

COMMERCIAL FISHERIES REVIEW

Washington, D. C.

THE INDUSTRIAL FISHERIES OF TOMORROW--CHARTING THE COURSE^{1/}

By Donald L. McKernan

I am grateful for the opportunity to attend the first Annual Meeting of the National Fish Meal and Oil Association. I view with mixed feelings the passing of an era--the Virginia Fishermen's Association meetings--the passing almost of a tradition. But, that is progress; and the new organization is obviously designed to be broad in scope and to be "good" for the industry because it is more national in character.

It was in February 1958 that I first spoke before the Virginia Fishermen's Association. At that time I pleaded for support for a national program. It appeared at that time that the industrial fishery of this country was in for trouble, and I said at that time, "It looks to me our most difficult period lies immediately ahead." I urged us to quit being defensive and go on the offensive in our fisheries. Much fish has been processed since then. I've also been wrong a good many times since, but I wasn't wrong when I made that statement; and it can be made again with the same force and conviction. American fisheries prosper when we compete with other forms and sources of protein economically. When we don't, we lose markets to other forms of protein, whether the fish be in the form of a high protein meal or human food.

When I spoke to you before, back in 1958, your production of meal was not much different from this past year (1965)--248,000 tons. Imports were less than one-half of this production, and prices were good. Things have changed. Not long after my first appearance before you, in late 1959 and early 1960 the world price of fish meal began to decline. The industry was in trouble, and the catch of menhaden was high.

Many in this room well remember the efforts of Government and industry to rapidly organize a world conference on the subject of the production and use of fish meal. Such a conference was held in Rome in late March of 1961. It was a useful conference and brought together industry and scientific leaders from all important producers and users of fish meal.

A most useful exchange of views occurred, and at that time in fact--despite the uneconomic conditions of the industry which preceded the

^{1/}An address given by Donald L. McKernan, Director, Bureau of Commercial Fisheries, U. S. Department of the Interior, at the First Annual Meeting of the National Fish Meal and Oil Association, Norfolk, Va., February 27-March 1, 1966.



Fig. 1 - A large menhaden fishing vessel at the Reedville, Va., dock of an industrial fish plant.

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conference--cautious optimism prevailed among industry and Government leaders at the conference.

Much has happened since this meeting. Our own production of fish meal from domestic sources reached a peak during the early 1960's but has declined since. On the other hand, consumption of fish meal in this country has continued to increase through 1964, with the domestic production of 235,000 tons being only one-third of the total apparent consumption of 674,000 tons. Thus, during the past 5 years, our own production has become a minor source of the fish meal used in the United States. In fact, the 440,000 tons of meal imported in 1964 was a new record; a record not equaled in 1965, however, mainly due to a scarcity of fish and increasingly heavy worldwide demands.

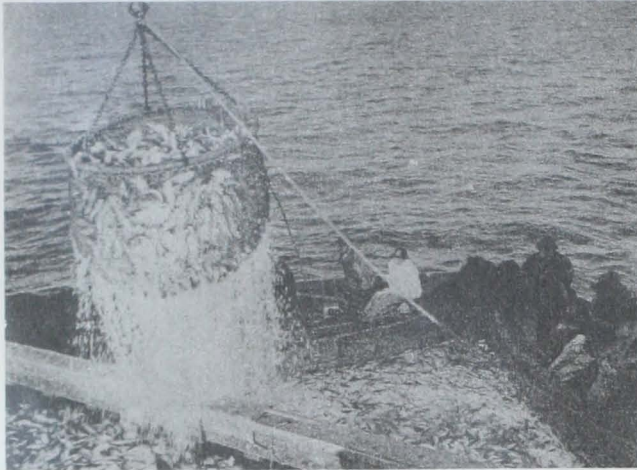


Fig. 2 - Brailing menhaden from the pocket or bunt of a purse seine. More modern purse seiners are now equipped with large suction hoses to transfer the fish from the net to the vessel.

Prices have become dangerously high, as you all know, and world consumption of fish meal as poultry and stock feed might even decline if these prices continue. There are, however, those in the audience who are much more qualified than I am to discuss this point.

It is important to members of the National Fish Meal and Oil Association to be aware that the world production of fish meal fell in 1965 for the first time since the end of the war two decades ago. It is also pertinent to note that in 1960, our consumption of fish meal was about 20 percent of the world production of 2.1 million tons. In 1964 we also used almost 20 percent of the world supply of 3.6 million

tons of meal. This surprises me, for I would have thought that world consumption would have increased at a higher rate than in the United States.

With this background I would like to look for a moment at the potential world stocks of fish suitable for fish meal production. The better known large stocks of herring-like fishes are being fished close to their capacity--the menhaden, Norwegian herring, Peruvian anchovy, Japanese herring, pilchard, and so on. The phenomenal growth of the Peruvian fishery seems to have reached a peak. Some scientists believe that it was overfished at about 9 million tons in 1964, and this led to the 1965 reduction in catch. That may have been the case; at least, maximum growth of that fishery has occurred and the world is going to have to look elsewhere to find more fish to increase fish meal production.

Can it be done? Here at home, our industrial fish catch has declined. This decline--as everyone knows--has occurred because of the serious decline of the Atlantic coast menhaden stocks in 1963. Some improvement in these stocks might be predicted, although no one believes we are going to vastly increase our average yield of menhaden from the Atlantic and Gulf combined.

The anchovy stocks off California are a potential source of increased production, although at present, State laws and other economic problems are hampering the development of this fishery. Theoretically it might sustain a yield of 200,000 to 300,000 tons annually.

The herring-like fishes of the Gulf of Mexico look promising as a source of supply of industrial fish. Hake on both coasts appear abundant and relatively underfished; thus, it seems reasonable that if the demand for fish meal continues high, the U. S. fishery could probably double its production of fish meal within the next 5 to 10 years.

Essentially the same is true elsewhere in the world. The oil sardine of the Western Indian Ocean and Red Sea, the sardines of the Gulf of Guinea, the stocks of herring-like fishes off South Africa and the east coasts of Africa and South America all lead me to believe that--

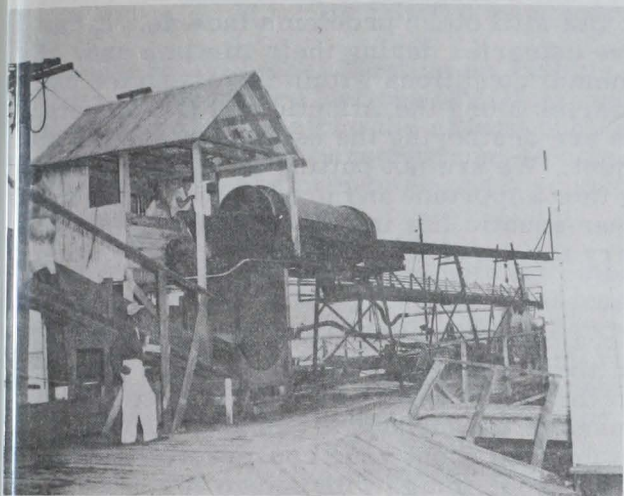


Fig. 3 - Menhaden being pumped from vessel to quarter box (a large steel container designed to hold about 1,000 fish).

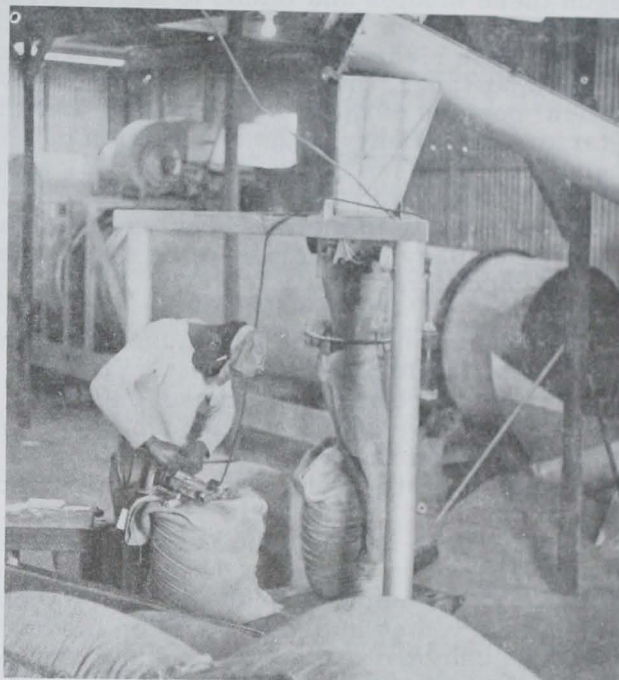


Fig. 4 - Shows fish meal being sacked in a menhaden industrial products plant.

Even though fish meal production has temporarily declined--this decline need not continue. Thus, I conclude that the ocean resources are available and that world production of fish meal can at least double, and maybe quadruple, by the full use of these resources.

Let me talk for a moment about the product. There has been a big change in our use of industrial fish. First we used fish meal for fertilizer; and then for poultry and stock feeds, which continues to be the big user of industrial fish. In my view the demand for fish meal as a stock feed supplement will continue, although the form and value of fish meal will continue to improve.

Another use for industrial fish products has become common in recent months. That is the use of a more refined and often extracted meal for pet foods. The product is thus upgraded and the value increased further.

Now, another product has been produced from the industrial fishery. A fish protein concentrate (FPC) for human food has been developed and submitted to the Food and Drug Administration (FDA). Secretary Udall, this past week, sent our findings to Food and Drug along with a petition for the use of FPC as a food additive. The petition will be published this week in the Federal Register and we hope for a favorable response from FDA within a short time.

A distinguished committee of experts from the National Academy of Sciences has given this product its wholehearted blessing, and another important use for fish--we hope-- will result with yet a higher value. Without question even more and more valuable products are possible in the future.

Yet all is not good. Problems plague us on all sides; not insurmountable ones, yet problems which might well prevent us from accomplishing our goal of increased harvests and more valuable products.

The resource base for the U. S. industrial fishery is in a tenuous condition. The primary catch depends mainly upon menhaden taken along the Atlantic coast and in the Gulf of Mexico. Both of these resources are being fished very intensively and there is a grave question as to whether they can sustain the current level of effort.

Expensive and time-consuming research is required to answer this question. We have begun these studies and intend to aggressively carry out a program to determine the effects of the fisheries on the industrial fish populations. But still other problems face us. It has become quite clear that menhaden require extensive estuaries during their lifetime and, of equal importance, they require favorable environmental conditions within the estuaries during critical periods of their development. But the estuaries along the Atlantic and Gulf coasts are deteriorating. Heavy loads of pollution of all kinds are destroying the estuaries, and physical changes by man are further altering this environment. We are not putting enough effort into studies of the estuaries, and we are rapidly losing this important and productive environment. It seems unlikely to me that species of fish and other aquatic life important to man, which inhabit the estuary, can adjust to the degree necessary for survival under these rapidly deteriorating conditions.

In recent months, the public has been further prejudiced against the industrial fisheries along the Atlantic and Gulf coasts. To some extent the problem has arisen because of negligence on the part of fishing vessel captains. So, to the extent that the industrial fishery operates prudently, taking into account other public uses of the inshore areas and resources, and to the extent that the public can be more fully informed about your conservative fishing practices, you will avoid public criticism and improve your image with conservation groups.

Then, there is the constant threat of foreign fishing fleets off our coasts. While at the moment there appears to be no threat to the menhaden fishery, this could change overnight. It is likely that menhaden can be found in concentrations beyond our territorial limits and could be harvested by these fleets on the high seas. Much more thought needs to be given as to how we can best protect our special interests; and it behooves us--Government as well as industry--to make sure that we do not wait too long.

Editor's Note: The U. S. menhaden catch in 1965 was 1.7 billion pounds and accounted for 36 percent of the total catch of all species. U. S. fish meal production (menhaden, herring, tuna, etc.) in 1965 totaled 253,400 tons; imports of fish meal and scrap in that year amounted to 270,666 tons.

Notice of the Department of the Interior's petition to the Food and Drug Administration to approve as a food additive a protein concentrate made from whole fish, was published in the Federal Register, March 2, 1966.



Created in 1849, the Department of the Interior--a department of conservation--is concerned with the management, conservation, and development of the Nation's water, fish, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and Territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States--now and in the future.

