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The Commercial Fisheries of the Gulf and South Atlantic — A Report of Progress

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Abstract

This year the Bureau of Commercial Fisheries will complete its research on Atlantic shad, disclosing the cause for the decline in catch, indicating conditions favoring recovery, and providing the basis for future scientific management. Progress also has been made in biological research on shrimp and menhaden. Positive evidence exists that the protected bays of Everglades National Park are important nursery grounds for Tortugas shrimp, and information has been obtained as to rates of growth and routes of migration to the fishing grounds. The causes for fluctuations in the catches of menhaden are still under study. Exploratory shrimp trawling off the northern coast of South America has led to commercial fishing by U. S. flag vessels in those waters. Exploratory operations have demonstrated the feasibility of trawling for red snappers in the Gulf, and have revealed the presence of large schools of herring-like fishes in the midwater zone. A new exploratory operation has been established for the South Atlantic area. Economic difficulties in the shrimp industry, the disposal of atomic wastes in the ocean, and man-made changes in estuarine waters are problems of major concern. The growing interest in oceanography brightens the general fisheries outlook.

IN THESE DAYS OF explosive change, it seems worthwhile to pause long enough to take stock of what is being done and what has been accomplished during the past year through the efforts of the Bureau of Commercial Fisheries in the Gulf and South Atlantic area.

There have been some outstanding achievements of which we are duly proud, and these will be discussed. There are some rather serious problems facing the fishing industry in this area, and these will be described as well as the action taken to solve them. There are some encouraging indications of growing interest in the subject of oceanography, and how the Bureau of Commercial Fisheries fits into this picture is explained below.

All of you have heard the comment that fishery research once started never ends. It has been said that fishery biologists only want more money and more time to continue their research; that they never have conclusive results to report. It can be reported now that research on Atlantic shad is being completed this year. The objectives of this research have been (1) to discover the causes for the decline in the catch from a peak of 50 million pounds near the turn of the century to a low of 8 million pounds in 1950; (2) to determine the conditions that would favor restoration; and (3) to provide information for scientific management of the fishery. All of these objectives have been realized; they are the subject of a number of scientific reports. The States concerned are now in possession of the methods and techniques by which they can properly

manage their shad resources. Except for consulting services for the States, this project will be terminated on June 30.

Good progress is being made on our expanded shrimp research program which has been divided into small segments that can be attacked separately in order of priority. Some of these segments are being completed, and eventually the whole picture will be complete.

At the present time efforts are being concentrated on the Tortugas pink shrimp stocks, and on the browns and whites in the vicinity of Galveston Bay.

The first step in the Tortugas area was to determine the relationship between the size of pink shrimp and the depth of water in which they are found. This study was undertaken for the Bureau by The Marine Laboratory of the University of Miami under contract, and it has been completed with positive evidence that the shrimp move farther offshore and into deeper water as they grow larger. This finding supports the precautionary measure taken by the Florida State Board of Conservation to restrict fishing in certain waters of the Keys when the shrimp are of small size.

The next step in the Bureau's study of Tortugas stocks was to locate their nursery grounds, determine the routes of migration of the young from the nursery grounds to the fishing grounds, and the rate of growth during such migration. You have been told of the technique developed for marking shrimp with vital stains, using hypodermic needles for injecting the juveniles on the nursery grounds. With this technique, Bureau biologists have been able to mark many thousands of young pink shrimp in the protected bays of Everglades National Park. In their subsequent migration, they have been taken in small numbers on the fishing grounds and have been positively identified. Thus, it has been established that the estuaries of Everglades National Park are important as nursery grounds for the Tortugas shrimp, and information has been gained that in their migration to the fishing grounds, 100 miles or more to the west, shrimp triple their weight in a matter of four months. Present experiments are under way to stain another 90,000 or so small pink shrimp to verify these results and obtain additional information, including the natural mortality of the species.

In the Texas area the Bureau is adding to the fund of knowledge of both white and brown shrimp by using similar techniques. By staining the young on the nursery grounds in Galveston Bay, valuable information is being obtained on routes of migration to the fishing grounds, and rates of growth and mortality. It has been learned, for example, that young brown shrimp from Galveston Bay can travel as far as 25 miles in one week, and several have been taken offshore as far as Freeport, 50 miles away.

The Marine Laboratory of the University of Miami is working for the Bureau on another phase of the shrimp life history in the Tortugas area. This concerns the inshore movement of the pink shrimp, and requires identification of its several larval and post-larval stages, as well as the mechanism by which they are carried to the estuarine nursery grounds. Excellent results are being obtained and will be reported during this program.

Research work on menhaden also is progressing well. This species accounts for about one half of all the landings on the Atlantic coast and ranks first in volume of all commercially caught fish and shellfish in the United States. Despite its enormous yield, the menhaden fishery, as most of you know, has had its ups and downs. Seasons of scarcity and abundance have occurred in this fishery from its very beginning. Research on this species is designed to

determine why such fluctuations occur so operations can be geared to the available supply.

The Bureau has learned a great deal about Atlantic menhaden in the five years this research has been going on. Briefly, it has been found that (1) the Atlantic coast fishery is supported by a single species of menhaden; (2) estuarine nursery grounds, as in the case of shrimp, are an essential link in the life of this species; (3) different age and size groups make up the catches in different areas; and, finally, (4) variations in the brood strength from year to year appear to be the chief source of fluctuation in the catch.

Exploratory fishing by the Bureau has provided some useful and exciting information. Discovery of shrimp in commercial quantities along the northern coast of South America was put to immediate use, and several U.S. flag vessels are now working in that area. The feasibility of commercial trawling for red snappers in the Gulf of Mexico has been demonstrated, and the way has been opened to extend the area for harvesting industrial fish in the northern Gulf. The fish are there, and modified trawling gear can take them.

There is reason for excitement in the known existence of schools of herring-like fish of tremendous size in the midwater region of the Gulf. Equipped with the most modern electronic devices, our vessels have recorded schools 20 miles long and 10 miles wide. This is the potential for a new fishery when more is known of the seasonal and geographic distribution of these schools, and methods are developed for capturing them.

You will be pleased to know that the Bureau has at last been able to finance an exploratory fishing operation in the South Atlantic area. This activity will be based at Brunswick, Georgia, so that it can be coordinated very closely with the oceanographic research in progress at our biological laboratory there. The Atlantic States Marine Fisheries Commission has urged that this work be undertaken for several years. The complete disappearance of the brown shrimp after they pass through the fishery in coastal waters is one of the mysteries it is hoped this investigation will solve. Information also will be sought as to the availability of industrial fish, and the commercial potential of hard clams and scallops.

The Bureau of Commercial Fisheries has instituted an inspection service, and voluntary quality standards are now available for certain items. Continuous plant inspection entitles the producer to identify his product with a shield certifying quality comparable to the Department of Agriculture's seal for meat. This service gives our industry a definite and exclusive competitive advantage over imported fishery products, and it should be used to the fullest extent.

Seldom is it all smooth sailing when dealing with fish and fisheries, and right now there are a few real problems that should be mentioned. First, there is the unhappy situation in the shrimp industry. It seems almost paradoxical that the industry producing the most valuable fishery product in the United States should be experiencing economic distress. Nevertheless, there are danger signals. For example, cold storage holdings of shrimp have been much larger than normal, in fact, almost double and, along with this, shrimp imports have climbed to a new high. Eighty-five million pounds of shrimp came into the United States last year from almost 50 countries, and the trend this year has been upward. Add to these the sharp break in prices and the distress signal becomes emphatic.

This problem is being met head-on. First, the facts must be determined. What are the trouble spots in the industry, and how can they be corrected? This calls for an economic study of the industry, and one is in progress now. While

this study is being made, other things are being done to provide relief. The first and probably the most obvious is a market promotional effort. In cooperation with the industry, the Bureau's market development specialists are emphasizing shrimp in their contacts with institutional outlets, food editors, radio and press representatives, and trade organizations. Shrimp was in the spotlight in the annual Fish 'n' Seafood Parade, and will receive similar treatment during the Lenten promotional effort.

Diversification in fishing would provide stability to the shrimp fleet in off-season periods, and substitute employment in times of adverse markets. Alternative fishery resources available to shrimp vessels are being pinpointed by Bureau exploratory operations. Specialists in fishing, technology of meal and oil manufacture, and marketing have teamed up to discuss these alternative operations with representatives of the shrimp industry.

Another problem of real importance to the fishing industry is that having to do with the disposal of atomic wastes in our coastal waters. This has been the subject of inquiry by the National Academy of Science; and extensive hearings have been held by the Joint Congressional Committee on Atomic Energy. This Committee is holding additional hearings in major coastal cities so that all interests may express their views. The Bureau of Commercial Fisheries has taken a positive stand on this matter. Namely, (1) the ocean should be used as little as possible for disposal of atomic wastes or other unwanted materials; (2) if the ocean is to be used for disposal, it should be done according to a well-designed plan; (3) areas should be selected for disposal which will not harm other interests; (4) their numbers should be kept to a minimum; (5) they should be well marked; (6) their existence should be publicized; and (7) all disposal operations should be policed closely.

Unless these conditions for disposal of atomic wastes are met, the Bureau of Commercial Fisheries would be opposed to disposal in the sea.

The next problem which confronts all of us is not a new one. But it is still with us. This is the problem of the many man-made changes in our coastal waters which are so essential to some of our most valuable fish and shellfish. These resources have more to fear from the type of coastal development now being carried on than from the commercial fishermen. Both the Gulf States Marine Fisheries Commission and the Atlantic States Marine Fisheries Commission have named committees to work on this problem.

On the brighter side, the Committee on Oceanography of the National Academy of Science, in its report to the President, brought into sharp focus the importance of the oceans to the well-being of this country, and the need for a better understanding of them. The details of this report will not be explained here, because you are to hear more about it later in the program. I think it is sufficient to say at this time that if these recommendations are carried out, the research programs for shrimp, menhaden, blue crab, estuaries, and many others, will be fully activated. This is most encouraging, indeed.

From all of this, you can see that the Bureau of Commercial Fisheries is vigorously striving to do the job called for—cooperation with the State Conservation agencies to provide the basis for sound resource management and assistance to the fishing industry so that it may continue to hold its rightful place in our economy.