

Subject:

Halibut declaration

Date:

Mon, 02 Jun 97 10:01:23 MST

From:

sharon_kramer@mail.fws.gov

To:

huntfor@waonline.com

TO: Laura Hunter, Environmental Health Coalition

FROM: Sharon Kramer, National Marine Fisheries Service

6/2/97

Between 1985-1990, I conducted research on the early life history of California halibut that was supported by the National Marine Fisheries Service, Southwest Fisheries Science Center in La Jolla. The research was used to satisfy requirements for a Ph.D. dissertation at Scripps Institution of Oceanography. The key questions that I was trying to address included: 1) what are the specific habitats where most juveniles are found and how does habitat preference change with age, 2) what are the benefits of a shallow water existence, 3) how does California halibut compare to other juvenile flatfishes living in the same shallow water habitats.

Most of this research was conducted in Mission Bay, Agua Hedionda Lagoon, and along the open coast from September 1986 through September 1988. In the summer of 1988, some additional funds were made available to spend two weeks (June 20-July 5) in San Diego Bay. Standing stock of small juveniles (<50 mm standard length) was compared in San Diego Bay, Mission Bay, and Agua Hedionda Lagoon (results reported in Kramer, S.H. 1990. Distribution and abundance of juvenile California halibut, *Paralichthys californicus*, in shallow waters of San Diego County. Calif. Dept. of Fish and Game, Fish. Bull. 174: 99-126). The standing stock of juveniles <50 mm standard length (SL) in San Diego Bay was 13,860 (2SE=10,880). In comparison, the standing stock of juveniles <50 mm SL in Mission Bay was 22,080 (2SE=18,600) and 10,190 in Agua Hedionda Lagoon (2SE=10,190). Thus the standing stock of juveniles in San Diego Bay was less than that in Mission Bay, yet the area of Mission Bay is only about 1/5 of the area of San Diego Bay. The abundance of juveniles was much lower than in any of the other habitats surveyed during the same time period, although the area of San Diego Bay is large (3615 hectares, in comparison to Mission Bay with 890 hectares, and Agua Hedionda with 120 hectares).

In addition, the density of juvenile halibut in comparable depths of all three bays was lowest in San Diego Bay (reported in Kramer, S.H., and J.R. Hunter. 1988. Southern California wetland/shallow water habitat investigation Annual Report for Fiscal Year 1988, Southwest Fisheries Science Center, La Jolla, CA.). Density of halibut <50 mm SL in shallow water habitats < 1 m in depth was 21/hectare in Agua Hedionda, 66/hectare in Mission Bay, and <1 hectare in San Diego Bay.

Results from this study do not allow determination of the causes of the differences in abundance between the three bays. The low abundance and density of halibut in San Diego Bay could be caused by affects of dredging, pollution, or by a difference in the timing of settlement in San Diego Bay relative to other areas. The latter explanation seems the least likely; a time series for all three bays would be required to reach a definite conclusion.