

CONSERVATION AND MANAGEMENT SESSION

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Marine Conservation and Domestic Management

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Once again I would like to preface my remarks by expressing my appreciation to Walton Smith and the other managers of this joint conference for the invitation to participate in what has become an institution in American fisheries affairs. These sessions have long been an important medium for the expression of opinions and the distribution of factual information about fisheries problems in general and of course especially those of our southern seas. We all trust that the increased concern of many people about the impact of the increasing pressures on our fisheries will serve to emphasize the value of the dialogues carried on at these meetings and that they will continue their useful function on into the future.

Our subject this morning consists of two very current and significant subjects: marine conservation and domestic management. Considered independently each could well provide the basis for lengthy discussion. This morning however we are considering them as a single subject, which paraphrased might be restated as a question—"How do we achieve marine conservation with domestic management?"

THE NEED FOR REGULATION

As indicated, this is indeed a subject of growing timeliness. For one thing, more and more U.S. citizens are using, both for enjoyment and dependency, our ocean's resources.

It is, of course, axiomatic that ultimately too much of a good thing causes problems. When too many begin to strive for the same scarce resource, the only available recourse is for society to institute appropriate regulation.

In the last two decades external forces have come into play which greatly increased the complications of appropriate regulation while at the same time

making it essential. These forces are the non-domestic manifestations of marine conservation which but a few years ago were largely limited to the strictly high-seas activities of various nations. Now, many nations have industrialized their fishing enterprises. Those in which industrial might has been merged with the political power of the government itself have brought unanticipated efficiency to the fishing scene. The result is an irresistible necessity to deal quickly with the problem of the conservation management of our marine resources. Hence, today it is apparent to one and all that some form of management is inevitable. To me it is ironic that that portion of the commercial fishing industry which has been the least regulated, and which has been the most vocal in demanding a reduction in foreign fishing competition, will likely be the first to feel the effect of regulation. I refer to fishermen of the Atlantic and Gulf of Mexico. Deserved or not, they will have brought regulation on themselves. For even if unilateral efforts to abate the excessive catches of foreign fleets in the western Atlantic are to no avail, it is apparent that in the long run, at some point in the future there will be domestic management based on international control.

For most of the fisheries on the east coast regulation will be a comparatively novel experience. Indeed most of our commercial fisheries even to this time are relatively untrammelled. To a large extent, only those controlled by international treaty operate under any semblance of regulation and only in the fisheries of the eastern Pacific has regulation proved to be reasonably effective and generally accepted.

Whether we like it or not, it would seem that there is considerable validity in the charge made by Carl Crouse, Director of the Washington State Department of Game, who, in an entirely different context, recently said, "In addition, I know of no renewable resource that has been managed by the people who commercialize on it that has been able to sustain itself on a perpetual and continuing basis." Crouse based his conclusion on more than a quarter of a century of observing the fisheries of our west coast. But the pattern has been generally the same from coast to coast. When a fishery was first opened to exploitation, the effort expended was less than the product capability of the stocks. But effort increased and as the standing crop diminished, fishing pressure continued to increase until the population had been fished into economic extinction. Finally, a kind of management regimen was established for the submarginal stock which purported to keep the effort constant with the biological portion of the stock. Granted that the conclusion is still arguable, some stocks, like that of the California sardine, have never returned to levels of former abundance. Others, like the Pacific halibut, have been brought back only to suffer again at the hands of excessive and unregulated exploitation.

In simplistic terms, increased fishing efficiency and increased effort have put inordinate pressure on fish stocks around the world. This phenomenon, based on the economics of scarcity, and the desire for profits first and conservation second, has only recently been recognized by fisheries experts generally. As a group, we fisheries people have tended to believe that the capability of fishery stocks to sustain themselves was far greater than it actually proved to be. Moreover, many have had a head-in-the-sand attitude and have been un-

willing to accept the fact that fishing enterprise could be so skillfully and powerfully organized that it could put sufficient strain on a great ocean fishery to bring it below the point of self-maintenance.

It would seem that the only species which are not suffering from the impact of the brutal onslaught of the foreign fishing fleets on the Atlantic east coast are those which by nature spend a substantial amount of their lives within the U.S. fisheries zone, or are not readily taken by conventional gear. One must surmise that it is the lack of intensive predation by fishermen perhaps coupled with a return of some poorly understood ecological balance that has brought the striped bass and the Atlantic weakfish back from relatively low levels in the not too distant past to exceptional abundance in recent years.

CURRENT REGULATORY SYSTEMS NOT EFFECTIVE

Upon examination it appears that most of the regulatory systems which have been attempted (and there have not been many) suffered because of fatal, built-in, inadequacies. While it may be unfair to belabor the point, it is now widely accepted that the original concept of ICNAF (International Convention for the Northwest Atlantic Fisheries) contained a fatal flaw. The convention was designed to be enforced only by the participating countries upon their own nationals. Thus the United States is expected to enforce regulations against violations by U.S. citizens. All of the other signatory countries are expected to do the same. Such a scheme is viable only to the extent that it is in a particular country's best interest to enforce the regulations. For reasons that may be touched upon later, regulations pertaining to fishing are frequently not taken very seriously. This seems to be true whether we are concerned with fishing on a farm pond or trawling in the northwest Atlantic. Moreover, the ICNAF system did not initially provide for effective surveillance of catch; nor was it attended by the breadth and intensity of scientific study necessary to determine what might be happening to the exploited populations. Now, at the eleventh hour when a crisis has developed, ICNAF has acquired a set of dentures but only after it had come to be held in disrespect as a regulatory mechanism by friend and foe alike.

In general then, there has been almost no attempt at regulation in the Atlantic and when it has come about, the regulations have frequently been the result of misguided political concepts of fishery problems rather than realistic applications of biological knowledge to the solution of fisheries problems. The situation is not so bleak, at least in principle, on the west coast, where a number of management schemes have been in force for many years.

These comments have generally been related to the question of regulating fisheries. The control of exploitation of other marine resources or the regulation of practices inimical to living marine resources are, to all intents and purposes, nonexistent. Several states and the U.S. Fish and Wildlife Service began showing concern about the destruction of estuaries and other coastal areas critical to certain valuable marine species some 20 years ago. For an equal period there

have been both national and international attempts to control the pollution of the oceans, particularly that caused by the discharge of oil from tankers. How effective these efforts have been may be judged by the fact that in retrospect the principal feature of Heyerdahl's experience in crossing the Atlantic several years ago was the prevalence of trash—blobs of oil, plastics, a cross section of the disposal material we are throwing all over the earth.

We find little change in the effectiveness of the regulatory mechanisms designed to cope with these problems. The international control of oil pollution is still not a fact. There is no effective means of preventing littering of our oceans, no more than there is of our highways. Some of the major companies have undertaken the development of strict regulations of their own vessels, but for every one which operates under a code of good behavior there are scores of other ships to whom the idea of prevention of oil leakage or dumping is an unthinkable sophistication. We finally do have a coastal zone management program which is designed not necessarily to give protection to the essential breeding and nursery areas upon which the wealth of our marine fisheries depends, but rather to give support to state systems for decision making in the coastal zone. I consider NOAA's handling of the Coastal Zone Management program to be a model of sensitive and effective administration. Unfortunately, in order to get any attention in law for the coastal zone it was necessary to accept language that speaks only in highly subjective terms about estuary conservation.

The sum and substance of all this discussion, and I submit, the history of the regulation of the exploitation of marine resources in the United States, is that it has been more notable for its failures than for its successes. It reminds me of the story of the awakening of one of our game management agents a few years ago. He was required by a government-wide dictum to attend a school and take a few hours of training in supervision. He duly went to a Civil Service Commission supervisory training course and on his return I questioned him as to the results. He said, "Well, what they emphasized in this course was the need for responsible supervision; they defined responsible supervision. Mr. Gottschalk, I am not getting responsible supervision." One must conclude that it does not take a training course to bring us to the realization that we have not been getting responsible management of our marine resources.

ESSENTIALS OF A REGULATORY MECHANISM

Without attempting to define and describe the reasons for our shortcomings, let us consider some characteristics of what might be an effective management system. It seems to me that there are three basic essentials in any kind of a regulatory mechanism. They are basic in the sense that without any one of them the system is bound to fail, but that is not to say that there are not other things also that need to be done. For example, no system will work if the people it is designed to regulate are not told of the regulations. This means there has to be an education/information program. Likewise, regrettably, it seems to be a fact that any regulation ever made will, perforce, be broken. There must be some system which will keep violations to a minimum. One part of such a system is

an enforcement program. But these are secondary aspects of a regulatory system and there are undoubtedly tertiary and perhaps still other levels of complexity. But basic elements are fairly simple.

The first is *better knowledge* of the resource and the demands that may be made upon it. Regulation is but a part of management, and management is but making decisions based on intelligent interpretation of facts in order to achieve a predetermined goal. In fisheries it is essential to have a reasonable knowledge of the size composition of the fish stock, the rate at which that stock is being harvested, and its rate of recruitment or how rapidly it is being added to. Once these basic facts are available the manager is in a position to know in general what he must do, although he may still be in doubt, or dispute, as to how he should go about doing it. He may have to prove, for example, that a reduction in the size of a particular year class is due to over-fishing of that age group rather than natural mortality.

Our failure to mount programs which provide us with the statistics required to understand what is happening to our fisheries is one of the most frustrating aspects of our current fishery dilemma. Biometrics of the fisheries, or population dynamics of the fisheries, or just plain statistics of the fisheries, whatever you may choose to call it, is perhaps the least glamorous phase of fishery research. As such, it is therefore vulnerable to the attacks of those who tend to see budget in terms of what is attractive rather than essential. Granted that the development of a useful yet cost-effective statistical system is extremely difficult, the fact remains that one of the great gaps in the programs of the National Marine Fisheries Service is the failure to maintain a sustained effort to resolve the problem of gathering necessary statistics on fisheries. It is essential that not only a system for the collection of catch statistics be obtained but that various fisheries themselves be subjected to the kind of sampling which will answer questions about stock and recruitment.

It is not just that the fishery manager needs these statistics in order to make his recommendations realistic. There is another far more important need for reliable numbers. It boils down to this, that in a democracy, government succeeds only with the consent of the governed. It is not enough to have understanding and agreement on a common general objective. There must be agreement on specific objectives and on the means for attaining them. Even at that there is no guarantee that the public will perceive and support desirable goals and the requirements for their achievement. We have ample evidence that people sometimes will simply not heed even regulations that are designed to protect them. It is totally unrealistic to expect the fishermen to accept regulations which are built on hopes derived from bits and pieces of data, and then extrapolated into a regulatory framework subject to challenge at every turn.

On the other hand, it is not necessary to have the absolute last little morsel of information before going to the public with a regulation that generally makes common sense. Fortunately the precision of general fisheries management is not nearly as demanding as that of, say, a lunar expedition. On the other hand, if a high degree of refinement were essential and had we an unlimited amount of money, it would be simple to get the necessary data. It is a distinguishing

mark of the accomplished and successful fisheries manager that he is able to judge at what point his data are adequate for him to come to a reasonable conclusion about a need for the character of a regulation.

SECURE LEGAL AUTHORITY

The second basic component of viable management is a secure *legal authority* for the essential regulations. This may be axiomatic but it is neither simple nor to be taken for granted. There are in fact three jurisdictions, state, national, and international, and any successful fishery regime must take into consideration the origins, precedents, and logical application of all of these if any regulation is to endure. It is obvious that there is no way in which the states can deal effectively with problems out across the distant ocean and involving such complicated and interdependent fisheries as exist therein. Neither, for that matter, can the national apparatus work effectively on a totally unilateral basis. In the brave new world of the future, international cooperation must come to the fore as the basis for the utilization of the wealth of the seas, except when resources can rationally be allocated to those nations who face the sea. These can be handled as national resources, but since there is no way in which states can effectively deal with problems that arise on the high seas, any form of extended jurisdiction will certainly bring assumption of full authority for management by the federal government.

COOPERATION VITAL

This brings us to the third and last characteristic of a fishery management scheme and that is *cooperation*. If it should happen that the federal government does achieve domination of the management responsibility for our coastal as well as off-shore fisheries it must seek a responsible means of building into its regulatory mechanisms a large portion of public and state input both as to knowledge and authority. A regulation built on cooperation rather than authoritarianism may be more difficult, but in the long run it will go farther toward the achievement of the end we seek, namely, a self-sustaining fishery that will contribute the optimum to the American fishermen and people everywhere. There is also a very practical necessity for the cooperative approach. Whereas the states are generally unable to cope with the distant water problems, by the same token they are able to deal with their resident citizens, and are in a position to make a real contribution in research and regulation in inshore waters. Based on recent experience it is extremely doubtful if the federal government will ever secure the financing to take over the full responsibility for the operation of any kind of a regulatory system.

This is more than enough in the way of preface for the other discussions which will occupy the session this morning. I have attempted to make the case that regulation of our fisheries is not only needed but inevitable, and that such regulation when it comes will have to be firmly based on knowledge, authority, and cooperation. There is only one other point I would like to make. It is that if we

are realistic in looking ahead toward the future needs of our American fisheries, we must recognize that the fisheries are not held in the highest esteem in this country.

Our people are not fish eaters in the first place, even though per capita consumption appears to be increasing. Our people are not particularly fish conscious. Granted that about a quarter of our population goes fishing every year, fish lack the emotional appeal of terrestrial livestock. Cattle and sheep can be seen in the flesh or in Marlboro commercials, with a romanticized background of scenic splendor. The only denizens of the sea that have succeeded as the objects of public emotional romanticism have been the seals, dolphins, and whales, to which are attributed various prized human characteristics such as big brown eyes, high intelligence, and family fidelity. If none of these factors were important as the basis for public indifference to the nation's fishery resources, there is still the fact that fish are a common-property resource. The "property" of all, they become orphans in the decision making arena. We use our fisheries and our fisheries interests as pawns in international chess games, sacrificing them on behalf of transit through straits, national defense, energy requirements, or whatever.

Therefore, until the United States develops a supportive policy for our fisheries, we can hardly expect to have really effective marine conservation through domestic management. There has been a grand awakening of the American public to the significance of our dependence upon the natural, closed system that supports us. If we capitalize on this awakening, we can gain the support of the public for prudent stewardship of the resources we treasure. With that support, based as it must be on an understanding of the great significance of our fisheries in helping to sustain an increasingly crowded and hungry world, not only can we carry out the regulatory responsibility, but move toward the restoration of fisheries which have suffered for the lack of it as well.