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# Bureau of Commercial Fisheries Biological Laboratory

## Oxford, Maryland



UNITED STATES DEPARTMENT OF THE INTERIOR  
U.S. FISH AND WILDLIFE SERVICE  
Bureau of Commercial Fisheries

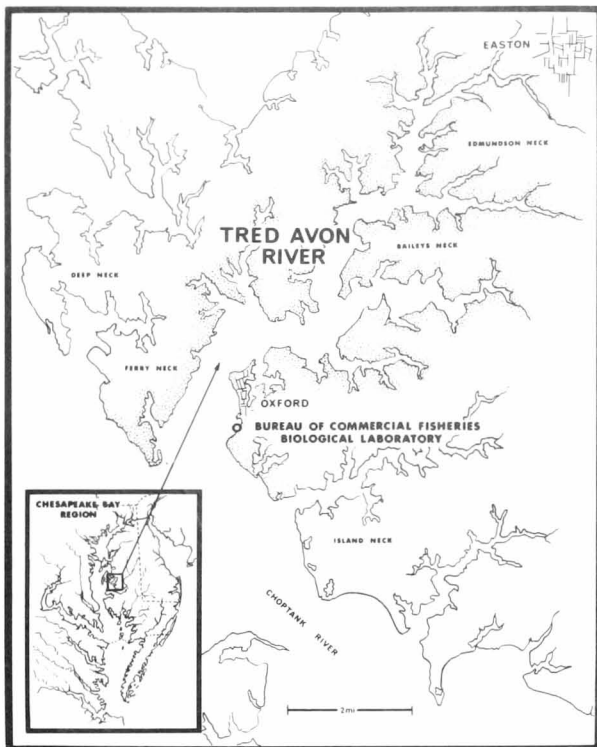
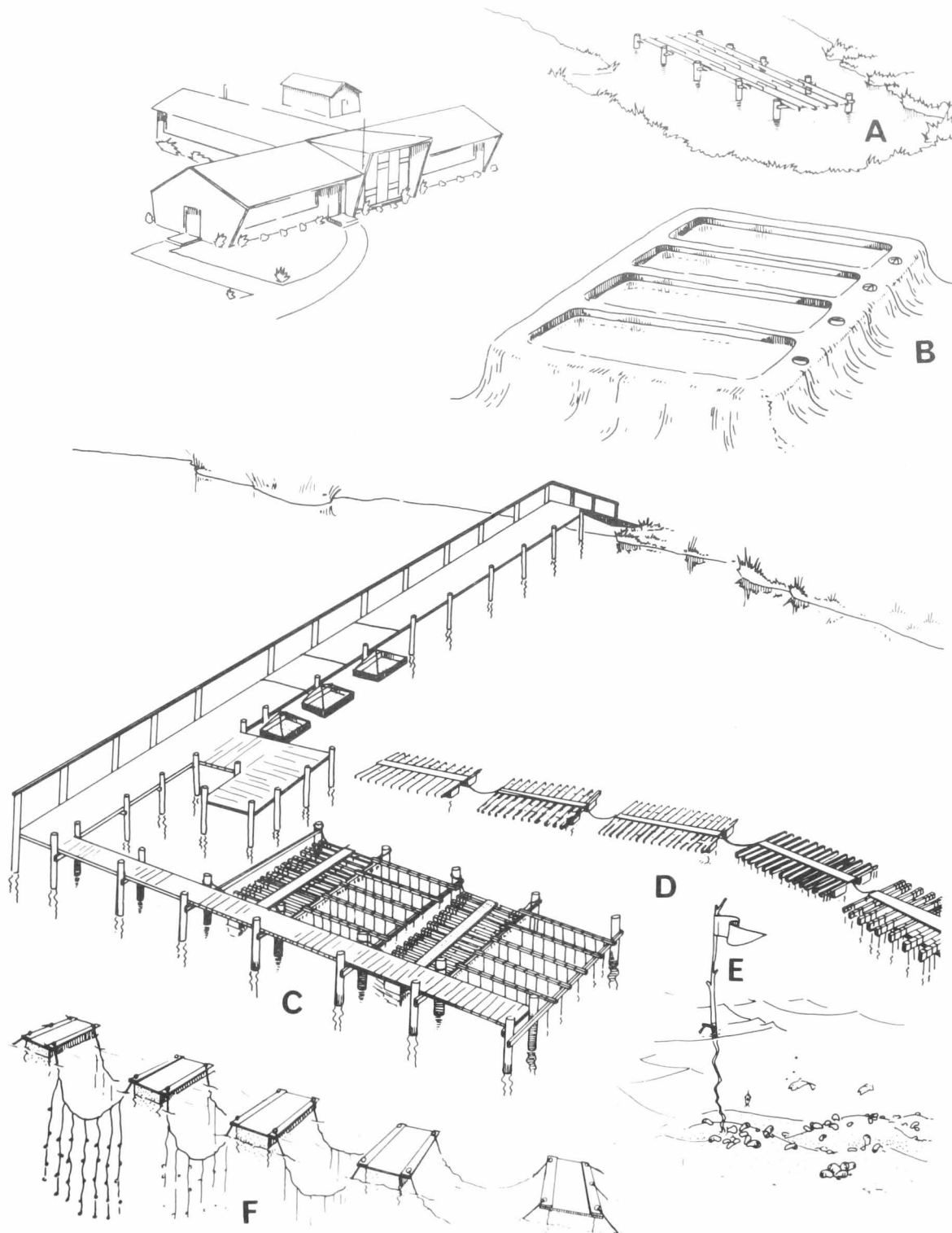


Chart of the Tred Avon River, showing the location of the BCF Biological Laboratory and the orientation of this area in Chesapeake Bay (insert).

The Bureau of Commercial Fisheries Biological Laboratory, Oxford, Md. 21654, was established in 1960 on the Tred Avon estuary of Chesapeake Bay to study problems of commercial shellfish—particularly disease identification, population dynamics, and shellfish ecology and culture. Facilities include modern laboratories for chemical, histological, microbiological, and physiological research and a photographic laboratory; four  $\frac{1}{4}$ -acre experimental ponds and a salt-water pumping system for the ponds and laboratories; a 50-foot research vessel, *Alosa*, and several smaller boats; an experimental animalhouse; a greenhouse for growing algae; a combination shop and pumphouse; a guesthouse and laboratory for visiting scientists; a substation with a laboratory on Chincoteague Bay; and a sampling substation at Point Pleasant, N.J. A modern research library that includes 3,500 bound volumes and carries subscriptions to over 175 scientific journals is located in the main building. The Laboratory at present has a permanent staff of 25, of whom 15 are professional scientists. The Laboratory



(Cover) Inspecting shell-strings hung from a raft for set of young oysters in one of the manmade experimental ponds.



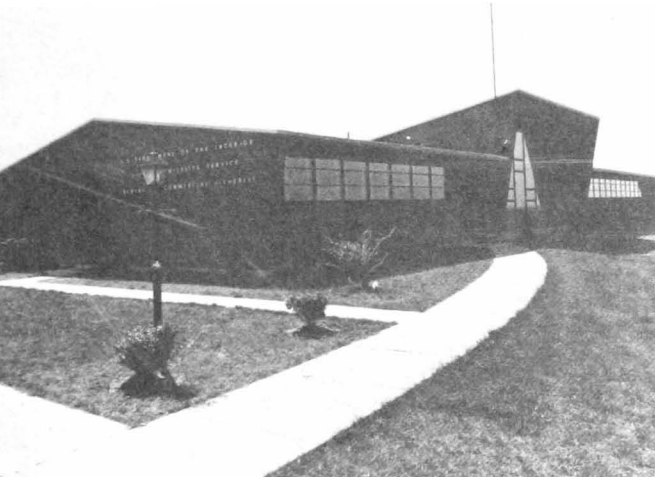
The Alosa, the Bureau's 50-foot converted shrimp boat used in Chesapeake Bay studies.

also houses the Bureau's Shellfish Advisory Service and the Office of Statistical Services for the mid-Atlantic area.

Primary goals of the Laboratory are: (1) to develop an understanding of the biology of marine species, particularly shellfish, that will serve as a basis for maximum possible yields; (2) to develop techniques of shellfish cultivation that will lead to more effective use of in-shore marine waters and artificial salt-water ponds; (3) to make pertinent biological information available to industry and to State management agencies; and (4) to carry on fundamental biological studies of commercially important marine species.

Benefits to industry have been far-reaching in all phases of research. Since its inception, the Laboratory has become an international center for the study of oyster diseases and has examined diseased oysters from many parts of the world, including Europe and the Far East as well as from our own East Coast and West Coast. More recently staff members of the Shellfish Mortality Program also have investigated blue crab mortalities in the southern States and in the Chesapeake Bay region. A program of off-bottom culture of oysters, in natural waters and experimental ponds, has received nationwide notice and is now being expanded into a culture research and demonstration center. The Surf Clam Program is making a continuing study of the population dynamics of the Atlantic surf clam, based on information gained

Oyster culture center at the Oxford Laboratory (upper left) used to demonstrate and compare various methods of growing oysters. From the top are shown, diagrammatically: (A) a rigid structure in a natural pond, (B) a group of four manmade ponds, (C) a dock supporting oyster trays and oyster strings, (D) rafts for suspended oysters, (E) a flag-marked natural oyster bed, and (F) longline floats for suspended oysters.



Scientists of the Surf Clam Program periodically make trips with commercial dredge boats. Here one selects specimens for biological study.

The BCF Biological Laboratory, Oxford, established in 1960, is today the center of Federal fishery research in the Chesapeake Bay area.

from an extensive tagging program, from laboratory studies of the larval development of the mollusk, and from yearly exploratory cruises on the clam beds off the mid-Atlantic coast.

Significant contributions on fundamental biological problems include development of diagnostic stain techniques for specific stages of diseases; identification of disease organisms involved in serious shellfish mortalities; demonstration of some serological differences in sub-populations of mollusks; and information on develop-

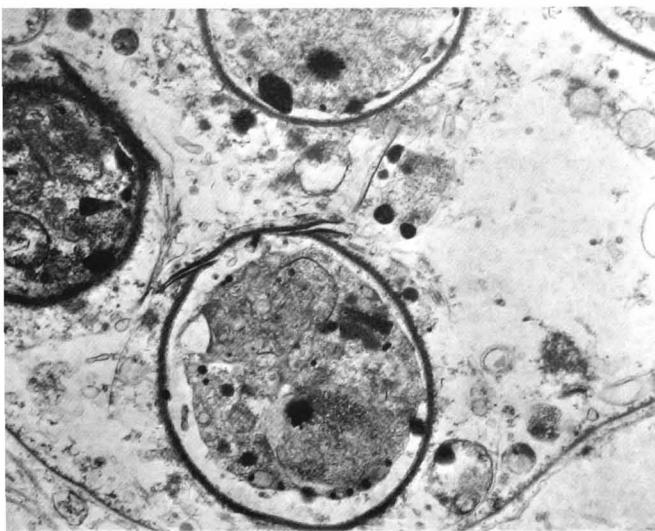
ment, growth, and distribution of shellfish. Practical work on off-bottom culture of oysters has been combined with studies of ecological conditions and predators. In all of these activities, as new problems and areas of investigation turn up, fundamental research and practical help go hand-in-hand in a search for constant improvement of the shellfish industry.

Visiting investigators are welcome. Arrangements should be made by correspondence with the Laboratory Director.

### SOMETHING ABOUT BCF

The Bureau was first known as the United States Fish Commission and functioned as an independent agency from 1871 to 1903. In 1903, it was placed in the newly established Department of Commerce and Labor and was renamed the Bureau of Fisheries. In 1913, the Department of Labor was separated from Commerce, and the Bureau of Fisheries remained in the Department of Commerce until 1939. At that time the Bureau of Fisheries and the Department of Agriculture's Bureau of Biological Survey were transferred to the Department of the Interior. A year later, on June 30, 1940, the two Bureaus were merged to form the Fish and Wildlife Service. The Fish and Wildlife Act of 1956 created the Bureau of Commercial Fisheries and the Bureau of Sport Fisheries and Wildlife. BCF has six regional offices and one area office; the headquarters office is in Washington, D.C.

Electron micrograph of a typical *Minchinia* spore believed to be the infective stage of an epizootic disease causing extensive oyster mortalities on the middle Atlantic coast. The spore is only 3 microns (1/8,000 inch) in diameter.



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As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

Washington, D.C.  
November 1969

