

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
MARINE RESEARCH COMMITTEE

CALIFORNIA
COOPERATIVE
OCEANIC
FISHERIES
INVESTIGATIONS

Reports

Volume XIII

1 July 1967 to 30 June 1968

Cooperating Agencies:

CALIFORNIA ACADEMY OF SCIENCES
CALIFORNIA DEPARTMENT OF FISH AND GAME
STANFORD UNIVERSITY, HOPKINS MARINE STATION
U. S. FISH AND WILDLIFE SERVICE, BUREAU OF COMMERCIAL FISHERIES
UNIVERSITY OF CALIFORNIA, SCRIPPS INSTITUTION OF OCEANOGRAPHY

1 January 1969

DEPARTMENT OF FISH AND GAME

MARINE RESEARCH COMMITTEE

CHARLES R. CARRY, *Chairman*
JOSEPH L. OLIVIERI, *Vice Chairman*
JULIAN G. BURNETTE
EDWARD F. BRUCE
ROBERT CHAPMAN



W. M. CHAPMAN
ANTHONY NIZETICH
JOHN G. PETERSON
JOHN J. ROYAL

1 January 1969

The Honorable Ronald Reagan
Governor of the State of California
Sacramento, California

Dear Governor Reagan:

We have the honor to submit the thirteenth report on the work of the California Cooperative Oceanic Fisheries Investigations.

The report consists of two sections. The first contains a review of the administrative and research activities during the period 1 July 1967 to 30 June 1968, a description of the fisheries, and a list of publications arising from the programs. The second section consists of papers prepared for a symposium, "The living resources of the California Current System, their fluctuating magnitude, distribution and susceptibility to use for the benefit of the State of California," held in December 1967.

Participants in the symposium included key figures from industry, recreational interests and government as well as members of the scientific community. We believe that the symposium served a very useful purpose, reaching its goal of bringing into focus the many factors outside of biology that bear on wise utilization of our living marine resources.

Respectfully submitted,


THE MARINE RESEARCH COMMITTEE
Charles R. Carry, *Chairman*

CONTENTS

	Page
I. Review of Activities 1 July 1967-30 June 1968	
Report of the CalCOFI Committee	5
Agency Reports	6
Review of the Pelagic Wet-Fisheries for the 1967-68 Season	11
Publications	12
II. Symposium on the living resources of the California Current System; their fluctuating magnitude, distribution, and susceptibility to use for the benefit of the State of California. <i>J. D. Messersmith</i> , Editor	17
Keynote: A consideration of the living marine resources off Cali- fornia and the factors affecting their use. <i>Philip M. Roedel</i>	
Session 1. What are the resources and what is the state of our knowl- edge? <i>John L. Baxter</i> , Convener	
Status of knowledge of the Pacific hake resource. <i>Dayton L. Alver- son and Herbert A. Larkins</i>	24
The anchovy resources of the California Current Region off Cali- fornia and Baja California. <i>J. D. Messersmith, John L. Baxter, and Philip M. Roedel</i>	32
Mesopelagic and bathypelagic fishes in the California Current Re- gion. <i>Elbert H. Ahlstrom</i>	39
The jack mackerel (<i>Trachurus symmetricus</i>) resource of the eastern North Pacific. <i>C. E. Blunt, Jr.</i>	45
Bottomfish resources of the California Current System. <i>H. G. Or- cutt</i>	53
Pelagic invertebrate resources of the California Current. <i>Alan R. Longhurst</i>	60
History of fish populations inferred from fish scales in anaerobic sediments off California. <i>Andrew Soutar and John D. Isaacs</i>	63
Fossil records of certain schooling fishes of the California Current System. <i>John E. Fitch</i>	71
A perspective of a multi-species fishery. <i>Oscar E. Sette</i>	81
Session 2. What are the legal, economic, sociological and technological problems impeding their best use? How can these be resolved? <i>J. D. Isaacs and P. M. Roedel</i> , Conveners	
The State's involvement in maritime and ocean resources develop- ment. <i>Col. T. R. Gillenwaters</i>	88
Views concerning use of the living resources of the California Cur- rent. <i>Gerald V. Howard</i>	91
Viewpoint of the U.S. Bureau of Sport Fisheries and Wildlife. <i>G. B. Talbot</i>	95
Use of the pelagic living resources: the legislative point of view. <i>Winfield A. Shoemaker</i>	97
The point of view of government: California looks to its ocean re- sources. <i>Walter T. Shannon</i>	99
The California fish and game code. <i>E. C. Fullerton</i>	101
The point of view of industry: The processor. <i>Harold F. Cary</i>	103
Viewpoint of the industry: fishermen and allied workers. <i>John J. Royal</i>	108
The point of view of industry: Fishing boat owners. <i>Frank Iacono</i>	110
The point of view of recreational interests: The organized sports- men. <i>Robert Vile</i>	111
The point of view of the partyboat and live bait industries. <i>R. A. Izor</i>	113
The exploitation of the living resources of the California Current: A food technologist's point of view. <i>Roland Finch</i>	117
Development of a fishery resource. <i>Gordon C. Broadhead</i>	120
The legal framework for the development of ocean resources. <i>Carl Christol</i>	122
How can the scientific community best contribute to the resolution of these varied problems? <i>Alan R. Longhurst</i>	127

