

Part I

REPORTS, REVIEW, AND PUBLICATIONS

REPORT OF THE CALCOFI COMMITTEE

The agencies that constitute CalCOFI have continued to cooperate in the use of human and material resources and infrastructure during 1986 and 1987, fielding four CalCOFI survey cruises of 15 days' duration, two young-fish trawl surveys, one anchovy age-composition trawl survey, one prawn trawl survey, and three combination trawl-and-egg survey cruises targeting sardines. The recently developed egg production method was refined in its application to these latter cruises' data (see Wolf et al., this volume). In addition to those surveys, seven cruises were carried out for the purpose of evaluating billfish stocks. Swordfish and striped marlin were tagged and sonically tracked for the first time off California.

International cooperation remains a very important characteristic of CalCOFI's scientific endeavors. Many of the fisheries stocks with which CalCOFI deals are transboundary species. The last year has seen a broadening of the base of interinstitutional cooperation with Mexican research laboratories. The symposium of the annual CalCOFI Conference, held at the UCLA Lake Arrowhead Conference Center during the last week of October 1986, focused on the status and prospects for Mexican west coast fisheries. The papers from that symposium are printed in this volume. In addition, the Sardine-Anchovy Recruitment Program (SARP) has resulted in the participation of Spanish and Portuguese fisheries scientists on CalCOFI cruises, as well as in laboratory activities at the Southwest Fisheries Center, National Marine Fisheries Service.

These and many other international connections reemphasize the importance of a global view of ecosystems and fisheries problems and their resolution. To understand how human intervention changes ecosystems, we must first have some understanding of how natural systems work, and of the magnitude and character of their natural fluctuations. The large-scale, multivariate time series of physical, chemical, biological, and meteorological data from the eastern North Pacific that has been assembled by CalCOFI researchers since 1949 constitutes one of the world's most significant

data bases against which to evaluate change. Data from approximately 40,000 stations and 300 cruises have been entered into the CalCOFI online data system at the Southwest Fisheries Center. The base has been analyzed by Scripps Institution and Southwest Fisheries Center personnel, as well as other investigators, for oxygen content of water, temperature, salinity, zooplankton volume, and the eggs and larvae of several hundred species of fish. Output is available in the form of tables and graphs printed on a CRT, on paper, or written to magnetic storage media. Work is continuing to make these files easily accessible. The papers in this volume by Moser et al., Huato-Soberanis and Lluch-Belda, and Roesler and Chelton represent the type of work that is only possible within the context of the dedicated maintenance of a series of multivariate observations over a long time.

The CalCOFI Committee is saddened to report the deaths of three scientists of great vision who began and sustained this time series: Frances Clark, Philip Roedel, and Marston Sargent.

The Committee wishes to express its appreciation to the officers and crews of the University of California RV *New Horizon*, the National Oceanic and Atmospheric Administration RV *David Starr Jordan*, MV *Pacific States*, MV *Lake-side*, Occidental College RV *Vantuna*, Southern California Ocean Studies Consortium RV *Yellow-fin*, and MV *Pacific Clipper* for their able assistance in operating the platforms from which the work of CalCOFI was performed this year, as well as the individuals from the member agencies, and the many student volunteers and scientists from the United States, Mexico, Spain, and Portugal who collected data.

The Committee also wishes to thank *CalCOFI Reports* editor Julie Olfe, Spanish editor Patricia Matrai, and the dozens of peer reviewers who have all worked to make Volume XXVIII another excellent report. The reviewers and editorial consultants for this volume were James Allen, Angeles Alvariño, George Boehlert, John Butler, Gregory Caillet, David Checkley, Edward DeMartini, Stephen Goldberg, Jed Hirota, Ralph Larson, Robert

Lavenberg, Richard Lee, Alec MacCall, John McGowan, Alan Mearns, Michael Mullin, William Percy, Michael Prager, Thomas Smayda, Paul Smith, Gary Stauffer, John Stevens, George Sugihara, Elizabeth Venrick, and Patricia Wolf. Ten of the 17 manuscripts submitted for publication in this volume were accepted by the editorial board.

Finally the CalCOFI Committee wishes to con-

gratulate George Hemingway as he completes his second two-year term as CalCOFI Coordinator.

The CalCOFI Committee:
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