as a separate DPS. Introgressive hybridization is an added concern for brown rockfish since remaining stocks can be diluted to extinction by potential outbreeding with other more abundant species.

Problems: None

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