Reichek - Int. 2879

Office Distribution
2-11-49

# DEPARTMENT OF THE INTERIOR

## INFORMATION SERVICE

FISH AND WILDLIFE SERVICE

For Release SUNDAY, FEBRUARY 13, 1949.

### HOW AND WHY WAS "RED TIDE" CAUSED, F.W.S. WANTS TO KNOW

An intensive investigation of the "Red Tide" is now being conducted by the Fish and Wildlife Service laboratory in Sarasota, Fla., the Service's Branch of Fishery Biology disclosed today.

The much-publicized Red Tide, which plagued the Gulf coast of southern Florida in 1946-47, killing an estimated half-billion fish, was caused by uncommonly huge swarms of Gymnodinium brevis, a one-celled aquatic organism, the Service learned in 1947.

But why and how the Gymnodinim's rate of propagation suddenly increased so spectacularly at that time is still unknown. The unprecedented concentrations of billions of the microscopic organisms colored the sea water with a reddish tint, and created a toxin poisonous to fish and other aquatic animals. Normally, the Gymnodinium is not abundant enough in the sea to produce these deadly effects.

A staff of two biologists, a chemist, and an oceanographer, with William W. Anderson, of Elton, La., in charge, is conducting the Fish and Wildlife Service investigations. Cooperating in the studies are the University of Florida, the University of Miami, Tampa University, and Florida's Board of Conservation.

A 60-ft. research vessel, the Pompano, which made its first cruise last month, is being used in the research work. Scientists aboard the vessel will sail in the area affected by the Red Tide two years ago — collecting important chemical elements and compounds from the sea water; gathering such oceanographic data as temperatures, salinity, and currents; and obtaining samples of plankton (the simple, floating plant and animal life of the sea) and bottom-dwelling organisms.

To find ways to predict and control natural outbreaks in the future, an attempt will be made to cultivate an artificial Red Tide in the laboratory.

The 1946-47 Red Tide began in November, when fishermen near Naples, Fla., on the state's southwestern coast, reported tremendous numbers of dead fish floating in the reddish-colored patches of sea water, about 10 miles offshore. By late January, the Red Tide had moved up the coast to Sarasota, depositing millions of decaying dead fish on the beaches.

After a few months respite, the Red Tide reappeared in the summer, extending from the Florida Keys, north to Tarpon Springs. The mid-September hurricane of 1947 scattered the Gymnodinium swarms, and no traces of the Red Tide have been observed since.

Estimates placed the destruction of valuable food and game fishes at several million dollars. Practically all species of fish in the afflicted area were victimized by the Red Tide.

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P.N. 51682