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OPENING ADDRESS

The Federal Government's Role in the Development of New Fishery Resources

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THE FEDERAL GOVERNMENT'S ROLE in the development of new fishery resources is a partnership role—a partnership with the fishing industry of the United States. It is a partnership to convert the great raw resources of the sea to consumer products. Unlike business partnerships that are set up under rigid rules and regulations, however, this is one that is flexible enough to permit the Fish and Wildlife Service, representing the Government in this instance, to help the industry when real needs exist and to withdraw when the basic problems have been resolved.

In many parts of the country the fishery industry consists of hundreds of individual fishermen and small processing plants scattered sparsely along miles of coastline. Their facilities for gaining basic knowledge which will lead to new and advanced methods of fishing and processing the catch nearly always are limited. Sometimes group efforts can achieve the desired results, but organization and financing, more often than not, turn up as major stumbling blocks. In other cases, however, where large and adequately financed companies exist, more research of all kinds is pursued by the industry.

Thus, the degree of governmental function in the partnership must reasonably be related to the varying conditions that are found in each fishery or particular location. This is as it should be, because it is almost axiomatic that whatever Federal benefits are available should be directed towards those problems that are most difficult for the industry to solve by itself. This, we in the Service try to do. However, without this flexibility for governmental decisions in the partnership, it could well become an unbalanced arrangement in which Government research and services would duplicate or overlap those of industry. Any duplication of this kind should be guarded against, since we universally accept the principle in our country that industry, where it can, should take the primary steps in behalf of its own advancement and development.

How then does the Government find its role in the charting of new fishing grounds, developing better means of harvesting the resource, and creating channels for its wise utilization? The foremost reason, probably, is centered in the magnitude of the job and the financial aspects of it. For example, exploration and development is an exhausting, time-consuming and extremely expensive

undertaking, regardless of whether it is connected with the location of new oil fields, mineral deposits or fishing grounds. Probably most of our citizens are more fully aware of the huge, offshore oil exploratory installations because they have been given much general publicity. On the other hand, probably fewer realize that marine exploration for new fisheries, with its costs of modern seagoing vessels, electronics equipment and heavy operating expenses, would rank well up in financial requirements with any other kind of exploration if pursued to the same extent. Yet, it is doubtful that the ultimate value of a newly located fishery resource is always comparable, dollarwise, to that of a new oil field or mineral deposit.

Beyond this there are certain incentives and advantages in most fields of exploration, not found in fisheries exploration, for investing heavily with reasonable expectation of future return on the investment. Again, considering oil or mineral exploration for a moment, it is improbable that a company would rush into development of a prospective deposit without first holding some control of the rights to the property upon which their investigations were taken place. There are appropriate means of obtaining leases or outright ownership before capital is ventured for such exploration.

Now, in the fisheries, who owns the fish on the high seas beyond international boundaries? No man may say that under present international law he has sole right to a fishery resource even though he may be engaged in reducing it to possession by fishing. Unless there are special treaty provisions, all fishermen, regardless of nationality, have equal rights to the resource. Where there is no provision for sole rights there is meager encouragement for an individual to finance, in any substantial manner, systematic exploration of the high seas.

If we reduce what has just been said to its simplest terms, it merely means that when the most enterprising and venturesome fisherman spends his money to find new grounds, the others, and if you please, his competitors, cash in on his investment. It is doubtful that there are many adroit businessmen who would call this a sound proposition.

It is here that under our partnership policy the Service's exploratory fishing and gear research programs can be most helpful, since it is obvious that when the Government enters this field the costs are spread among the many and the results become available on an equitable basis.

In carrying out these programs the Government, usually, is in a better position than individuals to relate the various biotic factors involved in the basic appraisal of the extent of a new resource. Also, in the gear research necessary to accomplish most efficient fisheries production, the Government, because of the nature of its work, has at its command adequate facilities for statistical evaluation of gear improvements. Only by the full interpretation of the interrelationship of all of these factors can the maximum advantages accrue to the fishermen. Omission of some factors and only partial interpretation of the balance of them not only diminish the practical value to the fishermen, but may even result in the more serious danger of pointing a newly developed fishery operation in a wholly wrong direction.

At this point the Service has another responsibility since it is a conservation agency, dedicated from its beginning in 1871 to the wise use of renewable resources. However, we see no conflict between the development of new resources on a sustained yield basis and this concept of conservation. Indeed, the location and development of new and potentially valuable fisheries tend to

remove pressure from stocks already fished near to the limit of their maximum productivity.

So, to what extent and to what degree does the Government participate in this field? It perhaps is easiest to look at some particular situations, like the discovery of yellowfin tuna in the Gulf of Mexico and the finding of deep-water red shrimp, to illustrate the answer. Substantial sub-surface stocks of yellowfin tuna were first discovered in the Gulf of Mexico by the Service's exploratory fishing vessel *Oregon* in 1954. Prior to that time several years were occupied by our staff in gathering background data and in making observations on the occurrence of this species in the Gulf. Longline gear, of a style adapted from the pattern traditionally used by the Japanese, was constructed and tested for its effectiveness in these waters and emphasis is still being placed on adjustments to make it more suitable for Gulf vessels and fishermen.

In the course of the exploratory fishing operations several hundred thousand pounds of yellowfin tuna have been taken by the *Oregon*. Catches have been sufficiently large to draw the interest of commercial fishermen. It now appears clearly that yellowfin tuna are available to commercial longline fishing operations in the Gulf of Mexico the year round. Present knowledge indicates that they occur in the greatest abundance in the Western Gulf and Campache areas in the late winter and spring months, and in the North Central Gulf regions in the summer and fall. The importance of a source of supply not limited seasonally is obvious in the development of a new fishery.

Several commercial vessels have already started longline fishing for tuna in the area, and the leading role in the development and utilization of this resource now rests with the industry, using the exploratory data as a point of departure. There are some problems concerned with so-called "green" tuna as are also found in other areas. However, yellowfin tuna is a well known commercial species in our fisheries and basic processing methods, market distribution, consumer education, and public acceptance do not arise as supplementary problems to the same extent as in the development of outlets for a product such as red shrimp, totally unfamiliar to the trade when first landed.

Prior to capture of the deep-water red shrimp in the Gulf of Mexico during the course of exploration by the Service's vessel *Oregon* in 1950, this species was known only through a few museum specimens. Through systematic reconnaissance, coupled with gear experimentation over the subsequent five year period, the first consistency in catches of this species was achieved in 1956.

Productive areas have now been charted in the Gulf of Mexico and off the coast of the South Atlantic States where commercially significant catches of red shrimp have been made by Service exploratory fishing vessels. These catches have aroused the interest of the fishing industry even though formidable problems are involved compared to those which were encountered in utilization of the Gulf tuna.

In the red shrimp program the Service has devoted more than usual attention to gear research and experimentation because of the unusual depths in which the species is found, and because of the unique current and other oceanographic factors encountered, particularly in the Gulf Stream area off the South Atlantic coast. Shrimp fishermen are accustomed to fishing in depths perhaps as much as 50 fathoms and, on first thought, have certain reservations about tackling a new fishery in something over 200 fathoms. There is nothing strange about this, since fishing conditions will be entirely new in these depths, costs of gear will exceed present costs, and some alterations will have to be made to the vessels.

In addition to these considerations, the fisherman who is well acquainted with producing and marketing white, brown and pink shrimp from the lesser depths is now facing an added expenditure for deep-water fishing to produce a product literally unknown to the trade.

It is for these reasons that the Service has pursued, and probably will have to continue, a more comprehensive program than in the case of the Gulf tuna development. It must be shown conclusively that there is a possibility of producing red shrimp within a margin of profit that will permit continuity of commercial operations.

Marketing experiments in cooperation with interested shrimp producers are being conducted by the Service. Test lots are being distributed to selected restaurants for reaction as to price and customer acceptance. Technological work is being conducted to determine optimum cooking times and the percentage of recovery in the cooked product. Tests to determine storage characteristics and the best means of handling the product also are being made. It is worthy of mention here that even the selection of an acceptable trade name is a matter of no small consequence in launching a new product. Some research effort has been given to that problem and our statistical bulletins and market news reports are showing the commercial catches as Royal Red Shrimp. The name embraces the characteristics of the quality, taste and appearance of this shrimp and will differentiate this particular species from other red colored shrimp that may be discovered later in the course of exploratory work. There is little doubt that development of a resource yielding a product which is wholly unknown to begin with in the trade poses research problems for which governmental assistance can be useful in a greater degree than for a known product such as the Gulf tuna.

The Service has many programs, other than these which have been mentioned, aimed at aiding the industry wherever fitting and appropriate, and these are adjusted insofar as possible to meet the most urgent requests received from the industry.

So, in summary, we hold the belief that the Government's role in the partnership is to chart the marine resources of potential value within feasible reach of our fishing fleets, to evaluate the biotic factors concerned with their occurrence, to encourage the wise utilization of these resources, and to aid in fundamental research in processing, and marketing where needed. After the Service has done these things well, we have great confidence in the fishing industry's ability to seize new opportunities and to move ahead dynamically under its own impetus.