CALIFORNIA
COOPERATIVE
OCEANIC
FISHERIES
INVESTIGATIONS

Reports

VOLUME 30 January 1 to December 31, 1988

Cooperating Agencies:

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

CALCOFI COORDINATOR Gail Theilacker

EDITOR Julie Olfe

SPANISH EDITORS Carina Lange and Maria Vernet

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, California Department of Fish and Game, 330 Golden Shore, Suite 50, Long Beach, CA 90802.

EDITORIAL BOARD

Izadore Barrett Richard Klingbeil Michael Mullin

Published October 1989, La Jolla, California ISSN 0575-3317

CONTENTS

I.	Reports, Review, and Publications	
	Report of the CalCOFI Committee	5
	Review of Some California Fisheries for 1988	7
	Spawning Biomass of the Northern Anchovy in 1988. Nancy C. H. Lo and Richard D. Methot	18
	Publications	32
II.	Symposium of the CalCOFI Conference, 1988	
	CAN MARINE FISHERIES BE ENHANCED? POINT/COUNTERPOINT	35
	Artificial Reefs: Nothing More Than Benthic Fish Aggregators. Jeffrey J. Polovina	37
	Habitat Alterations as a Basis for Enhancing Marine Fisheries. Raymond M. Buckley	40
	Against Marine Fish Hatcheries: Ironies of Fishery Politics in the Technological Era. Alec D.	
	MacCall	46
	The Texas Marine Hatchery Program – It Works! William P. Rutledge	49
	Designated Harvest Refugia: The Next Stage of Marine Fishery Management in California.	
	Gary E. Davis	53
III.	Scientific Contributions	
	Fecundity and Other Aspects of the Reproduction of Sablefish, Anoplopoma fimbria, in Central	
	California Waters. J. Roe Hunter, Beverly J. Macewicz, and Carol A. Kimbrell	61
	Effects of the 1982–83 El Niño Event on the Euphausiid Populations of the Gulf of California.	
	Berta E. Lavaniegos-Espejo, Jose R. Lara-Lara, and Edward Brinton	73
	Analysis of the Patterns of Distribution of Zooplankton Aggregations from an Acoustic	
	Doppler Current Profiler. Paul E. Smith, Mark D. Ohman, and Laurence E. Eber	88
	A Checklist of the Species of Pelagic Shrimps (Penaeoidea and Caridea) from the Eastern	
	Pacific, with Notes on Their Geographic and Depth Distribution. Michel E. Hendrickx and	
		104
	California Sea Lion Interaction and Depredation Rates with the Commercial Passenger	
	o	122
	Reproductive Cycle and Batch Fecundity of the Bay of Biscay Anchovy (Engraulis	
		127
	Sperm Concentrations and Egg Fertilization Rates during Spawning of Captive Anchovy,	
	Engraulis mordax. Roderick J. H. Leong	
	Corrigendum. M. D. Ohman	140
IV.	Index to CalCOFI Reports, 1983–1988	
	Author-Title Index	
	J	146
		151
	CalCOFI Basic Station Plan inside back co	vei