

**title** Report on the 1980-1995 Fish, Shrimp, and Crab Sampling in the San Francisco Estuary, California

**creator** James Orsi

**Subject** biological resources, ecology, ecosystem, estuary, fisheries, fishery catch, life cycle, native wildlife, non-native wildlife, ocean, river, water resources development

**Description** Introduction, Methods, Salinity and Temperature, Cancer Crabs, Caridean Shrimp, Elasmobranchs, Clupeidae, Northern Anchovy, Osmeridae, Atherinidae, Cottidae, White Croaker, Embiotocidae, Gobiidae, Pleuronectiformes, Miscellaneous Species, Summary

**Coverage** Sacramento-San Joaquin Estuary, San Francisco Bay

**Temporal** 1980-1995

**Source** The Interagency Ecological Program for the Sacramento-San Joaquin Estuary

**Date** 11-1999

**IsPartOf** Report on the 1980-1995 Fish, Shrimp, and Crab Sampling in the San Francisco Estuary, California, Technical Report 63

**Publisher** California Department of Fish and Game, 4001 N. Wilson Way, Stockton, California 95205

**Issued** November 1999

**Type** text

**Format** 8-1/2" x 11" bound document

**Identifier** Technical Report 63

**Language** English

**Rghts** Public Domain

**Abstract**

Before 1980, little scientific information was available to set water quality standards for the protection of the fish and invertebrates of San Francisco and San Pablo bays. In 1979, the Interagency Ecological Program (IEP) designed a plan to collect biological and physical data from South San Francisco Bay to the west delta. The State Water Resources Control Board (SWCRB) approved this plan and the Bay-Delta Division of the California Department of Fish and Game (CDFG), operating as part of the IEP, set the plan in action. The objective of the study was to determine the effects of freshwater outflow from the delta on the abundance and distribution of marine and estuarine fishes, shrimps, and crabs and use this knowledge to understand the volume and timing of freshwater outflow that is necessary for their well-being. In 1984, the U.S. Geological Survey started a hydrodynamic study of currents and salinity fluxes in the estuary (Smith and others 1995). The hydrodynamic data will eventually be useful in understanding the distribution and movements of fish and invertebrates.

This report presents data collected by the study on the abundance and distribution of selected organisms from 1980 to 1995 (shrimp and crab data extend to 1996). It is restricted mainly to presentation and description of the data. More detailed analyses will appear in subsequent reports and papers, although some have already been done for SWRCB Water Rights Hearings (CDFG 1987, 1992).



# **Report on the 1980–1995 Fish, Shrimp, and Crab Sampling in the San Francisco Estuary, California**

by

**Randall Baxter, Kathryn Hieb, Suzanne DeLeón, Kevin Fleming and James Orsi**

**Edited by**

**James Orsi**

California Department of Fish and Game  
4001 N. Wilson Way  
Stockton, California 95205

Technical Report 63  
November 1999

## **The Interagency Ecological Program for the Sacramento–San Joaquin Estuary**

A Cooperative Program of the

California Department of Water Resources  
State Water Resources Control Board  
US Bureau of Reclamation  
US Army Corps of Engineers

California Department of Fish and Game  
US Fish and Wildlife Service  
US Geological Survey  
US Environmental Protection Agency

National Marine Fisheries Service

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