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The International Commission for the Northwest Atlantic Fisheries: An Experiment in Conservation
Peter Z. R. Finkle*

Introduction
From the sixteenth to the middle of the twentieth century the classical legal doctrine of the freedom of the high seas permitted the continuance of unregulated marine fisheries. At least beyond the narrow limits of the coastal state’s territorial sea, the fisherman was generally recognized as free to ply his trade in whatever manner and to any extent he chose. Though disagreements about fishery matters were common in international diplomacy, states did not dispute their freedom to fish the high seas without regulation. Both in the Northeast and Northwest Atlantic the issues of fishery diplomacy were largely restricted to marketing problems, landing rights, reciprocal use of territorial seas and similar problems.

Moreover, little progress was made by the North Atlantic states in the development of fishery management programs prior to World War II. The management of fish stocks was first discussed among the scientists of various states working within the framework of the International Council for the Exploration of the Seas (ICES). Only later during the 1930’s did conservation of North Atlantic fish stocks become a matter of serious concern in the world of diplomacy. But even then the traditional rivalries and suspicions among the European states of the North Atlantic had spillover effects in fishery management discussions, which were characterized by an increasingly hostile political climate up to the outbreak of war. Moreover, the need for a well developed concept of environmental management had not yet

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been grasped by the fishery scientists, much less by diplomats or the public at large. Although the European states knew by the late 1940's that they would eventually have to accept a reduction in catch if they wished to solve the problem of stock depletion, most fisheries in the Northeast Atlantic remained unmanaged until the fishing industries of the coastal states were faced with ruin.

In the Northwest Atlantic fishery conservation did not become a diplomatic issue until after World War II. In the Northeast Pacific fishery conservation had become an issue in bilateral diplomacy between Canada and the United States somewhat earlier, but managerial concerns on the Atlantic seaboard had remained less urgent despite a vexatious history of fishing disputes over rights of capture. Then rather suddenly, in early 1949, the majority of states fishing in the region were able to conclude at Washington, D.C., the International Convention for the Northwest Atlantic Fisheries. The signatories included all the coastal states in the region: Canada, the United States, France (for St. Pierre and Miquelon), Iceland, Britain (for Newfoundland before Confederation), and Denmark (for Greenland). Significantly, the Convention was brought into force within a year of signing by the ratification of four of those coastal states: Canada, Iceland, U.K. and the U.S.A. Danish ratification was delayed by six months. Adherence by the distant water fishing states of Spain, Norway, Portugal and Italy was delayed until 1952. France, perhaps acting more on behalf of her distant water fleets than for her interests in St. Pierre and Miquelon, delayed her ratification until 1953.

The primary purpose of the Convention was to establish an international agency to "[provide] protection and conservation of the fisheries of the Northwest Atlantic Ocean, in order to make possible the maintenance of a maximum sustained catch from those fisheries . . .". The agency was entitled the International Commission for the Northwest Atlantic Fisheries (ICNAF). The creation of the Commission was a surprising development in light of past unsuccessful attempts at fishery management and the large number of fishing states sharing the marine environment of that region. Moreover, at the time of the Washington Conference the region had experienced only very localized depletion of fish stocks in the intensively fished

2. 157 U.N.T.S. 158.
3. See Table 1, appended.
4. Preamble to ICNAF Convention.
waters off New England. The motivation necessary to prompt the creation of an international agency appeared to be lacking.

On the other hand, the absence of urgency permitted the states fishing in the region to negotiate without contemplating immediate losses which would result from any limit on their catch. Nor did they have to grapple immediately with the problem of equitable distribution among the user states. These ICNAF states were, for the most part, friendly and cooperative. The coastal states of Great Britain (for Newfoundland), Canada, and the United States had just come through a period of close collaboration as allies at war. The remainder of the coastal states (France, Denmark and Iceland) had joined with the Anglo-Saxon trio in facing a mutually perceived threat from the Soviet Union. Politically, a more auspicious moment could not be found. But ICNAF, though created at this opportune moment, had to face environmental and political changes which would severely test its structure and processes. While the Commission would not serve as a diplomatic forum for non-management fishery issues, which were to remain in traditional diplomatic channels, it did become the main vehicle for fish management and conservation in the Northwest Atlantic region.

Authority

The convention which created ICNAF explicitly recognized the traditional differentiation between the territorial sea, where the coastal state exercises exclusive (sovereign) jurisdiction, and the high seas. The authority of ICNAF extends only to the high seas beyond the coastal states' jurisdiction.

This familiar legal dichotomy has, of course, created an anomaly for fishery management in this region, as well as elsewhere. This conservation regulations of ICNAF (which will be discussed later) must be made on the basis of biological factors, and the most obvious of these is that many of the species in the region move continually between the territorial regime of the coastal state and the convention waters on the high seas. This means that certain stocks escape the conservation measures of any one management agency, since ICNAF and the coastal state sometimes work at cross purposes.

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6. ICNAF Convention, Article 1.
The gulf between the political and legal realities, which demand recognition of two management regimes, and the biological reality that fish move about without regard to artificial lines will not be easily bridged and may continue to hamper attempts at coordinated management of fish stocks.\textsuperscript{7}

The authority which ICNAF wields over the high seas of the Northwest Atlantic has not, of course, changed the legal nature of these waters, either for states which adhere to the Convention or for non-adhering states. Since proposed restrictions under the auspices of ICNAF must be specifically accepted by the parties, there is no effective guarantee of a curb on the freedom of fishing. Under the original Convention procedure, it was provided that all Panel member states which would be affected by a proposal adopted by the Commission had to agree to the restrictions before it could come into force for any,\textsuperscript{8} and any Panel member state could opt out of the regulation one year after it had taken effect.\textsuperscript{9} States which adhered to the Convention were thus bound only by their own consent for a limited period. The procedure required not only unanimity, but active unanimity — abstention by an affected state killed the regulation for all states. The 1949 treaty did not interfere with freedom of the seas; if anything, it expanded the concept!

Steps were taken to correct this anomaly in June 1964 when the Commission adopted, by Resolution, a Protocol to the International Convention for the Northwest Atlantic Fisheries Relating to Entry into Force of Proposals Adopted by the Commission;\textsuperscript{10} and ten years later this Protocol has now become operative. This modification replaces the original system with a system of automatic effectiveness after six months in the case of certain kinds of proposals, and in other cases with a procedure whereby dissenting member states are required to file notice of objection within six months. Even in the latter case, moreover, objection by less than a majority of the states does not void the measure for non-objecting states: objections merely delay institution of the regulation for a sixty day period\textsuperscript{11}. Though not a perfect solution to the problem of overfishing in Convention waters,

\textsuperscript{7} For example, the "sardine" fishery off Maine and New Brunswick.
\textsuperscript{8} Article VIII, par. 8.
\textsuperscript{9} Article VIII, par 9.
\textsuperscript{10} Handbook of the International Commission for the Northwest Atlantic Fisheries (1969 ed.) 35. [Hereafter, Handbook]
\textsuperscript{11} Ibid., at 36.
it represents an important modification of the right to ignore internationally agreed conservation measures on the high seas. Yet while it would seem less than good politics to ignore regulations which other states have agreed to and are adhering to, on occasion this is still being done.\textsuperscript{12}

The authority of ICNAF encompasses not only instituting and recommending statistical and scientific studies which are the basis for regulatory action, but also proposing fishing restrictions and regulations. However, since these proposals do not become enforceable as international regulations over the objections of member states, ICNAF should not be viewed as a regulatory agency in the proper sense. While the recommendations of ICNAF may have substantial political impact, because of the composition of the membership of the international agency, legally the individual states retain a high degree of discretionary authority.\textsuperscript{13}

In order to function as an organization, ICNAF is provided with a variety of administrative powers. The Commission is required to hire an executive secretary and, through him, a staff,\textsuperscript{14} make a budget,\textsuperscript{15} conduct and call meetings, initiate proposals, undertake scientific investigations, maintain and collect statistical data and issue publications.\textsuperscript{16} Through its permanent staff, which maintains permanent office in Dartmouth, Nova Scotia, the Commission is able to maintain an organizational existence with some degree of autonomy.

\textit{Membership}

Membership is apparently open to those states that share a "substantial interest in the conservation of the fishery resources of the Northwest Atlantic".\textsuperscript{17} Sixteen states that satisfy this requirement have so far adhered to the Convention. All coastal states in the region are in

\begin{footnotesize}
\begin{enumerate}
\item For example, the Danes did so to protect their Greenland salmon fishery in 1971.
\item This is especially true in the context of annual quota negotiations. C. T. Francis Jr., "Northwest Atlantic Fisheries Arrangements: A Test of the Species Approach" (1973), 1 Ocean Development and Int'l. L.J. 65.
\item ICNAF Convention, Article III.
\item Article XI.
\item Article VI.
\item This language is used in the Preamble to the Convention to describe the original contracting Governments. From this it may be inferred that it constitutes the sole test of eligibility for membership, but the text itself contains no express provision on the conditions of membership.
\end{enumerate}
\end{footnotesize}
fact members, but even if that were not so, it is likely that any coastal state in the region, whether or not it conducted a fishery in the region, would be automatically entitled to membership by virtue of its special interest in the maintenance of the productivity of the living resources of the high seas adjacent to its territorial sea.\textsuperscript{18} Protein-poor, under-developed states outside the region might also be said to share a "substantial interest" in fishery conservation, though the Convention did not anticipate this sort of membership. Other provisions of the Convention restrict Panel membership to states either conducting an active fishery in the area or to coastal states situated adjacent to the subarea.\textsuperscript{19} States which have anticipated joining ICNAF have generally attended one or more annual meetings as an observer before adhering to the Convention: for example, Japan, Poland, and the U.S.S.R.

Member states of ICNAF do not agree to any clearly defined environmental responsibility, merely proclaiming by their ratification that they share an interest in conservation of fish stocks. Their responsibility for the operation of the Commission is, however, quite clearly detailed. Each member government may appoint three commissioners as well as one or more experts or advisers;\textsuperscript{20} however, each state casts but one vote.\textsuperscript{21} Besides being obliged to provide commissioners, the states also bind themselves to undertake financial obligations, as necessary, to sustain the Commission.\textsuperscript{22} Member states may be called to provide one of their Commissioners to serve as chairman of various Panels and committees.\textsuperscript{23} Any ICNAF member state may send non-voting observers to attend meetings of committees or Panels of which they are not members.\textsuperscript{24}

\textsuperscript{18} The 1958 Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas (559 U.N.T.S. 268) provides in Article 6, that

1. A Coastal State has a special interest in the maintenance of the productivity of the living resources in any area of the high seas adjacent to its territorial sea.
2. A Coastal State is entitled to take part in an equal footing in any system of research and regulation for purposes of conservation of the living resources of the high seas in that area, even though its nationals do not carry on fishing there. This principle of special interest is generally believed now to be established in customary international law, so that it can be invoked by coastal states which have not expressly given their consent to the 1958 Geneva Convention.

\textsuperscript{19} ICNAF Convention, Article IV, par. 2.
\textsuperscript{20} Article II, par. 2.
\textsuperscript{21} Article II, par. 7.
\textsuperscript{22} Article XI, par. 1.
\textsuperscript{23} See, for example, Article IV, par. 1.
\textsuperscript{24} Article IV, par. 5.
Ten years or more after adhering to the International Convention, states may terminate their membership in ICNAF, if six months' notice is provided. States may withdraw at any time, however, with one month's notice should they receive notice of another state's termination of membership. No state has so far withdrawn from ICNAF, though Canada and the United States have threatened to do so. Non-member states are neither bound by ICNAF nor required to join, even if they fish in the ICNAF area. Political pressures, however, are such that almost all states fishing in this region have joined, some even before extensive fishing operations were undertaken. Bulgaria and Japan are the most recent new members.

TABLE I

Membership of ICNAF

<table>
<thead>
<tr>
<th>State</th>
<th>Date of Adherence of Ratification</th>
<th>Behavior**</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>1 September 1949</td>
<td>C</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>15 December 1949</td>
<td>L</td>
</tr>
<tr>
<td>Iceland</td>
<td>13 February 1950</td>
<td>C</td>
</tr>
<tr>
<td>Canada (including Newfoundland)</td>
<td>3 July 1950</td>
<td>L</td>
</tr>
<tr>
<td>Denmark</td>
<td>4 December 1950</td>
<td>L</td>
</tr>
<tr>
<td>Spain</td>
<td>17 January 1952</td>
<td>L</td>
</tr>
<tr>
<td>Norway</td>
<td>3 July 1952</td>
<td>L</td>
</tr>
<tr>
<td>Portugal</td>
<td>19 July 1952</td>
<td>L</td>
</tr>
<tr>
<td>Italy</td>
<td>19 August 1952</td>
<td>L</td>
</tr>
<tr>
<td>France</td>
<td>27 January 1953</td>
<td>L</td>
</tr>
<tr>
<td>Federal Republic of Germany*</td>
<td>27 June 1957</td>
<td>L</td>
</tr>
<tr>
<td>Union of Soviet Socialist Republics*</td>
<td>10 April 1958</td>
<td>L</td>
</tr>
<tr>
<td>Poland*</td>
<td>21 November 1961</td>
<td>L</td>
</tr>
<tr>
<td>Romania*</td>
<td>21 March 1967</td>
<td>L</td>
</tr>
<tr>
<td>Japan*</td>
<td>1971</td>
<td>L</td>
</tr>
</tbody>
</table>

**C indicates behaved primarily as coastal state

L indicates behaved primarily as long distance fishing state

The Commission is specifically directed by Article X of the Convention to maintain liaison with other public international organizations: both the International Council for the Exploration of the

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25. Article XVI.
26. For example, Italy and, more recently, Japan. At the time of writing, the German Democratic Republic is the only non-member state with extensive operations in ICNAF convention waters. Cuba has observer statutes only, but it has not yet developed substantial commercial interest in the region.
Seas (ICES) and the Food and Agricultural Organization (FAO) of the United Nations are specifically mentioned. The representative from the FAO took a continual and active part in the proceedings at the annual meeting which the author attended in 1971.

The member states now number sixteen, so that the distant fishing member states outnumber the coastal member states by three to one. The coastal states, because of their proximity to the fishery, use relatively small vessels and less sophisticated equipment which is designed specifically to operate near shore facilities. The permanent nature of their dependence on the nearby fishery tends to make them the chief supporters of conservation measures, though several, such as Canada, are losing enthusiasm for international measures and would prefer to be free to establish more stringent national measures instead.

The long distance fishing states usually delay and sometimes oppose ICNAF conservation proposals. These states must use larger ships, since they are usually denied the assured use of shore facilities to process and store their catch, to transfer crews or store equipment. Their fleets are also designed for diversified fishing, making them less dependent on particular fishing grounds. Vessel versatility tends to produce less interest in conservation. A more important factor, however, determines these states' behaviour in ICNAF. A large catch must be sustained if their large fishing units are to operate economically, especially in the wake of largescale capital investments. Those states whose equipment is most modern and those states who, in other ways, are dependent on large sustained catches, are believed to be the states least likely to acquiesce in restrictive measures. While it is difficult to prove this from public records, interviews with officials and observers tend to sustain this belief. The Soviet Union, Poland, Romania, and the Federal Republic of Germany are examples of capital intensive fishing states in the region which seem reluctant to adhere to conservation measures. Japan, a relatively new member of ICNAF, can be expected to show a similar reluctance. The German Democratic Republic, still a non-member at the time of writing, is now being drawn into the ICNAF quota sharing arrangement, but is not yet legally bound to observe its conservation measures.

The other long distance fishery states are generally more cooperative unless a specific interest is being threatened. They are, in

27. ICNAF Convention, Article X, par. 1.
28. See Table 2, appended.
general, less dependent on the fishery, operate older equipment, or possess "historic rights" which have been honored by the coastal states when they have extended their jurisdiction in order to provide protection for their inshore fishery. Given the diversity in interests of the membership, it is not surprising that the institutional arrangements of ICNAF have served more to mitigate than resolve their differences.

Structure

Unique among fishery organizations, ICNAF subdivides its authority into five geographic subareas. For each subarea there is a separate panel, membership in which is based on "current substantial exploitation in the subarea . . . except that each Contracting Government with a coastline adjacent to a subarea shall have the right of representation on the panel for the subarea." The panels provide a small and intimate forum for states using the area to discuss mutual problems and plans, including those of catch allocation. The panels are responsible for keeping under review the fisheries of their subarea and scientific and other information relating to them. They may recommend to the Commission that investigations be carried out and joint action taken. They may also make recommendations for the alteration of the subarea boundaries.

The panel meetings have developed into two-part proceedings. The scientific and technical meetings are held a week or so prior to the regular annual meeting of the panel. These scientific meetings are both an attempt to formulate a common scientific evaluation of the subareas' fishery population trends and an opportunity for the presentation of biological research data which, while it may have no direct bearing on fishery management, is of scientific interest.

29. ICNAF Convention, Article I.
31. ICNAF Convention, Article VII.
Management Policy

A heavy dependence on scientists to provide justification for management restrictions was originally provided for in the provisions that "... each Panel, on the basis of scientific investigations may make recommendations to the Commission for joint action," and that the Commission may "transmit proposals for joint action by the Contracting Governments ...." These paragraphs effectively bound both the Panels and the Commission to the need for justification on biological grounds. In practice, disparities in the volume and quality of research have reduced the effectiveness of conservation policy discussions under this system of geographical subdivisions based on shared interests.

The use of scientific principles as the basis for fishery management decisions has, however, now been modified. A 1969 Protocol enlarged the basis upon which regulatory measurements must be justified, so as to include "economic and technical considerations"; and the New Rules of Procedure enjoin the Commission to "... consider economic and administrative problems involved in the application of [regulatory] measures". Despite these changes, the 1971 annual meeting and subsequent meetings have not manifested any lessening dependence on scientific justification as the basis for regulatory measures.

Despite the utility of geographically-oriented forums there has remained a need for meetings organized around problems encompassing the entire ICNAF area. The member states began as early as 1952 to organize ad hoc committees in order to provide continuing negotiation of functional issues which transcend the geographical lines of the subareas. The use of ad hoc committees became formalized in the New Rules of Procedure adopted in June 1969. This charter revision created Standing Committees on Finance and Administration, on Research and Statistics, and on Regulatory Measures. An unusual feature of these Committees is that observer status is granted to non-member states and public international organizations such as the North East Atlantic Fishery Commission, the Food and

32. ICNAF Convention, Article VII, par. 2.
33. Article VIII, par. 1.
35. See Rule 64 in Handbook 48.
Agriculture Organization of the United Nations, the International Council for the Exploration of the Seas, and the Organization for Economic Cooperation and Development. Voting privileges are extended only to member states in ICNAF, who are entitled to membership on all committees, standing or ad hoc.

Significantly, these modifications of the formal structure of ICNAF neither affect the procedure by which recommendations of regulatory measures must be approved, nor do they change the requirement for biological justification of management measures. The provisions do, however, enlarge the field of discussion to include the consideration of economic and administrative problems involved in the application of management measures. The present structure of ICNAF thus combines both regional and functional features.

The Commission's attachment to "scientific management" apparently reflects the hope that neutral principles may be found in science on which the participating states may be able to base a consensus. If so, this would alleviate the incredible complexity and difficulty which may result from "open" negotiations between fishery states that vary drastically in their economic condition, fishing capability, technical expertise and fishing interests. Hopefully, biological sciences would provide a common perspective on management "demanded" by "nature" in a particular fishery, with science providing a bridge between, for example, the Soviet Union and Portugal through "proof" of their common need for conservation measures. Biological investigation is necessary, in any event, if there is to be any management effort at all.

Despite the pleas of economists[37], the use of economic principles does not offer the neutrality of biology, nor are such principles equally valid for all states. To postulate economic efficiency as a management objective is to assume that states would pursue efficient practices, as the economist understands it, if they had the requisite knowledge. Governments have many motivations, however, and efficiency can not be listed as having any particular priority, and indeed the very definition of economic efficiency may not be agreed upon by the states participating in a shared management system like ICNAF. Finally, while the penalty for ignoring efficient practice may be serious monetary loss, there may be exacted an even heavier

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penalty if the states ignore biological considerations — namely, the depletion of the fishery.

In effect, the use of biological justifications for fishery regulation for over 20 years has cast doubt on its utility, at least as it has been employed by ICNAF. The crucial problem is that the research upon which management decisions should be based is undertaken by biologists on behalf of member states. The work may thus be unrelated to management problems, and when it is of direct utility, its origins in a particular state may compromise the integrity of the findings.

Scientific findings are especially tentative in the complex field of marine biology. The limited sampling allowed in marine biology, combined with a multitude of possible variables, leads most researchers to state their conclusions with utmost caution. States reluctant to permit conservation measures, therefore, have an ally in the honest biologist who reports his findings as inconclusive and advocates more research.\textsuperscript{38} It is possible, of course, to take action on the basis of such findings, but not if the research must be used to support the action. Since states which oppose restrictions in a fishery find legitimation in the need for scientific justification, the unfortunate consequence is the continued exploitation of a fishery until it is nearly depleted. It is only at the point of near depletion that the findings of biologists become unequivocal.

The recent salmon controversy between the two North American states and Denmark illustrates another dimension to the problem of scientific justification of management measures. The antagonists presented biological research with contradictory findings. The Danes, who fish for the Atlantic salmon off the coast of Greenland, claimed that the fishery was not being depleted by their efforts; rather, they were taking fish which would otherwise suffer natural mortality. Reduced salmon runs on North American rivers were attributed to other natural factors. The two American states, which had spent substantial sums in attempts to ease the passage of the fish on their way to the spawning grounds, claimed that reduced runs coincided with the increased intensity of Danish fishing. The scientific evidence being disputable, negotiations in ICNAF reached an impasse. These fruitless discussions were, of course, not solely due

\begin{thebibliography}{99}

\bibitem{38} This kind of statement was heard frequently at the meeting this writer attended in 1971.
\end{thebibliography}
to the use of scientific justification for management measures; however, this ICNAF doctrine is a contributory factor since the parties are encouraged to negotiate without fully discussing their relative political, economic and legal positions.\textsuperscript{39}

The technique of using scientific advice to avoid difficult political and economic questions demands a neutral science which ICNAF has not provided. Even if a neutral science could be institutionalized and the inherent uncertainty of marine biology were overcome, scientific management cannot provide the formula for distributing losses which might result from conservation measures.

Scientific advice might better serve international fisheries management if placed in a more humble position. The problems are not only biological; they involve political, economic, legal and sociological problems as well. If negotiation more openly encompassed the full scope of human problems involved in the fishery states, perhaps "tradeoffs" and compromises might be more readily attained. The use of science to avoid these admittedly intricate considerations has not, on balance, been successful. We cannot know how successful a more open negotiating process might be, since the process has not been engaged in.

\textbf{Process}

The process of negotiation at the annual ICNAF meetings is complex, and because some of the discussion occurs in private, it is difficult to research. In public the meetings appear dominated by the United States and Canada. The North American states field the largest delegations, present the largest number of research papers, and initiate the majority of conservation recommendations.\textsuperscript{40} While the number of advisers sent to the meeting is partially a result of proximity and internal politics, it also is indicative of the level of interest and importance attached to the meetings by the respective states. Similarly, though the research presented may be a manifestation of affluence, proximity and level of expertise available, it is also evidence of the interest of these states. At present the interest of the two coastal

\textsuperscript{39} At the 1971 ICNAF Annual Meeting the "scientific" confrontation reminded one of the scholastic debate on how many angels can stand on the head of a pin.

\textsuperscript{40} This preponderance is seen more clearly in the original papers than in the edited selections which appear in the \textit{Annual Proceedings of ICNAF} [hereafter \textit{Proceedings}].
states of North America seem to require then at times to act out an adversary relationship with the other states of ICNAF.

The degree of participation by non-coastal member states corresponds closely with perceived interest in the subject-matter. The Soviet delegation, for example, was deeply involved in negotiations over the procedures to be used by international inspectors. The Danes participated in discussions concerning the salmon fishery. The coastal states of North America, on the other hand, take part in almost all the discussions, reflecting their interest in all aspects of the fishery. Most member states, however, remain inactive; and given the procedure necessary to bring restrictive measures into force, they apparently do not feel it necessary to participate unless threatened or under pressure.

Public diplomatic dissent from management restrictions is voiced, with astonishing regularity, by reference to an alleged lack of scientific proof that the restriction under consideration is necessary. The frequency of this objection, without further explanation, illustrates the extent to which scientific management has been used to circumvent negotiation over conservation policy and delay management measures.

Informal negotiation has been particularly important at ICNAF meetings, for continuity in the personnel representing the member states has remained high. This has allowed negotiators, experts and advisers to form relatively long-term acquaintances with their counterparts in other states. The technical nature of the proceedings has also served to limit the turnover in personnel, since each country has only a limited number of experts on which to draw. Also, ICNAF's charter and negotiating tradition have stressed science, ensuring that a large proportion of those in attendance are biologists who share a common discipline which perhaps has a more fraternal tradition than most. There are, moreover, potential diplomatic advantages in informal negotiation where negotiators need not take refuge in the lack of conclusive biological evidence. Professional diplomats assure us that in camera negotiation, away from the glare of public discussion, is the most fruitful. Unfortunately, it is difficult to show that informal

41. The U.S.S.R. and others illustrated this by their concern over inspection procedures, which was discussed at the meeting of the Regulatory Measures Committee in 1971.
42. At the 1971 meeting the Danes pressed their displeasure with the salmon restrictions at all the appropriate places, including Plenary, Panel and in private. 43. See Table 2, appended.
“contacts” have been much more successful than the formal. The delegations conduct negotiations within parameters that are determined by domestic groups, economic necessity and expectations of what is diplomatically feasible. It is thus doubtful whether quiet diplomacy can do more than provide private explanations for public postures.

**TABLE 2**

Average Number of Personnel At Recent Meetings*
Approximate Continuity of Personnel**, And Catch

<table>
<thead>
<tr>
<th>Country</th>
<th>Number</th>
<th>Continuity</th>
<th>Catch in Thousand*** Metric Tons (1969)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>12</td>
<td>40%</td>
<td>1200</td>
</tr>
<tr>
<td>United States</td>
<td>20</td>
<td>25%</td>
<td>254</td>
</tr>
<tr>
<td>Denmark</td>
<td>5</td>
<td>40%</td>
<td>97 (1968)</td>
</tr>
<tr>
<td>U.S.S.R.</td>
<td>6</td>
<td>65%</td>
<td>875</td>
</tr>
<tr>
<td>France</td>
<td>3</td>
<td>33%</td>
<td>176 (1968)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5</td>
<td>40%</td>
<td>6</td>
</tr>
<tr>
<td>Federal Republic of Germany</td>
<td>6</td>
<td>50%</td>
<td>253</td>
</tr>
<tr>
<td>Iceland</td>
<td>1</td>
<td>100%</td>
<td>14</td>
</tr>
<tr>
<td>Italy</td>
<td>2</td>
<td>25%</td>
<td>Negligible</td>
</tr>
<tr>
<td>Japan</td>
<td>4</td>
<td>High (membership since 1971) not applicable</td>
<td>253</td>
</tr>
<tr>
<td>Norway</td>
<td>6</td>
<td>15%</td>
<td>52</td>
</tr>
<tr>
<td>Poland</td>
<td>3</td>
<td>33%</td>
<td>162</td>
</tr>
<tr>
<td>Spain</td>
<td>2</td>
<td>50%</td>
<td>294</td>
</tr>
<tr>
<td>Romania</td>
<td>1</td>
<td>(frequently absent)</td>
<td>Negligible</td>
</tr>
<tr>
<td>Portugal</td>
<td>2</td>
<td>50%</td>
<td>182</td>
</tr>
</tbody>
</table>

*Average number of people sent to Annual Meeting over 1966, 1968, 1970, and 1972. If state was host country that year is omitted.
Note: Bulgaria, the newest member, is omitted from this table.

In summary, the Commission has failed to overcome what can now be seen as the major impediments to the successful conclusion of international negotiations on fishery management issues. The principle of the freedom of the high seas remains essentially the same as in the pre-ICNAF period; and the Commission procedures for bringing management policy into effect still permit states to opt out. This tends to circumvent or delay negotiations. The role of science within ICNAF has frustrated negotiations in a variety of ways. It is even dubious whether biological justification for management restrictions
would be workable if ICNAF retained and deployed a neutral research staff of its own. Marine biology may be intrinsically too tentative to fulfill the role anticipated by ICNAF, even under optimum research conditions. Finally, perhaps the most difficult of all the problems which ICNAF has not been able to overcome is that of the diversity of opinion among member states on the meaning of conservation and the necessity for it. Nowhere is this more evident than in the processes of implementation and enforcement.

Implementation

Implementation of conservation measures in ICNAF is inseparable from the process of negotiation. Difficulties in implementation, all too easily, may become rationalizations for not agreeing to management schemes. The process of creating enforceable rules follows the procedure laid out in Article VIII of the Convention with all its pitfalls. The closeness of management planning and implementation can be seen in the history of the Commission before and after the changes in procedure proposed in the 1964 "Protocol Relating to Entry into Force of Proposals Adopted by the Commission." 44

The Commission’s history will be divided into three parts, in order to focus on the various problems which it has encountered. Movement from one phase to the next was, of course, gradual, not abrupt, determined by changing attitudes, important political and legal changes, changes in conservation techniques, as well as discussions and resolutions within ICNAF which may not have been ratified by all the member states. The period from 1950-1964 is characterized by very little regulatory activity carried out under the auspices of ICNAF. This generalization is valid, despite the almost immediate imposition of mesh regulations to protect the haddock in subarea 5. 45 This measure may be considered atypical since only two states had seats on Panel 5 and agreement in this subarea proved easily negotiable until the Soviet Union asked for and received membership in 1962. More usually, there was little success achieved in the effort to secure ratification of regulatory measures recommended by the Commission.

The discussions at the Annual Meetings reveal that the method considered “appropriate” for fishery conservation was to create

44. Handbook 35.
45. 2 Proceedings (1952) 13, 14 (discussed); 3 Proceedings (1953) 8 (into force).
selective inefficiency through minimum mesh size restriction on trawl gear. The most favourable aspect of mesh regulation is that it need involve little or no loss to the fishing unit. The restriction results primarily in loss of small immature fish, which are both lighter and less valuable. The paramount benefit to the fishery is that sexually immature fish are permitted to mature and breed, thus increasing the possibility of continued high catches.

Despite the apparent simplicity of the objective, mesh regulations are difficult to design with scientific reliability in order to produce the maximum sustainable yield for a particular species in a given fishery. Moreover, the scientific demand for accurate assessment of the requirements of a given species in an area clashes with the administrative demand for a simple and general standard. This clash was noted quite early and, given the ICNAF charter, was resolved in favour of the demands of biology. 46

Another, and equally complex, problem which militated against mesh regulation during this period had its origins in the multiplicity of states fishing the Northwest Atlantic. The states used trawl gear made of a variety of materials and designed in various ways. The incomparability of the fishing gear thus made the imposition of fair restrictions on efficiency an intricate business, since all the gear had to be rendered equally inefficient. Several disputes surfaced at the Annual Meetings of ICNAF during this period and, in fact, blocked the bringing into force of conservation measures. 47 Even into the late sixties, when advancing technology was tending to produce more comparable fishing gear, the same problem re-emerged. 48 While it is difficult to judge whether the issue was used as a rationalization in order to avoid the imposition of restrictions, it is one which has arisen with some frequency, especially during this period.

The most important reason that this period failed to produce conservation programs lies less in technical issues, or the role of science, than in the relative disinterest of the member states in conservation. Depletion may have begun before the middle sixties in scientific terms; i.e., the catches were regularly exceeding the maximum sustainable yield. The total catch, however, continued to rise, commensurate with the increased effort until the middle sixties. Only when it became obviously difficult to sustain and increase the yearly

47. 6 Proceedings (1956) 14, 15, 16.
catch did the scientific evidence complement the economic realities in a way which induced concern in the member states.\textsuperscript{49}

The beginning of the second period coincided with a renewed effort to manage the fishery. This was signaled in 1964 by the resolution of the Commissioners to change the Convention by a Protocol which would facilitate the bringing into force of conservation measures.\textsuperscript{50} While ratification of this Protocol by all the members was delayed until late 1969, the fact that two-thirds of the states in ICNAF were willing to adopt this relatively drastic change in procedure manifested a new attitude toward the problem of fisheries conservation. The effect of this 1964 Protocol was to place recalcitrant states in the unenviable position of being specifically named as states who are unwilling to conserve a resource when most of the states feel it necessary.

The period between the proposal of this 1964 Protocol and its entry into force in December 1969 was a frustrating one for the Commission. Most of the states had modified their attitude toward conservation, and the pressure for strict regulation substantially increased, especially amongst the coastal states. Negotiations, however, dragged on without result, despite a decided leveling of the total catch in the face of sustained and increased fishing effort.

States favouring conservation measures made yearly amendments to proposed trawl regulations in a vain effort to induce ratification by other member states.\textsuperscript{51} Under the original rules any one of the opposition states could prevent the institution of restrictions by mere neglect. Results were slow in coming: in 1966 ratification was achieved in subarea 5, but only in late 1969 were regulations brought into force in subareas 1-4.

The major stumbling block to conservation measures during this period thus appeared to be procedural. The ratification of the Protocol discussed above, as well as others,\textsuperscript{52} served to ease the barrier to

\textsuperscript{49} The question of exact measurement of fishing effort is a difficult one. It was studied by ICNAF Tangentially in R. Beverton and V. Hodder (eds.), \textit{Report of Working Group of Scientists on Fishery Assessment in Relation to Negotiation Problems} (1962).

\textsuperscript{50} Handbook 35.

\textsuperscript{51} See 14-18 \textit{Proceedings} (1964-68).

bringing ICNAF regulatory measures into force. Ironically, the institution of these measures served only to pose a new and more difficult problem since overfishing continued despite a flurry of conservation measures.

The mesh regulation introduced during 1969 predictably proved to be a failure. States remained free to compensate for the decreased efficiency of their gear by increasing the intensity of their fishing effort. Since they new restrictions were ephemeral, resulting in only minimal economic loss and no reduction in catch, they can not be considered an adequate test of the new procedure for obtaining ratification.

This new design for facilitating ratification of conservation measures contained the seeds of its own failure, since states were permitted to opt out of the regulatory scheme by simply declining to participate. The states which so chose might undergo political criticism but this could be endured for specific gains. While no states have, to date, exempted themselves from the mesh regulations, several states have utilized this procedure in order to avoid conservation measures relating to Atlantic salmon\textsuperscript{53}, and to avoid, or perhaps postpone, the imposition of various other regulations and enforcement practices.\textsuperscript{54} There is little doubt that the threat of avoidance is real; states will risk political isolation in order to pursue certain practices which yield enough of an economic or other reward. States that wish to pursue controversial or strict restrictions are thus forced to compromise, risking the implementation of an inadequate management scheme in order to get universal adherence. The new procedure, however, is somewhat better than the original method of bringing regulations into force.

The failure of mesh restriction forced the Commission to consider other methods of protecting the fish stocks. Closed seasons and areas, like mesh regulations, are an attempt to permit and facilitate breeding. These regulations, unlike mesh regulation, are relatively easy to implement. Despite the simplicity in concept of closed seasons, the biological knowledge required to positively identify spawning times and areas requires a high degree of sophistication. The regulations were first instituted in the ICNAF area in 1972.\textsuperscript{55} Unfor-

\textsuperscript{53} States to exclude themselves were the Federal Republic of Germany, Denmark and Norway. 20 Proceedings (1970) 9.
\textsuperscript{54} Soviet Union and Romania avoided the full impact of enforcement schemes restricting inspectors to deck areas. 22 Proceedings (1972) 10.
\textsuperscript{55} 22 Proceedings (1972) 10.
Fortunately, like mesh regulations, these restrictions cannot prevent depletion since they do not get to the problem at its roots. While a mix of these regulations may protect spawning areas and immature fish, only quotas on the total catch of a species have the effect of decreasing fishing pressure on the stocks. A quota on a species, combined with mesh and other restrictions, can serve to reduce the intensity of fishing effort expended on the species, as well as protecting the immature and spawning fish. However, without the quota to reduce the take, very little can be achieved to reduce depletion.

Quotas on a species, however, must be divided up between the competing claims of 15 states. While scientists may supply an approximate maximum sustainable yield which may be used as the total quota, no formula exists to divide this figure amongst the states. What makes the bargaining more difficult is the nature of the "game", for if country "A" receives a given quota, it reduces the amount available to the other states. This characteristic of the negotiations tends to reduce the chances for compromise.

A further complication results from the claims by the coastal states to a "preferred position". This demand reached its zenith at the 1973 Annual Meeting when the Canadian delegation insisted that the coastal state be allowed to fish up to the limits of its capacity, with the remainder of the maximum sustainable yield to be distributed amongst the distant fishery states.56

ICNAF is now in the third period, when the issues of conservation authority and quota allocation have to be resolved. How and when these issues will be resolved depend to a large extent on the outcome of the Third U.N. Conference on the Law of the Sea and the resulting pattern of regional fishery diplomacy in the Northwest Atlantic.57 The necessity of implementing fisheries conservation by the use of quotas is only part of the problem. Any conservation measures to be effective must be enforced.

**Enforcement**

If the Commission is to survive the seventies, an adequate enforcement mechanism must be established. This requires that internationally created legislation be both enforced and violators punished with

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equal vigour in order to assure that the conservation regulations are not moot. At present the ICNAF states manifest a diversity of views towards ethics, legal norms and law enforcement. They also represent a wide variety of social systems. These differences create a natural barrier to mutual trust and assure that, even if all the member states attempt to comply with the Commission’s regulations, there would remain the possibility of misperception.

Were the differences among the states the only barrier to adequate enforcement, the problem would be substantial, but other difficulties complicate the situation further. The legal problem of enforcing international legislation provides several complex conceptual and practical problems. Traditional approaches to international law require that international regulations be given effect, at least in most areas, by domestic legislation. Enforcement power is vested in domestic agencies. The ICNAF members are thus responsible for passing domestic regulation to implement the Commission’s enforceable regulations, as well as making provisions for both the enforcement of its laws and assuring that adequate penalties are meted out to violaters. The Convention recognizes these duties when it provides that “... governments agree to take such action as may be necessary to make effective the provisions of this Convention and to implement any proposals which become effective under paragraph 8 of Article VIII.”

In member states where power is divided among various agencies, bureaus or branches there is a danger that the national government will be unable to proceed with the necessary steps to implement the Commission’s regulatory decisions. In practice some of the national agencies responsible for various aspects of implementation may interpret or perform their duties in such a way as to defeat the purpose of the regulation.

This enforcement system has remained basically in effect during the life of ICNAF, but it was modified to provide for international inspection in Convention waters in January 1971. This change in the enforcement system was made possible by several bilateral and multilateral experiments in exchanging inspection personnel, which proved the idea practical. The Joint Inspection Scheme is a limited

59. ICNAF Convention, Article XII.
60. 22 Proceedings (1972) 10.
tool, since the inspectors can only report detected violations to the appropriate domestic authorities and to ICNAF. The inspectors themselves cannot impose penalties for violation, nor can they force recalcitrant branches of the state to impose ICNAF restrictions and provide publicity.

The nature of the regulation, in effect, imposes limits on the usefulness of on-the-scene observations. Infringements of mesh regulations, for example, are detectable only if the fishing unit can be caught in the act. Another problem for inspectors is that there exist unregulated species for which any size trawl may be used, as well as two types of trawls which are permitted on regulated species. Thus, unless the trawl is actually being used in violation of a restriction, detection is difficult. The trawl regulations attempted to close this loophole by requiring a vessel fishing for unregulated species to have in its possession less than 10% by weight of the regulated species or 2268 kilograms, which ever is greater. This rule is designated to take account of incidental catches of regulated species by ships fishing unregulated species. These complex regulations depend partly for their reliability upon accurate measurements of weight.

The use of quota or any weight regulation depends on the cooperation, accuracy, and veracity of state authorities who have not made the regulations, and who may even profit from their non-application. The fatal flaw of quota regulations is that their enforcement lies in the hands of the same domestic authorities that report the statistics. It is unlikely that this dilemma can be resolved by extension of the international inspection system to the shore facilities. This conclusion may be reached even on the benevolent assumption that such breaches are not a deliberate policy. There exists the possibility, of course, that governments may choose not to report their catch figures accurately. They may, within limits, attempt to act deceptively, or with deliberate neglect.

Since ICNAF regulations are so much in the hands of domestic authorities, perhaps the problem of enforcement reduces itself, at least partially, to the trustworthiness of states. It is unfortunately difficult to evaluate the extent of trust which the members of ICNAF repose in each other. Manifestations of trust observed at the Annual Meetings presumably are unreliable, since proper diplomatic behavior tends to conceal contrary indications. The personal familiarity which many Commissioners and advisers share cannot be taken as

62. ICNAF Trawl Regulations: A Simplified Guide and HANDBOOK 75, 76.
indicators of good faith, since state policy takes precedence, and diplomatic practice assures that friendship among diplomats will be used as domestic policy demands. Interviews which the author conducted with fishery officials and industry representatives revealed an apparent disquiet at the thought of trusting various ICNAF members. No one interviewed expressed the opinion that unqualified trust could be expected or given. The Commission, like other international organizations, is at the mercy of the interstate system, which has repeatedly demonstrated that expectations based upon trust cannot be viewed with equanimity.

Conclusions

In assessing the Commission's performance, it is necessary to consider its activities from several different perspectives. The most obvious criterion is how effective ICNAF has been in preserving the fish stocks of the Northwest Atlantic. The total catch in the ICNAF area has increased for most species from 1950 to 1973; scientists, however, believe that the maximum sustained yield has been surpassed for nearly every commercially useful species. Several species which were once found in abundance in the Northwest Atlantic are now commercially extinct. Where crude and primitive methods once yielded a decent catch of cod, now only the most sophisticated equipment and intensive fishing produce a commercial yield. In terms of the criteria which were adopted in the preface to the convention, ICNAF is a failure. If we assess the state of the fishery less scientifically and ask the Newfoundland fisherman for his opinion, he will say that the Newfoundland inshore fishery has been in the decline for at least ten years. Whatever method of assessment is considered, the verdict is not favourable.

The effect of ICNAF upon the economic efficiency of the fishery is even more difficult to guess at than its effect upon the fish stocks. Before the imposition of quotas, the fishery would, like most fisheries, be considered inefficient because of the increasing excess capacity and the mesh and other regulations which neither promoted efficiency nor protected the stocks. Most economists agreed that the common property nature of the fishery was the paramount economic

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63. These interviews were conducted between 1968 and 1973. They involved people with a variety of fishery backgrounds.
64. The haddock is the most expensive and publicized species which is close to commercial extinction.
problem. Since the fishery was international, the problem was apparently in diplomacy. A step in this direction has been taken with the introduction of a system of annual quota negotiations under a new formula, which is heavily weighted in favour of the coastal states. Under this system each fishing state is free, theoretically, to determine for itself how to allot its fishing effort in order to sustain the greatest benefits. A fleet may take its quota by fishing quite intensively for several months, utilizing full capacity, and then redeploy to other locations. The quota system which is now being gradually imposed will have beneficial economic effects by allowing planning. While ICNAF took little notice of the arguments of fishery economists for most of its life, there is evidence that currently such arguments are being examined anew.

On a more abstract level, ICNAF is an example of an active, functional international organization which has been relatively effective in adjusting to the idiosyncratic features of its member states. Some international enforcement has been accomplished, which even at a relatively modest level is considerable achievement. More important, the member states have permitted the normal ratification process to be reversed by deliberately placing themselves in a defensive political posture in relationship to international regulations. On the other hand, ICNAF has not resolved the problems which Iceland and, to a lesser extent, Atlantic Canada perceive to be crucial. The coastal states' special dependence on the sea has been recognized by ICNAF; however, the coastal states feel that action to protect the fisheries has not been taken with sufficient vigour and alacrity.

The coastal states of Iceland, Canada and the United States have now adopted the position that their proximity to the fishery entitles them to special status, duties and privileges. This concept, if pressed to the extreme, might threaten the survival of ICNAF. The managerial role of the Commission will be drastically reduced, at the least, if management decisions are taken exclusively by the coastal states within 200 mile limits. To survive at all ICNAF will have to find additional means of satisfying the demands and aspirations of these states in the context of international negotiations.

More particularly, if ICNAF is to survive it must become more vigorous in its efforts to conserve the fishstocks of the region. Even if the Commission could purge itself of an overdependence on scientific management, this would not necessarily cause recalcitrant states to
change their behaviour, only their arguments. It is far from clear what changes the ICNAF states will be willing to accept in the structure and proceedings of the organization. Evidently, many of the non-coastal ICNAF states are determined to resist any proposal at the Third U.N. Conference on the Law of the Sea which would significantly impair the principle of freedom of fishing on the high seas and permit the enforcement of management decisions in ICNAF waters without their consent.

Since these states have recently acquiesced in the adoption of a quota system, there would seem to be some reason for optimism about the future of ICNAF, but closer appraisal leads to more cautious conclusions. The quotas based upon the state’s catch during the past year merely limit future expansion, which is biologically limited in any case. The coastal states apparently acquiesced in this in order to establish the system and because they obtained special, larger quotas. There is little likelihood that this allocation system on its own will reverse the depletion of the fishery.

The inevitable conclusion is that the distant water states will continue to pursue their present intensive fishery until biological collapse forces them to change their policy. By that time, however, Canada and perhaps the United States as well will be forced by domestic pressures to move to some type of exclusive control of the fisheries on their continental shelves. Iceland’s example has stimulated increased pressure on the Canadian government to act. Since Canada has a greater interest in fisheries and has recently shown a tendency to be innovative in marine law, she is likely to move to exclusive controls if ICNAF policy remains unchanged.

The long distance fishing states will have little reason to complain in the future about the demise of ICNAF; they had twenty years during which it could have been prevented. The coastal fisherman in Canada and the United States, however, may wonder about the diplomatic and biological expertise which presided over the gradual depletion of the Northwest Atlantic fishery; for when exclusive control is seized, the coastal states will inherit a depleted expanse of ocean which was once a great fishery.