Offic Destribution on

DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

FISH AND WILDLIFE SERVICE

For Advance Release to SUNDAY PAPERS OF MARCH 19, 1944.

A clue to the mysterious scarcity of mackerel which periodically occurs off the northeastern coast of the United States, alternating with cycles of great abundance, is contained in a study of the Atlantic mackerel published today by the U. S. Fish and Wildlife Service.

The report on the mackerel, basis of one of the oldest and most productive fishing industries in the United States, was written by Oscar Elton Sette, one of the country's foremost marine biologists, and is the first of a series of papers eventually to be published on the life history of the species. The present report deals with the critical early stages of development which have been found by Mr. Sette to determine the later abundance of fish of commercial size.

Although the present yield of the Atlantic Coast mackerel fishery is about 60,000,000 to 80,000,000 pounds annually - of which the United States takes about three-fourths and the Canadian fishery the remainder--the catch has sometimes fallen as low as 13,000,000 pounds. The largest catch ever made was landed in 1884--234,000,000 pounds.

During the long history of the mackerel fishery, the catch has repeatedly declined or increased by as much as 100,000,000 pounds within a period of only a few years.

Because of the adverse economic effects of these fluctuations on the fishermen and on the conduct of business in the fish markets, the Fish and Wildlife Service and its predecessor agency, the Bureau of Fisheries, have carried on a biological study to discover why mackerel may be scarce one year and abundant the next, and to find, if possible, a means of managing the fishery to iron out the more extreme changes of abundance.

By towing fine-meshed nets through the surface waters from Chesapeake Bay to Cape Cod, between 1929 and 1932, Mr. Sette was able to collect the eggs and larval stages of the mackerel and to discover not only the location of the major spawning areas but the relative survival of the young fish produced in the different years.

In one of the years covered by the survey--1932--only about one young mackerel survived for every 100,000 eggs spawned. Probable causes of this extremely high mortality were several: in that season the microscopic surface life on which the baby mackerel feed was scarce; also, the usual direction of the prevailing

winds was reversed, causing a strong southerly draft of the surface currents and carrying the young mackerel out of the normal nursery area for the species.

Such unfavorable conditions result in very few young being added to the mackerel population. This fact is reflected in poor catches a few years later. When several unfavorable years occur consecutively, the mackerel fishery experiences one of its periodic depressions. On the other hand, when food for the young mackerel is plentiful and wind and water temperatures are suitable, a very large crop of young survives and mackerel again become abundant.

The vessels from which Mr. Sette and his assistants followed the early life of the mackerel were the old U. S. Fisheries Steamer GANNET, no longer in service and the ALBATROSS II, which was taken out of service in June 1932, as a Government economy measure. Completion of that season's observations was made possible when the Woods Hold Oceanographic Institution put its vessel, the ATLANTIS, at Mr. Sette's disposal during June and July of that year. Lacking vessel facilities of any kind since 1932, it has not been possible to repeat the measurement of mackerel mortality.

When it is possible to record the mortality of baby mackerel in enough additional seasons, Mr. Sette points out, biologists will be able to work out the size of the spawning stock needed to maintain high production in the mackerel fishery.

Titled "Biology of the Atlantic Mackerel of North America; Part I: Early Life History," the account of Mr. Sette's studies is published as Fishery Bulletin No. 38 of the Fish and Wildlife Service and may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., for 25 cents.