

outside of territorial waters and the concerned states fail to agree on a common conservation program. The International Law Commission has likewise taken special account of this in its present consideration of high seas fisheries by providing for unilateral action under very strict conditions.

"It was the consensus of the Conference that it was not competent to express any opinion as to the appropriate extent of the territorial sea, the extent of the jurisdiction of the coastal State over fisheries, or the legal status of the superjacent waters of the continental shelf."

The Delegations of Chile, Ecuador and Peru filed the only reservations to these general conclusions. The results of the work at Rome were carried to Geneva within a matter of hours and placed in the hands of the International Law Commission, which was then in session. New draft articles on high seas fisheries resulted, and are presently being circulated by the International Law Commission for comment by members of the United Nations.

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## **DISCUSSION**

### **Biological Session**

Discussion Leader: PAUL THOMPSON

Discussion Panel: ERNEST MITTS,  
PETER LARKEN, W. W. ANDERSON

### **International Waters and the Fisheries**

FREDERICK TAYLOR

- Q. Anderson: In setting up international regulations on any fishery, would the seaward jurisdiction claimed by any nation or perhaps state be recognized in promulgating those regulations?
- A. Fred. Taylor: There is a difference of opinion between many states in the world as to the legitimate extent of the sovereign territory. There have been claims advanced to as far as 200 miles from the coast in the name of sovereignty and for the stated purpose of preserving the fishery resources of those waters. In the United States there is a three mile belt of territorial waters which is maintained. It comes into direct conflict with the 200 mile claims, particularly in respect to enforcement for conservation of fisheries in these waters. Sovereign nations are loath to relinquish the jurisdiction to prosecute a violator of conservation regulations to a foreign state if they feel the violation occurred in their own waters. It resolves into who is going to enforce the regulations and who is going to try violations. The United States will not relinquish the jurisdiction to prosecute internationals of a foreign state when the violation occurs in waters as yet regarded as high seas. That difference of national position on territorial waters enters into the conservation picture.

- Q. Larkin: Costa Rica has adhered to the Santiago Declaration, which means that they have accepted the claims of Peru, Chile and Ecuador to 200 miles off their coasts. How is that likely to affect the tuna conservation commission in which the United States has such a great interest?
- A. Fred. Taylor: The governments of Peru, Ecuador and Chile are the three that are identified with the Santiago Declaration of 1952, out of which this 200 mile claim came. We were informed that a protocol has been negotiated which would amend that Santiago Declaration, enabling other states to adhere to it. This would have the effect of causing any other state which signed the protocol to recognize the 200 mile principle. If my understanding is correct, this would amount to a declaration by Costa Rica constituting endorsement of the 200 mile principle. Costa Rica is a full party with us in the Tropical Tuna Commission. The Commission is concerned with the waters of the eastern Pacific, in which certain stocks of fish are found. The area covered embraces without distinction waters both inside territorial waters and the high seas outside territorial waters. Therefore the approach is on the stocks of fish basis rather than upon the geographical breakdown. In that way it is not necessary to decide where territorial waters begin and where they end. I would assume that even if there were a 200 mile claim advanced by Costa Rica and these other countries, so long as a distinction was not drawn between territorial waters and waters outside, the extent of territorial waters would not become really important to the continued work of this Commission.
- Q. Fieger: I would like to know how the United States reconciles its three mile limit as sovereign waters and claims ownership of the oil under the waters out to the end of the continental shelf.
- A. Fred. Taylor: The concept of the continental shelf and its resources is new; there is no long standing rule or custom relating or pertaining to it by which nations might be considered bound. Therefore, new rules may be promulgated with respect to it. The United States in 1945, by a precedence of proclamation, said that the resources of the continental shelf appertain to the jurisdiction and control of the United States, and is subject to its powers of disposition. In theory there is a possible lateral division between sovereignty over what is below and no sovereignty of what is above the bottom.
- Q. H. Taylor: Is there any need at all for international regulation of fisheries?
- A. Fred. Taylor: A great number of examples can be cited where international cooperation through commissions have rehabilitated fisheries and have prevented their over-exploitation, and protected them for posterity. We are not in this day and age desirous of waiting until a fishery resource has been struck down before trying to do something for it.

- Q. Whiteleather:** If the principles of the International Law Commission are generally adopted, say by a majority vote in the U. N. General Assembly in the near future, how are the number of nations of the U. N. bound by these principles?
- A. Fred. Taylor:** In assigning this particular study to the International Law Commission, the General Assembly of the U.N. did not indicate how it intended to implement any recommendations emanating from the International Law Commission. If there is substantial agreement on a set of articles on which the Law Commission is expected to make recommendations, a convention would be opened for that purpose and it would not be the subject of a majority decision from the United Nations. A convention would be opened for signature and ratification, binding against only those who did in fact sign and ratify. This would be a voluntary act on the part of the individual governments, in the form of a convention.
- Q. Gilbert:** Are there any articles in the International Law Commission that govern the possibility of forcing a nation to join in a convention for conservation of the population of fish when it does not do that particular nation any good?
- A. Fred. Taylor:** If a newly entering state does not comply with the existing regime, the matter will be taken to a Board of Arbitration.

### **Principles in Arbitrating Disputes Between Commercial Fisheries and Sponge Fisheries**

J. L. MCHUGH

- Q. Mitts:** What methods in your educational program have you found to be most effective?
- A. McHugh:** The television programs have been the best, because of the coverage. We also use newspapers, and have had a great success with this.
- Q. Hoover:** Is it true that in some cases the sports fishermen compete seriously with the commercial fishermen?
- A. McHugh:** This is true, particularly with regard to striped bass. We have had no complaints of the sort where the sports fishermen sell their catch.

### **The Management of an East Coast Fishery**

GERALD TALBOT

- Q.**
- W. W. Anderson:** What is the definition of depletion?
- A. Talbot:** Dr. Schaefer answered that very well several years ago. His definition of depletion was when the production of a fishery gets below its maximum productivity level it is then depleted. We are striving in our work to get the most out of a fishery that we can on a continual yield basis. When we are not

getting that because a fishery stock has been reduced to a low level, then I would say that we are in a state of depletion, with some more serious than others.

- Q. In maintaining the population of shad in a river, what is the most important factor contributing to this?
- W. W. Anderson:
- A. Talbot: In managing the fishery, the first thing we need is good fishery statistics.
- Q. Greer: How do you figure tagging mortality?
- A. Talbot: We found that tagging had little effect on the fish.
- Q. Greer: Have you any data on the tagged fish staying together?
- A. Talbot: Apparently they do stay together during their migrations.

## Principles in Regulating Shrimp Fisheries

GORDON GUNTER

- Q. How important are social and economic problems when regulating a fishery of this type in inshore waters?
- W. W. Anderson:
- A. Gunter: There are a great number of things to be considered, before any decision could be made. The regulations which I have suggested are largely on a value basis, because this is the way the fishermen operate. The important thing is the proper utilization of the shrimp during any given year.
- Q. Larkin: Is the mortality rate in the order of 96% a week, and if so, would it not pay to harvest the small shrimps?
- A. Gunter: If the mortality rate were that high, I do not believe any of them would last for a year. The point of highest mortality is on the drifting larvae. After they get into the bays, they are in an area where they have more enemies. In the beginning they are somewhat protected from the larger fish by their very small size, and they live on the bottom. I suspect that the time spent in the bays is the period when mortality is the lowest. The 60 count shrimp is on the edge of being economically useful, but if those shrimp increase to a 30 count shrimp in seven days they are worth a great deal more. From a standpoint of value, you can have half as many, or possibly even a quarter as many, shrimp and get as much money for them. You have to have a terrifically high mortality to offset that fast growth rate.
- Q. Strasburger: Did I understand you correctly to say that 60 count shrimp were on the borderline of economic feasibility? If that is true, how do you account for the use by canneries and dryers of large amounts of shrimp of sizes from 100 to 120 to the pound?
- A. Gunter: There are some shrimp caught in Louisiana which are not of the species we are treating. I am glad to know that they are using such small shrimp; I saw those small shrimp canned several years ago, but I thought they had abandoned it.
- Strasburger The shrimp to which I refer are the small brown shrimp

- (Comment): which are canned in the spring, starting in April and running through June. They are canned in Louisiana, and they are one of the three species of which we were speaking. Their use has become so extensive that in developing grade standards a new classification was added about two years ago utilizing the term "tiny" to cover these small shrimp which were being canned.
- Q. Strasburger: You infer that the growth rate is very rapid, and that the shrimp increase will go from a 60 count shrimp to a 30 count shrimp within approximately seven days. If that is the case, how would you account for the appearance, in the exact same area, of shrimp which maintain approximately the same size, and show very little size differences during the peak period of growth. I would say that it takes about five to seven weeks for the change of 60 count shrimp down to a 25 or 30 count shrimp.
- A. Gunter: I would account for that by "feeding in" to the population of shrimp which were below a catchable size at the time the fishermen were fishing. For a good many years it was always a puzzle to me as to where the shrimp came from so suddenly in the fall. In the latter part of August and September, they suddenly come in in the thousands of pounds. They apparently came in from the tiny shrimp which you could catch if you had plankton nets. They grew apparently that fast. I think those shrimp grow and move on out and other little ones are entering all the time from that subcommercial population. This will hold the size limit down. You can fish in certain areas and measure all the shrimp caught, and the size of the average will decline; it will not go up nor be maintained, but decline. I think that is because the small shrimp are entering faster than they have been before.
- Q. Strasburger: This summer boats out of Biloxi were fishing brown shrimp off Horn Island area. They started off approximately in the middle of June, and in general the small shrimp were roughly 75 to 80 per cent of the catch, running around a 50 to 60 count. It was the latter part of July before those shrimp had gone to a 30 count shrimp.
- A. Gunter: We made studies of how many shrimp were to be found on the bottoms on various areas, and the results were very surprising. The amounts were very small, and led Burkenroad to suggest that possibly there are less shrimp present on the whole fishing grounds at any one time than the annual production of the whole area. If that is the case, then it is unique in any fishery as far as I know, and can only be explained by this fast growth rate.
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