

## The Conservation of the New England Otter-trawl Fisheries

The fisheries which are the subject of this discussion are the most valuable in New England. In recent years the landings have averaged 500 to 600 million pounds and have been worth 30 to 40 million dollars a year. The principal species taken by this method of fishing include haddock, redfish, flounders, cod, pollock and whiting. These species make up the off-shore fisheries. Almost all of those mentioned are taken outside the three-mile-limit on the banks known as the New England Banks and to some extent on the Nova Scotian Banks. Seventy-five percent of these fish are taken on the New England Banks. The banks which could conceivably be considered to be on the continental shelf belonging to the United States include the general area west of a line drawn due south from Eastern Maine.

The otter trawl is a cone-shaped net, which is towed along on the bottom of the sea. It catches all of the fish in its path which are too slow to dodge and too large to go through the net.

This morning I propose to discuss, first, the condition of these fisheries, second, the status of conservation, and third, what we are doing about it.

The status of these fisheries is best indicated by the size of the fishing fleet. Right now it is the largest ever. Early in the war many of the vessels were taken by the Navy, but a large building program started immediately, and this program has continued to increase. Last year more vessels were added to the fleet than in the previous year.

All of the major species of fish appear to be showing some effects of

this fishing. The haddock, which for about 20 years has been the most important species landed in New England, is at the present time about as scarce as it ever has been as indicated by our records on this fishery which extend back almost forty years. The abundance during 1947 was kept up by large numbers of small haddock which entered the fishery for the first time in several years. About 17,000,000 of these haddock were too small, and were killed and discarded in 1947. If these fish had not been caught until this year they would have weighed about 30 million-pounds and could have been marketed for about \$3,000,000 at current prices.

The redfish fishery which is centered at the Port of Gloucester has developed since 1935. The landings have increased to about 150 million-pounds a year. Until recently this fishery depended on the stocks of fish in the Gulf of Maine. These stocks now are definitely scarcer than five years ago and the fishermen now depend to a much greater extent on the Nova Scotian grounds for their large catches.

The yellowtail flounder fishery, which for a number of years was an important fishery in New Bedford, reached a peak in 1942 when about 70 million-pounds were caught. Since then the catch has dropped to about 30 million-pounds a year in spite of heavier fishing. Other species, particularly sea scallops and whiting are being heavily fished. Because they are less important and because our resources for research are limited we have accumulated relatively little information on them.

The conservation of these fisheries involves making the best use of a resource in terms of food production. There are few other human values. There is nothing very aesthetic about a dead codfish, except perhaps the one

in the State House in Boston. Few of these species contribute importantly to any sport fisheries. So here is a food resource and we think that its conservation means making the maximum continuing use of it. And that is something a lot of people in this world are thinking about at this very time.

As we see it, conservation of these fisheries involves two major steps: first, finding the facts necessary to make the best use of the resource; and second, making use of these facts to apply corrections to the methods and extent of fishing. The first part of this is our job as a research agency, the second part is a job for all those who are interested in conservation. I'm sure that Mr. Heydecker will have something to say about it later in this session.

Let us consider our present knowledge of these fisheries. These fisheries and the fishes have been subject to investigation and research by many people for many years. Qualitatively we know a great deal about them. The species have been well described and we are sure that there are very few new species on the Banks. The fisheries and the methods used have been studied extensively and at the present are relatively efficient, at least as far as catching fish are concerned. The Fish and Wildlife Service and the Bureau of Fisheries have studied these fisheries since the 1880's. Since 1931, the studies carried on here have been concentrated on the haddock which, as the most important species, appeared to be the most in need of possible correcti<sup>ve</sup>ng measures in the method of fishing. We have learned a great deal about haddock. On the basis of this knowledge we have made certain specific recommendations for modifying the mesh on trawls to save young haddock and the young of other species of fish.

We think it desirable to save haddock until they are three years of age. This will permit them to go through their period of maximum growth, and at three years of age they are at the minimum size which is most desired by the industry. The industry would appear to have nothing to lose, but nevertheless recommendations for increasing the size of mesh in the nets from about 3 inches to 4-5/8 inches in side knots have not been adopted. In conjunction with this recommendation for increased mesh size we are also recommending a minimum legal size of 16-1/2 inches with a percentage tolerance. We further recommend a provision for continuing study and necessary modification of these regulations as more information is available on how they work. It is to be noted that fishermen in Provincetown and Gloucester are already on record as opposing these regulations because they could not catch whiting and redfish with nets of the size specified. The regulations must take this into account and permit smaller mesh nets for these species.

We need more knowledge of redfish and the redfish fishery. We are not yet in a position to make recommendations for modifying either the kind of nets or the amount of fishing; nor are we in a position to make such recommendations for any other New England Fishery. We hope, however, within the next few years to be able to tackle these problems much more adequately. This will involve use of our new research vessel ALBATROSS III. With this vessel we intend to concentrate on the New England fisheries and particularly on the problems of overfishing, and the effect of otter trawling on the bottom. Both of these questions at the present time are subject to great controversy. There is no sound basis for declaring that any of our fishes are overfished nor that otter trawling is detrimental to the bottom. However, either may be true.

Now, I would like to give you a brief description and history of this research vessel, the ALBATROSS III. I expect that you will be hearing a great deal about it in the near future. She is in the final stages of reconversion in a shipyard in East Boston and this very week-end we're planning to take her to Woods Hole for final outfitting. We are planning to commission her late in March and start operation on the fishing banks in the middle of April.

This vessel will be the first real fishery research vessel which the United States has ever had. The ALBATROSS I which did such splendid work over a period of about 50 years was primarily engaged in ocean exploration. She explored the seas of the world and spent relatively little time on the commercial fisheries of the United States.

The ALBATROSS II was a converted Navy tug and was used for fishery research for only about six years. Most of her work concerned research on the mackerel fishery, particularly on the life history and development of the young stages.

The ALBATROSS III is an ex-fishing trawler. She was given to the Bureau of Fisheries in 1939 by the General Sea-foods Corp. We were beginning to convert her in 1941 when the Navy took her over, and she was rebuilt as a patrol vessel for the North Atlantic. The reconstruction process was slow and by 1944 when the Navy commissioned her, there was no longer any need for patrol vessels in this area and she was returned to the Fish and Wildlife Service. Since 1944 she has been tied to a wharf in Woods Hole. Last summer she was taken to the shipyard to begin the re-reconversion for research purposes.

We now have a vessel which can fish alongside any of the Boston otter trawlers and can handle full-size otter-trawl gear in addition to handling hydrographic instruments and any other instruments which are necessary for oceanography. She differs in one way from a large trawler in that we have only a small fish hold. The space has been used instead for scientist's quarters and for laboratory space. The ALBATROSS III is 180 feet long and is powered by an 800 H.P. Diesel engine. We expect she will attain a speed of about 11 knots. She has an electric-powered winch of the largest model available for fishing purposes. She is equipped with the latest in electronic instruments including recording depth finder, Loran, ship-to-shore telephone, radio direction finder and a Bendix recording log as well as a gyro-compass.

We intend to keep the industry and others interested in fishery research informed of the activities of this vessel in the future.

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2/12/48

## The Conservation of the New England Otter Trawl Fisheries

The fisheries are offshore, otter trawl, most important  
in New England. Several species  
located on New England & Nova Scotian Banks.

The status of these fisheries is -

The fishing fleet is the largest ever -

Haddock are less abundant -

Young haddock were very scarce - Then appeared  
and were wanted

Redfish are scarce on New England Banks.

The fleet is fishing farther from port.

Yellowtail flounder seriously declined.

Sea scallops & whelms are heavily fished.

Little information on these & others.

## The Conservation of these Fisheries

The objectives are to produce food -

The part played by research institutions is to find the facts

The part played by other institutions is to use these facts.

Conservation measures have been adopted in the past.

## The status of our knowledge

The fishes & fisheries have been described -

The principal oceanographic conditions are understood.

Most intensive research has been on Haddock and nets -

We have recommended certain things

The most urgently needed information -

The effect of the amount of fishing on the stocks

Detection of overfishing

The effect of other trawling on the bottom

Development of further improvements in fishing gear.

The Albatross III.

History -

Description

Program & schedule.