

- "Stock and Recruitment" by W. E. Ricker.
- "The Conservation of Biological Resources in Coastal Waters" by G. Belloc.
- "Fluctuations in the Commercial Fish Population of the Northwest Pacific in Relation to Meteorological and Oceanographic Conditions, Fishery Operations and other Factors" by P. A. Moiseev.
- "The Biological Appraisal of the Ocean and the Problem of Trans-oceanic Acclimatizations" by L. A. Zenkevich.
- "Comments on the Principle of Abstention" by William C. Herrington.
- "Fishery Problems and Fishery Conservation in Italy" submitted by the Italian Delegation.
- "Migrations of the Sardine (*Sardinia pilchardus* Walb) in Relation to the Zooplankton" by T. Gamulin.
- "Pertinent Facts Representing the Life History, Ecology and Behaviour of the Important Species Constituting the Fishery Resources in the Seas around Japan" submitted by the Japanese Delegation.
- "Information Concerning the Importance of Conservation of Stocks by Fish and Sea Mammals in Arctic Waters" by Paul Hansen.
- "Productivity and Intensity of Exploitation of the Adriatic" by Sime Zupanovic.

DISCUSSION

Marketing Session

Discussion Leader: L. W. STRASBURGER

Discussion Panel: CHARLIE BEVIS, SPENSER A. LARSEN, JAMES BARR,
E. A. FIEGER

The Government's Place in Market Promotion of Fishery Products

DONALD Y. ASKA

- Q. H. Taylor: Mr. Aska described the rather elaborate efforts of the Fish and Wildlife Service to promote the sale of surpluses of haddock in New England and the somewhat less elaborate efforts to promote the sale of tuna. Another paper described federal government sponsored activities to help the sale of mullet. So the government is obviously intervening in the interests of a particular fishery and a particular group of fishermen, instead of allowing the law of supply and demand to solve these problems in due time. Is it the philosophy of the federal government to attempt to market each of these products when the inventories get to be troublesome? This is a broad question of philosophy which I believe to

be important. It has been shown that the per capita consumption of fishery products in the United States has not increased significantly in latter years. Therefore, the increase in the sale of haddock will have to result in the decrease in the sale of some other fish in some other part of the country. I would like to hear Mr. Aska's comments on this subject.

- A. Aska:** The position of the Fish and Wildlife Service with respect to the fishing industry is considerably different from that of the Department of Agriculture with respect to the farmers. We have no support prices, no subsidies, no acreage allotments—in fact no financial grants whatsoever to any part of the fishing industry. We feel that we have a responsibility to the fishing industry to help distressed segments. Our overall objective is to increase the per capita consumption of fish, and help to distressed segments is only a temporary measure.
- Q. H. Taylor:** Has increased sale of haddock and tuna resulted in decreased sales of other fish?
- A. Aska:** We do not have the information to answer that accurately. It may well be true that these increased sales have been at the expense of other fishery items. Justification for the haddock program can be further made by pointing out that the situation of the haddock market represents a serious threat to producers of other New England species—ocean perch, cod, etc. By stepping in, the Fish and Wildlife Service may quite possibly have averted a break in the market which would have affected not only the haddock producers, but these other people as well. Our overall program is to increase per capita consumption of fish, and these isolated projects—haddock, tuna, mullet, etc.—are all steps in this direction; so are our institutional and school lunch fish promotion projects.
- H. Taylor
(Comment):** Since the per capita consumption of all foods is constant, if we increase the consumption of fish, we must do it at the expense of some other food item. So we have different bureaus of the government competing with one another, all at taxpayer's expense, to increase the per capita consumption of its particular product.
- Q. Larsen:** I have no basic objection to bailing out certain segments of our economy by government action, but if this indirect subsidization is to be done, is not the government justified in demanding the high, standardized quality of product that compares with other products the government is subsidizing?
- A. Aska:** The session yesterday afternoon indicated the high interest in fishery standards. When we undertook these promotion campaigns we did it on the understanding that we would deal only with high quality products, and if second rate fish were put on the market then we would drop out of the program.

- Q. Bevis: In the distribution of seafoods to the school lunch program, can you be assured of good quality fish?
- A. Aska: This depends on the school lunch manager. This person will buy fish that fits his budget and menu, and he can insist on good quality. If he gets bad fish, this will influence future purchases.
- Q. Strasburger: You have school lunch programs in 23 states, you said. Would you tell me how these are set up?
- A. Aska: The school lunch program is organized in cooperation with the state school officials and we set up a schedule suitable to them. We will expand the program as we can add personnel and as more states want the program.
- Steele:
(Comment): There has been concern expressed as to whether it was proper for the federal government, through its agency, the Fish and Wildlife Service, to concern itself with the expansion of seafood markets, particularly when a part of the industry was in a tight spot. The interest of the federal government should lie in sustaining the food supply of the nation. A great number of our agricultural commodities are heavily subsidized, but for many years the only real support which the fishing industry had was from biological studies. I have repeatedly heard subsidies suggested for the fishing industry, only to have the industry say that they do not want subsidies. Perhaps our failure to effect an increase in the per capita consumption of fishery products has been caused by competition from the other protein foods which are being subsidized by taxpayer's money. There have been many who have considered it all right for the federal government to spend money on biological research, but that promotional activities are wrong. Is it improper for the federal government to do biological research to bring back the California sardine, when this would help to create competition for the Maine sardine? I do not think we look at it that way and I think that we should consider the government's efforts in the promotional activities in the same way. I do not think the federal government has any place in the promotional business except on an emergency basis and I do not think that the Fish and Wildlife Service has any business in a continuous promotional program, except to help in the increase of the consumption of fish in general.

Florida's Fish Marketing Problems can be Solved

BARTON A. WESTERLUND

- Q. Larsen: Coming from Detroit I wonder why you singled out Detroit as being a particularly good market for southern fisheries products?
- A. Westerlund: There has been an influx of Negro people to Detroit from the southern area and the Negroes are heavy consumers of mullet.

- Bevis
(Comment): Those of us in the business have recognized for a long time many of the factors that you pointed out in your paper this morning. We are very grateful for the fine work in this research on mullet, and I think you have very ably pointed out the problems in your paper this morning.
- Q. Osterbind: I have been interested in this same problem for a considerable period of time and I think that the utility of the type of research that the Marine Laboratory is doing is that it produces information on the true characteristics of the market. We found in talking with individual producers that there was a wide diversity of opinion as to what the problem was. An accurate portrayal of the market situation will make the industry better informed and will show them how they should act on this information.
- Q. Bevis: Do you think that the increase in numbers of retail chain stores is good or bad for the seafood industry?
- A. Westerlund: The industry can take advantage of the super market trend. It is the coming merchandising device, as we know. However they do insist on a good quality fish and they frequently package their fish in cellophane wrappers. In order to advance sales in super markets the fishing industry should improve their merchandising techniques.
- Larsen
(Comment): If you look at industries which have had tremendous successes you will find that they have subscribed to the idea of a brand on the commodity. Then they advertise it. If they expect to do a volume business on it in mass markets, they must have uniformity of quality. The brand itself implies that. It seems to me that quality control is the only way in which you can establish a sound base for continued sales. When you have a quality standard then you can use advertising effectively and build one step upon the next.

Problems in Marketing Menhaden Products

EXTEN CORBETT

- Q. F. Taylor: What is the possibility of using menhaden as human food?
- A. Corbett: During World War II the menhaden were used for human consumption in a small way. Some were canned in Fernandina. I believe that in the future it will be used again for human consumption, as it is certainly a good fish.
- Q. Bevis: Why do you think menhaden activity in Florida has been on the decline?
- A. Corbett: Maybe the temperature of the water or a lack of food in the area. To tell the truth, that is one question to which I would like to know the answer myself.
- Q. Sahlman: I would like Mr. Corbett to tell the real reason. He knows what it is but has not answered it.
- A. Corbett: I think what Mr. Sahlman is referring to is the water pollution. We know that there have been a good many small fish which have been killed by the pollution.

- Q. Sahlman: We have had a tremendous amount of pollution around the Florida Atlantic coast and the south coast of Georgia. The young menhaden come into the rivers at this time of the year, and on certain days recently when a heavy pollution was turned loose from the pulp mills the shores were lined six inches deep with millions of the young menhaden.
- A. Corbett: That is true. We talked to the officials of the mills and it just happened to be an accident at that time. Those "accidents" occur quite frequently.
- Q. Robas: We do have a pollution problem at Fernandina Beach. We are faced, however, with some economic factors in that the paper mills are vital to the economy of our neighborhood. We are also faced with the problem that very few people know how to define pollution. We presume that these paper mills or cellulose mills are killing our fish because they put sulfate liquor into the water and the sugars and the sulfate liquors are absorbing the oxygen in the water and consequently the fish are dying of suffocation. I understand that the Sterling Drug Company has available for license a new process which uses the sulfate liquor from a paper mill. One of these installations is being put in a large paper mill in Norway and I presume if such a process is successful paper mills here will adopt it. I do not favor punitive legislation for any industry, the fishing industry or the paper industry. I think, however, that enlightened management and enlightened self-interest will in the course of the next few years solve a good many pollution problems. I am hopeful that our paper companies in Fernandina will eliminate the pollution.
- Q. Osterbind: About thirty years ago there used to be a lot of fish put into commercial fertilizer in the Savannah area. Of more recent years I understand that that business has dropped off. We have a trash fish fishery in the Gulf and it has developed in a very short time into a sizable industry. Now the price of trash fish is rather low and I was wondering if in the future there is any chance that fish might again be used as an organic fertilizer?
- A. Corbett: We do not manufacture fertilizer. A good many years ago we made acid scrap fertilizer from fish. Now it all goes into dried fish meal which is used as an animal food. It is still good as a fertilizer but it is much more valuable in feeds. We use only menhaden. At one time we tried taking some scrap fish from shrimp boats. We have not been successful along that line because of the fluctuating source of supply. One day they would have fish and then the next day they would begin to catch shrimp and they would not bring in the fish. Unless we can get a supply regularly it isn't worth our while.

Can Natural Sponges Meet With Synthetic Competition?

DAVID H. WALLACE

Q. Taylor: Could you explain further the cause of the decline in the sponge industry?

A. Wallace: I think that there are two causes for the decline of the sponge industry. First, there is the matter of overfishing, which was certainly involved in the Florida west coast fishery according to a survey made by the Marine Laboratory of the University of Miami. The other factor is this fungus blight.

Q. H. Taylor: Has the natural sponge industry attempted to develop new uses in order to meet the competition from the synthetic sponges?

A. Wallace: There have been attempts to exploit natural sponges in the fields where they had established a market and have concentrated particularly on the industrial uses of sponges. They are considerably used in the automobile washing business, and in all kinds of wall washing. One of the interesting uses is in the pottery trade where there is a lot of use of the sponges. There has not been a concentrated effort to exploit the consumers field except in a small way, because of the problem of having an adequate supply to meet the demand if it might be created.

Q. Osterbind: How do the producers know the normal channels of distribution that have been utilized so that when they have lost their markets under conditions such as those that have prevailed here, they know the most effective way to recapture those markets? Have analyses been made to demonstrate these special qualities of the natural sponges, either in the industrial use or in the consumer field, so as to compete effectively?

A. Wallace: After the Florida sponges have been caught and dried, they are placed in the Tarpon Springs Sponge Exchange where they are sold at auction to buyers, who are also to a large extent distributors, scattered in various major cities all over the United States. There are also some local packers in Tarpon Springs who are also buyers. They buy and then resell to distributors who are located in New York, Chicago, Philadelphia, Baltimore, St. Louis and various other major cities. These distributors have an organization selling to wholesalers in various parts of the country; the wholesalers then distribute directly to retail outlets, when they then go to the consumer. I think that the procedure for distributing the product has been thoroughly worked out over a good many years, and I do not believe that at the moment there are any particular missing links. There are always attempts by people to bypass one or another step in this chain, and I think that this is going on all the time.

About ten years ago the Sponge Institute hired the U.S.

Testing Laboratories to run a series of comparative tests, using various grades of natural sponges as compared to the synthetic sponges which were on the market at that time. The tests run included the major kinds of sponges compared with the synthetic sponges—rubber type sponges as well as the ordinary cellulose sponges. Those data have been the basis for some public information which we have been attempting to use in developing a program to enlarge our market.

- Q. Osterbind: If our stocks recover so that we have adequate supplies, should we anticipate that the sponges will move through these channels you just described, or what will be the problem of getting these effectively into the market, in competition with the synthetic sponges?
- A. Wallace: If we are successful in bringing back the natural sponge into the market, there is no reason to believe that it will not flow through the channels of trade which are already developed. If they do not, I think it would be an almost impossible job to try to set up entirely new channels and put the product on the market again. Frankly I anticipate that we are going to have a large public relations and educational job to do, and I think that all levels of the industry ought to participate in this program. I mean to participate financially, so that we can raise sufficient funds to do an acceptable job.
- Q. Aska: This morning you mentioned a wet pack type of packaging. Would you please describe this?
- A. Wallace: In 1950 the synthetic sponge people came out with what they called a wet pack cellulose sponge. It was a sponge which had been treated with a solution which made it soft and pliable all the time. It was then sealed in a polyethylene bag, heat sealed so that it was relatively air tight. The result was a sponge that was fairly soft, rather attractive in appearance and was accepted quickly by the housewife. The basic component of it was a glycole to keep the sponge soft. The formula which is being used by the natural sponge people now is different from that of the cellulose people. There is more of a problem in handling a natural sponge.
- Q. Thompson: Does it seem reasonable that under our labelling regulations these producers of synthetics should be permitted to label their product sponges?
- A. Wallace: I do not think it ever should have been called a sponge in the first place, and the industry made a serious error about fifteen or twenty years ago when the first cellulose product was put out and they attempted to call it a sponge. At that time I think it is entirely possible that the Federal Trade Commission might well have upheld a movement to halt the use of the name sponge because it has a very specific meaning. However, after long usage of the term synthetic sponge, the Federal Trade Commission now permits it, but

- it is supposed to have on the label either synthetic sponge or cellulose sponge, describing the particular type it is.
- Q. H. Taylor:** What is the possibility of cultured sponges? The late H. B. Wilson, of the Zoology Department of the University of North Carolina, discovered many years ago that when a sponge is chopped up in little bits and put back in the water, each little bit would grow into another sponge. Does that not afford us the means of artificially growing sponges in any quantity when you say that there is overfishing?
- A. Wallace:** Not only is it practical to farm sponges, but it is being done in the Bahamas now, and they are using just the technique that you described. They are taking living sponges and cutting them into small pieces and then attaching them to some heavy material which holds them on the bottom. The sponges then continue to grow until they reach a size that is marketable. Right now, in the Bahamas, there are several thousand pieces of cultured sponges which are ready to be harvested. I do not know the reason why it has not been done on the west coast of Florida. It certainly is one of the things that the producers and the State of Florida should consider as a possible way of speeding up this recovery which is so important at the present time.
- Q. Whiteleather:** Has there ever been any thought given to shaping or to the artificial coloring of sponges to make them more attractive to the consumer?
- A. Wallace:** As soon as you start cutting a sponge to make it the shape of a block, as they are able to do with synthetic sponges, you begin to weaken the sponge very quickly. It is imperative for the strength of the sponge to keep it pretty much in the shape which it is grown. You can trim the sponge and shape it to some extent, but too much shaping ruins the sponge. There have been some attempts to dye natural sponges, and one firm in New York dyed considerable quantities about six years ago. They did not have much success. The people who buy natural sponges are used to seeing them in their natural color and they resisted buying these colored ones. This could probably be overcome and could be one of the ways to help improve sales.
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