PUBLICATIONS
(Annotated list of publications arising from the California Cooperative Oceanic Fisheries Investigations, 1 January 1955-30 June 1956)

Ahlstrom, Elbert H., and Robert C. Counts
The eggs, larvae, and early development of the hake are described. Data on the abundance and distribution of hake larvae in 1951 and 1952 are given. Information on vertical distribution and temperatures at which larvae are found is also included.

Ahlstrom, Elbert H., and David Kramer
Basic data are given on the numbers and location of sardine eggs and larvae and the larvae of northern anchovy, jack mackerel, Pacific mackerel, hake, and rockfish taken in 1953. One of a continuing series of reports.

Berner, Leo D.
Two tunicates, Cyclosalpa strongylenteron and Cyclosalpa pinnata quadrimaniata, are described.

Boden, Brian F., Martin W. Johnson, and Edward Brinton
1953. The euphausiacean (crustacea) of the North Pacific. Univ. of Calif., Scripps Inst. of Oceanogr., Bull., vol. 6, no. 8, pp. 287-400, 55 figs.
A description of the taxonomy and life-history of the euphausiid shrimps.

California Department of Fish and Game
1955. The marine fish catch of California for the years 1953 and 1954 with jack mackerel and sardine yield per area from California waters 1946-47 through 1954-55. Calif. Dept. of Fish and Game, Fish Bull. 102, 90 pp., 10 figs.
This bulletin contains a report of catch by block areas to show fish concentrations, seasonal tonnage and the percentages of catch taken from each area. A list of common and scientific names of fishes, crustaceans, and mollusks is also included.

Clark, Frances N.
A discussion of the average lunar month catch for the period indicated. Based on total boat months calculated to be required to make each season's catch, the relative strength was measured for 22 year-classes between 1932-33 and 1954-55.

Clark, Frances N., and John C. Marr
The problems of sardine population dynamics are defined, the present knowledge summarized and generalized and deficiencies noted.

Clothier, Charles R., and Edward C. Greenhool
1956. Jack mackerel and sardine yield per area from California waters, 1946-47 through 1954-55. Calif. Dept. of Fish and Game, Fish Bull. 102, pp. 7-16, 10 figs.
This article presents tables to show the sardine and jack mackerel yield from designated block areas and from records of landings of commercial fishing boats along the coast.

Cromwell, Townsend, and Joseph L. Reid
Oceanic fronts and frontal layers are defined. Temperature data obtained at two fronts in the equatorial Pacific are presented and a particular circulation, considered basic to the existence of a front, is proposed.

Eckles, Howard H.
Age determinations from otoliths were used to extend knowledge of age composition of sardine population to include a 10-year period for which adequate data had been previously lacking.

Felin, Frances E., John S. MacGregor, Anita E. Daugherty, and Daniel J. Miller
Basic data are given as indicated by title. One of a continuing series of reports.

Fitch, John E.
The author compares the age composition and tonnage of the 1954-55 season's catch with previous years.

Fry, D. H., Jr.
The author describes the spawning areas of the herring, the history of the fishery and its future. He emphasizes the danger of overfishing if reduction and canning restrictions are lifted.

Hand, Cadet
The author describes results of examination of two hundred and eleven species of the marine invertebrate tetraplatus taken from Marine Life Research collections and the evidence of diurnal vertical migration of these organisms.

Hubbs, Carl I.
The records of black scoters reported from Baja California are discussed briefly.

Horner, Paul L., and Roger Revelle
A general review of the oceanography of this area covering physical and chemical characteristics, bottom topography and marine resources is presented.

Loukashkin, Anatole S., and Thomas C. Groody
1955. On the Pacific sardine (Sardinops caerulea Girard) in aquaria: transportation, handling, maintenance.
This study shows that despite its sensitivity to handling, the Pacific sardine may be satisfactorily maintained under aquarium conditions, and that it may, therefore, be subjected to experimental investigations.

McHugh, J. L.
Monthly records of the albatrosses seen at each station of the oceanographic survey cruises of the California Cooperative Oceanic Fisheries Investigations are presented, and the seasonal distribution and evidences of migration of these birds are discussed.

Morr, John C.
The general forms of relative growth and methods of analysis are discussed.

The apparent relationship between the spring distribution of sardine spawning and the availability of fish to the southern California fishery in the fall is discussed.

The evidence bearing on whether or not there is a brief period of catastrophic mortality in the early life history of pelagic fishes is reviewed.

Miller, Daniel J.
1955. Studies relating to the validity of the scale method for age determination of the northern anchovy (Engraulis mordax). In Age determination of the northern anchovy, Calif. Dept. Fish and Game, Fish Bull. 101, pp. 7-34, 18 figs.
A discussion of the methods of sampling and measuring and of disagreements in scale reading is given with a summary of the results obtained with the scale method for age determination.

Miller, Daniel J., Anita E. Daugherly, Frances E. Felin, and John MacGregor.
Basic data are given as indicated by title. The first of a continuing series of reports.

Miller, Daniel J., and John Schmidtke.
It is indicated that the population of Pacific herring in central and southern California waters is of relatively small magnitude compared to the populations of Canada. Spawning studies are summarized.

Morris, Robert W.
The question of whether or not marine fishes can utilize dissolved organic substances as food is reviewed.
The larvae of four species of rockfish are described.

Mosher, Kenneth H.
The method of determining sardine age from otoliths is described.

O'Connell, Charles P.
The gas bladder and inner ear ramifications of the gas bladder are described for the sardine and northern anchovy. The first of a series of reports on the sensory systems of these fishes.

Orton, Grace L.
The eggs, embryonic development, and the larval stage of the California scorpionfish are described.

The author provides a description of the distinguishing features of the eggs of syntognath and allotriognath fishes.

A comparative study is made of the fishes and the amphibians in regard to their life histories and environmental conditions with respective survival rate in mind.

Reid, Joseph L.
Hydrographic data from anchor stations and the methods of analysis are presented, and conclusions concerning internal waves of tidal (and other) periods are drawn.

United States Fish and Wildlife Service, South Pacific Fishery Investigations.
Basic data on the wet volume (per 1000 M³) and location of zooplankton catches are given. One of a continuing series of reports.

University of California, Scripps Institution of Oceanography.
Tabulated observed, interpolated, and computed hydrographic data of cruises of the California Cooperative Oceanic Fisheries Investigations and other such investigations are presented by stations for standard depths.