SOUTHWEST FISHERIES SCIENCE CENTER
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SUBMITTED BY: John Hunter, Director, Fisheries Resources Division

Title of Accomplishment or Milestone: Report on CalCOFI Atlas 34

Current Status of Accomplishment or Milestone: The research and manuscript preparation for CalCOFI Atlas 34 was completed this quarter. The manuscript was submitted to the CalCOFI Coordinator and is in the process of being printed.

Background: The California Cooperative Oceanic Fisheries Investigations, or CalCOFI, is a unique partnership of the California Department of Fish and Game, the Fisheries Resources Division of the Southwest Fisheries Science Center (National Marine Fisheries Service), and the Marine Life Research Group of the Scripps Institution of Oceanography (University of California, San Diego). These three organizations conduct cooperative surveys, hold quarterly meetings, and sponsor an annual conference, with symposia. CalCOFI Reports, a peer reviewed journal, is received by libraries and scientists in 68 countries and ranks highly among journals publishing articles on fish and fisheries. The CalCOFI Atlas series has published 33 volumes and summarizes a wide variety of data from the CalCOFI surveys in the oceanographic (10 atlases), zooplankton (13 atlases), and ichthyoplankton (10 atlases) fields. The recently completed CalCOFI Atlas 34 summarizes the spatial and temporal distribution and abundance of 160 ichthyoplankton taxa or categories collected in oblique plankton net tows on CalCOFI biological-oceanographic survey cruises from 1951 to 1998 in the Southern California Bight (SCB) region (the area encompassed by CalCOFI surveys since 1985).

Purpose of Activity: A principal goal for this atlas is to present the distributional information in a format that permits the reader to interpret, in general terms, the affects that fisheries and ocean climate may have had on larval fish populations in the Californian Current region during 1951–98. CalCOFI surveys are the basis for Fisheries Resources Division research on the population biology of the major coastal pelagic fishes (Pacific sardine, northern anchovy, Pacific mackerel, hake, and jack mackerel) of the California Current System. The CalCOFI data base is essential for monitoring these important commercial stocks and is important in the development of management plans for their fisheries. Atlas 34 provides a concise summary of areal and temporal (seasonal, annual, and decadal) changes in occurrence and abundance of larval fish taxa in the SCB and serves as a guide to the use of the CalCOFI data base.

Significance of Accomplishment (e.g., to the Center, to Management, and to NMFS Strategic Plan Goals): Atlas 34 efficiently summarizes data in the CalCOFI ichthyoplankton time series, thus provides information on the changes in distribution and abundance of commercially and ecologically important fish stocks in the California Current region. The CalCOFI data base is the longest and most extensive and

intensive fishery-independent time series in the world. It is a primary resource for revealing historical trends in fish populations of the California Current region. With the decline of many of these populations there is an increasing need for this time series, which now serves a key role in the management and conservation of fishery stocks in the California Current region.

Significance of Accomplishment: CalCOFI Atlas 34 and the CalCOFI time series on which it is based are important resources for fishery and marine scientists and managers of the west coast of North America. The population declines of marine fishery stocks have increased markedly in the past decade and this is documented in the CalCOFI data base. The demand for CalCOFI data by scientists preparing stock assessments for the Pacific Fisheries Management Council has increased steadily in recent years. CalCOFI has served as a model for developing fishery-independent sources of data for the management of marine fisheries throughout the world. CalCOFI Atlas 34 permits the reader to interpret the affects that ocean climate, as well as fisheries, may have had on fish populations in the Californian Current region during 1951–98.

Problems: None.

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