

of the five Gulf States met at that time as a Committee on Arrangements to develop necessary plans for the signatory meeting at Mobile, Alabama, on July 16, 1949. On that date the Commissioners of the member states met and witnessed the formal signing of the Compact by Governor James E. Folsom of Alabama. The machinery was thus set in motion to accomplish the purposes for which the Compact was intended. An organizational meeting was held at Houston, Texas on the 13th and 14th days of October, 1949, when rules and regulations for the Commission's procedure were adopted. The services of a permanent Secretary-Treasurer were secured and headquarters for the Commission was established at New Orleans, Louisiana. Arrangements were discussed whereby our research agency, the U.S. Fish and Wildlife Service, would place in operation two vessels in the Gulf waters to conduct an intensive research and exploratory program.

In conclusion, it should be stated that great things are expected to arise out of our Gulf States Compact. The intimate association with such an outstanding organization as the Gulf and Caribbean Fisheries Institute and its splendid work should prove of untold benefit to the Commission in its attempt to promote the better utilization of the fisheries of the Gulf Seaboard. The Commission is looking forward eagerly to a record of achievement. It is hoped that many vexing problems which are common to the Gulf States can be solved by providing a central forum where representatives of the states concerned can discuss these problems until satisfactory answers are attained. A thorough program of exploration and research should provide fisheries information which will be invaluable to the commercial industry as well as to the State Conservation Agencies which are charged by law with the duty of preserving and protecting the marine, shell and anadromous fisheries of the Gulf of Mexico.

The Atlantic States Marine Fisheries Commission and the International Conference on the Northwestern Atlantic

WAYNE D. HEYDECKER, *Secretary Treasurer*
of the Atlantic States Marine Fisheries Commission

EARLY IN 1945 there was evidence of growing concern about possible increased fishing pressure on stocks of fish supporting international fisheries like those on the Newfoundland Banks. At the same time there were reports of possible future treaties that might be negotiated with respect to such fisheries.

Accordingly the Executive Committee of the Commission, meeting in New York on February 23, 1945, authorized the Chairman to appoint a committee to inform the U.S. State Department of the interest of the Commission in such matters and of its desire to participate therein. Such a committee was appointed and it met with officials of the State Department and the U.S. Fish and Wildlife Service at the State Department on April 3, 1945. At that meeting the committee urged the Department to establish some procedure for consultation with the states on a regular basis with respect to conservation matters affecting the states and cited as precedents the treaties affecting halibut, salmon, and migratory birds and the treaty relating to the Great Lakes.

The committee pointed out the advisability of keeping the states continually informed of progress on such matters because in the last analysis enforcement and administration are best accomplished at the points of landing. After a full

discussion of these points no formal conclusions were reached, but no marked differences of opinion developed.

In September of 1945, the Fourth Annual Meeting of the Commission adopted unanimously a resolution patterned on one adopted in August by the New York Joint Legislative Committee on Interstate Cooperation, asking the creation of such a permanent channel of communication to the states. The resolution is too long to present in full. Briefly, it recited the dangers that might arise if states, in the protection of their own interests, were compelled to oppose ratification of a treaty or to insist on crippling reservations, as has frequently happened in the past. It urged the Council of State Governments and the Governors Conference to use their influence to bring about a suitable permanent method of consultation by the federal government with the states, on matters which tend to impinge on the field of activities that have traditionally been the function of state governments, and it asked the Commissions on Interstate Cooperation in the several states to back this proposal.

It is interesting to note that on the same day in Washington, President Truman issued two proclamations relating respectively to the mineral resources of the continental shelf and the fisheries in waters contiguous to our coasts. The latter proclamation asserted the propriety of unilateral action by the United States to establish conservation zones for such fisheries developed by nationals of the United States alone, and the willingness of the United States to establish such conservation zones by joint action with our other governments where such fishing activities have been or may hereafter be developed and maintained jointly by nationals of the United States and of other nations. This fisheries proclamation also conceded the right of other nations to establish conservation zones in accordance with the principles above enunciated.

The assertion of national policy in such proclamation by the President gave added emphasis to the request made by this Commission for the establishment of an appropriate permanent liaison procedure between the federal government and the coastal states, because the scope and content of any international agreements that may be entered into are of vital concern to the coastal states, and are matters on which they are entitled to be consulted and to participate in formulating policy. Moreover, the effectiveness of the enforcement of the provisions of any such international agreement depends in no small measure upon the cooperation of the fishery administrations of the several states.

Further impetus to the movement for state participation in treaty making initiated by the Atlantic States Marine Fisheries Commission was given by the Exploratory Intercoastal Conference called by the Commission in Washington on May 16 and 17, 1946. This conference was attended by representatives of ten states from the Atlantic Coast, two from the Gulf Coast and two from the Pacific Coast. Six of these states were also represented by their Attorneys General or their deputies. At this Intercoastal Conference a resolution was adopted asserting that "under our federal system effective utilization of international treaties is dependent on the development of federal state cooperation." Accordingly the resolution went on to ask that in the steps leading up to the negotiation of a treaty the states be consulted and that in the negotiations themselves and in any international commission or agency established for regulatory or administrative purposes, the states be afforded opportunity to participate by suitable representation.

With respect to all of these matters, it should be made clear beyond the possibility of misunderstanding that the interest of this Commission and its activities in this field of federal-state relationships have been inspired by no

hostility to the agencies of the federal government and by no slavish adherence to the academic doctrine of states rights, but rather have been actuated by a sincere recognition on the part of the state officials in this Commission, that under our federal system there rest upon the states responsibilities long established by judicial decision.

During 1947 the Pacific Fisheries Conference, representing the industry on that Coast, sponsored a strong movement for the creation of the post of Assistant Secretary of State for Fisheries. The Atlantic States Commission endorsed the proposal. The objective sought was not secured in full but a special fisheries office was created with the title Special Assistant to the Under Secretary of State. Dr. Wilbert M. Chapman, Director of the School of Fisheries of the University of Washington, was appointed to this post and has filled it with distinction. Prior to Dr. Chapman's appointment the fisheries unit of the State Department, headed by William E. S. Flory, in numerous confidential conferences with officers and committee members of the Commission, had discussed various suggestions then being considered in relation to a proposed treaty on the North-western Atlantic. After Dr. Chapman's appointment these cordial conferences were continued. On at least three occasions Dr. Chapman or Mr. Flory and other representatives of the State Department at closed meetings of the Commission discussed in detail the latest tentative draft of the proposed treaty on the Northwestern Atlantic. The Commission in turn arranged individual conferences with the administrators in all states affected and with groups of industry representatives, and accompanied representatives of the Department on two trips through the states directly concerned. Out of these conferences arose suggestions, many of which were incorporated into subsequent drafts of the proposed treaty. In a very real sense, therefore, the states participated actively from the beginning in the determination of the United States position and the preparation of the draft of the treaty offered to other nations.

When the eleven nations concerned were invited to assemble in Washington in February 1949 to negotiate the Convention or Treaty, the State Department invited the Commission to suggest three persons to serve on the United States Delegation: One as a plenipotentiary and two as advisory members. Because of his long association with the State Department, the Commission recommended its Special Advisor, Frederick L. Zimmermann as plenipotentiary member, and Richard E. Reed, Commissioner of Sea and Shore Fisheries of Maine, and Wayne D. Heydecker, Secretary Treasurer of the Commission as two advisory members. All three were appointed to serve on the United State Delegation, and took an active part in the Delegation meetings where day-to-day strategy was developed as the conference proceeded. They were also active in fulfilling assignments made by Dr. Chapman as head of the Delegation. At an international conference, after the preliminary position of each government is made known, the actual negotiations customarily involve the winning of support from members of other delegations for points deemed essential and the making of such concessions on other matters as are necessary to obtain agreement on major objectives. Dr. Chapman, on several public occasions, has been good enough to declare that the assistance rendered to the State Department by this Commission and its representatives from the beginning of the operation to the completion of the Treaty and its final ratification by the United States Senate has been most helpful and significant.

It will thus be seen that through the generous cooperation of the State Department, representatives of the states through this Commission were afforded the opportunity of participating in the preliminary discussions leading up to the

draft of the treaty, and in the actual negotiation of the treaty with representatives of foreign governments. Two of our three original objectives were thus fulfilled. The one remaining request made by the Commission at the first conference in 1945 was that, in the final international body created to administer the treaty, there should be in the U.S. Delegation a representative of the state viewpoint. In the implementing legislation proposed by the State Department and approved by a special committee of this Commission following a meeting in Boston on May 9, 1949, recognition is given to the remaining points stressed by the states, namely, the implementing legislation provides for state representation on the International Commission and contains a clause to safeguard state jurisdiction in the following terms:

"Section 9

"Nothing in this act nor in the Convention shall be construed to impair the fishery jurisdiction of the several States, nor to prevent in any way the several States from giving protection to stocks of fish not covered by regulations adopted by the United States pursuant to proposals of the Commission, nor from giving additional protection to those stocks of fish covered by such regulations."

In that form the bill has the unqualified endorsement of the Commission for it believes that the provisions quoted adequately safeguard the interests of the states.

It is appropriate to say that the developments herein described represent a new high in federal-state cooperation. At every point from the first meeting in 1945 to the signing of the Convention and the preparation of the implementing act there was involved not only the cooperation of the State Department but also that of the U.S. Fish and Wildlife Service, whose staff members acted as advisors both to the State Department and to the Commission. The pattern of cooperation thus established has already served as a precedent for similar cooperation among the State Department, the Fish and Wildlife Service, and the states of the Pacific Coast in the negotiation of two treaties also recently ratified by the Senate, dealing with the tuna fisheries of the Pacific Ocean off the coasts of Mexico and Costa Rica. From a national viewpoint the results of such federal-state cooperation are of even greater significance.

As a result of state participation through the medium of the Atlantic States Marine Fisheries Commission, one of the most ambitious fisheries treaties in the history of the world has been speedily ratified by the United States Senate without a single reservation or dissenting vote. Contrast this with past history with respect to fishery treaties where delay, frustration, and weakening reservations have been all too frequent because of past failure to recognize the importance of state participation in our federal-state system. It is only necessary to cite the delays caused by the State of Washington in the ratification of the Sockeye Salmon Treaty, and delay and reservations insisted on by that state with respect to the Halibut Treaty. More recently, opposition by Ohio has blocked the ratification of the Great Lakes Fishery Treaty still pending in the Senate.

The last four years have established a new pattern that augurs well for the future. It has been demonstrated that state participation and federal-state cooperation functioning through an effective cooperative interstate agency have given a new vitality and new significance to our federalism. That pattern of federalism established by our forebears is not outmoded. On the contrary, it works smoothly, rapidly, when its constituent parts are synchronized. With effective use of the interstate fisheries commissions now established on all three

coasts and with the precedents established in the treaty on the Northwestern Atlantic, there is every reason to believe that effective federal-state cooperation in these matters will be the pattern of the future.

Potential Products From Gulf or Sargassum Weed

FRED W. DAVIS

Research Assistant, Marine Laboratory, University of Miami

IN THE 1948 ANNUAL of the magazine, *Southern Fisherman*, it was said, "One of the least publicized and underexploited . . . yet one of the most valuable marine resources of the world is seaweed." This is just as true of the Caribbean area as of any other, and a few words regarding the possible utilization of the seaweeds are certainly not out of order.

The Caribbean area has various kinds of seaweeds, but this paper is limited to comments on one, the brown marine alga, *Sargassum*, perhaps more commonly known as Gulf Weed. Actually there are two types. One is attached to the bottom and grows along the coast in comparatively shallow water. So far as is known there are no large beds of this type and it is, therefore, not likely to become of much importance. The other type of *Sargassum* is free floating and is found in the Sargasso Sea and the Atlantic west of there, in some parts of the Caribbean Sea and in the Gulf of Mexico.

A study of the literature discloses that the brown algae, in general, are sources for algin, among other constituents. This study of *Sargassum*, one of the brown algae, has been directed primarily to determine the amount of algin available and the best methods of recovering it, but with consideration of the other constituents also.

Parr, in a paper titled "Quantitative Observations on the Pelagic *Sargassum* Vegetation of the Western Atlantic," has given the only general report on the availability of the floating *Sargassum*. He states that the Sargasso Sea includes about two million square miles and that floating *Sargassum* averages 2 to 5½ tons per square mile. On the other hand, he estimates floating *Sargassum* in the Gulf of Mexico to average one ton per square mile for a total of 90,000 tons. Furthermore, it is indicated that the seaweed in the Gulf is the result of fresh weed floating in from the Atlantic. Hence there is a large quantity of Gulf Weed available, and probably concentrated in several places so that it would not be too difficult or expensive to harvest. Collection of a floating seaweed would be much easier than mowing of an attached and perhaps submerged one. Some of the beaches of the Atlantic and Caribbean islands should be good for collection of *Sargassum*.

Is it worth collecting seaweed generally for colloid materials? Samples have been taken of both the fixed and the floating varieties of *Sargassum*. Complete analysis has been made of the former. Determination of algin, laminarin, mannitol, and fucoidin have been made on both types on actual separation of these constituents. At the present time there is underway at the Marine Laboratory of the University of Miami a year-round monthly analysis for these main constituents in the floating *Sargassum*, along with other simpler sugar materials. Obviously, for any commercial utilization it is necessary to know all about any variations in the amount of algin and other substances available.

Analyses show the fresh *Sargassum* to be about 85 per cent water and the air-dried seaweed about 15 per cent moisture. On the dry basis it averages 17