

CALIFORNIA
COOPERATIVE
OCEANIC
FISHERIES
INVESTIGATIONS

Reports

VOLUME XXVII

January 1 to December 31, 1985

Cooperating Agencies:

CALIFORNIA DEPARTMENT OF FISH AND GAME
UNIVERSITY OF CALIFORNIA, SCRIPPS INSTITUTION OF OCEANOGRAPHY
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL MARINE FISHERIES SERVICE

EDITOR Julie Olfe

SPANISH EDITOR Patricia Matrai

This report is not copyrighted, except where otherwise indicated, and may be reproduced in other publications provided credit is given to the California Cooperative Oceanic Fisheries Investigations and to the author(s). Inquiries concerning this report should be addressed to CalCOFI Coordinator, Scripps Institution of Oceanography, A-027, La Jolla, California 92093.

EDITORIAL BOARD

**Izadore Barrett
Richard Klingbeil
Joseph Reid**

Published October 1986, La Jolla, California

CONTENTS

I. Reports, Review, and Publications	
Report of the CalCOFI Committee	5
Review of Some California Fisheries for 1985	7
The 1985 Spawning Biomass of the Northern Anchovy. <i>Andrew G. Bindman</i>	16
The Relative Magnitude of the 1985 Pacific Sardine Spawning Biomass off Southern California. <i>Patricia Wolf and Paul E. Smith</i>	25
Publications	32
II. Symposium of the CalCOFI Conference, 1985	
SOUTHERN CALIFORNIA NEARSHORE WATERS: SELECTED PATTERNS AND PROCESSES	35
Physical-Chemical Characteristics and Zooplankton Biomass on the Continental Shelf off Southern California. <i>James H. Petersen, Andrew E. Jahn, Robert J. Lavenberg, Gerald E. McGowen, and Robert S. Grove</i>	36
Abundance of Southern California Nearshore Ichthyoplankton: 1978-1984. <i>Robert J. Lavenberg, Gerald E. McGowen, Andrew E. Jahn, James H. Petersen, and Terry C. Sciarrotta</i>	53
Can We Relate Larval Fish Abundance to Recruitment or Population Stability? A Preliminary Analysis of Recruitment to a Temperate Rocky Reef. <i>John S. Stephens, Jr., Gary A. Jordan, Pamela A. Morris, Michael M. Singer, and Gerald E. McGowen</i>	65
Inshore Soft Substrata Fishes in the Southern California Bight: An Overview. <i>Milton S. Love, John S. Stephens, Jr., Pamela A. Morris, Michael M. Singer, Meenu Sandhu, and Terry C. Sciarrotta</i>	84
III. Scientific Contributions	
Evaluating Incidental Catches of 0-Age Pacific Hake to Forecast Recruitment. <i>Kevin M. Bailey, Robert C. Francis, and Kenneth F. Mais</i>	109
Peruvian Hake Fisheries from 1971 to 1982. <i>Marco A. Espino and Claudia Wosnitza-Mendo</i>	113
Relative Abundance of Four Species of <i>Sebastes</i> off California and Baja California. <i>John S. MacGregor</i>	121
Large Fluctuations in the Sardine Fishery in the Gulf of California: Possible Causes. <i>Daniel Lluch-Belda, Francisco J. Magallon, and Richard A. Schwartzlose</i>	136
Modelo Polinomial para Crecimiento Individual de Larvas de la Anchoqueta Norteña, <i>Engraulis mordax</i> . <i>Casimiro Quiñonez-Velázquez y Victor Manuel Gomez-Muñoz</i>	141
Offshore Entrainment of Anchovy Spawning Habitat, Eggs, and Larvae by a Displaced Eddy in 1985. <i>Paul C. Fiedler</i>	144
Prey Size Selectivity and Feeding Rate of Larvae of the Northern Anchovy, <i>Engraulis mordax</i> Girard. <i>Patricia D. Schmitt</i>	153
Development and Distribution of Larvae and Pelagic Juveniles of Ocean Whitefish, <i>Caulolatilus princeps</i> , in the CalCOFI Survey Region. <i>H. Geoffrey Moser, Barbara Y. Sumida, David A. Ambrose, Elaine M. Sandknop, and Elizabeth G. Stevens</i>	162
Distribution of Filter-Feeding Calanoid Copepods in the Eastern Equatorial Pacific. <i>Fernando Arcos and Abraham Fleminger</i>	170
Life Cycle of the Marine Calanoid Copepod <i>Acartia californiensis</i> Trinast Reared under Laboratory Conditions. <i>Antonio Trujillo-Ortiz</i>	188
The Vertical Distribution of Some Pelagic Copepods in the Eastern Tropical Pacific. <i>Ya-Qu Chen</i>	205
The Temperate and Tropical Planktonic Biotas of the Gulf of California. <i>Edward Brinton, Abraham Fleminger, and Douglas Siegel-Causey</i>	228
Frame Trawl for Sampling Pelagic Juvenile Fish. <i>Richard D. Methot</i>	267
Instructions to Authors	279
CalCOFI Basic Station Plan	inside back cover