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SUMMARY REPORT
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OF
PANEL, SUB-AREA 5

TIME: Friday, April 7, 1951, 10:00 a.m.
PLACE: Louis Seize Room, Shoreham Hotel
CHAIRMAN: Francis W. Sargent (U.S.A.)

DR. DEASON (UNITED STATES): Gentlemen, before we formally convene this morning, I would like to take this opportunity to introduce to the Commission an old friend, our Executive Secretary-Elect, Dr. Martin, who arrived last night, and who will be with us through the remainder of the meeting.

THE EXECUTIVE SECRETARY-ELECT (DR. MARTIN): Thank you, Mr. Chairman and gentlemen. I consider it quite a surprise and honor to have this appointment, and I look forward to the valuable work of the Commission during its first year of operation.

Thank you.

THE SECRETARY GENERAL (MR. WHEELER): The business before us this morning is the convening of the organization of Panel 5. As with the organization of the previous Panels, those nations which are not members of the Panel are entitled to speak but not vote in any of the deliberations concerning this Panel.

In accordance with the terms of the Convention, the member countries of Panel 5 are Canada and the United States.

I will now refer you to DOC/3, which is the Proposed Agenda for the Panels. The second item is "Provisional Adoption of the Rules of Procedure with Final Adoption of those portions dealing with the election of a Chairman".

The recommended Rules are DOC/4 (Rev.1).

The Chair would hear a motion to adopt Rule 7 of the Provisional Rules, respecting election of the Chairman.

DR. DEASON (UNITED STATES): I so move.

MR. GUSHUE (CANADA): Second.

THE SECRETARY GENERAL (MR. WHEELER): With that, we may proceed with the election of the Chairman. The Chair would entertain a motion as to the Chairman of the Panel.

MR. GUSHUE (CANADA): I have very much pleasure, Mr. Chairman, in nominating Mr. Sargent as Chairman of Panel 5.

DR. DEASON (UNITED STATES): Second.

THE SECRETARY GENERAL (MR. WHEELER): Mr. Sargent, then, is Chairman of Panel 5. He will please take the Chair.

THE CHAIRMAN (MR. SARGENT): There is considerable question in my mind as to whether I should thank you gentlemen for this eminent position.

If you will turn to Document 4, "Recommended Rules of Procedure for Panels", I think it now is in order to have a motion for adoption of DOC/4 (Rev.1), dated April 4, 1951.

It is moved, seconded, and approved.

We now go on to Item 6, "Reports by the Commissioners, if available, on the status of the fisheries, and of research programs in the sub-area".

Dr. Deason, do you have any statements you would like to make in that respect?

DR. DEASON (UNITED STATES): Any resume that the United States might give of the status of research programs in the area, I think, has already been ventilated, at least in the informal biological seminars. Therefore, there is no need repeating at this time.

There is a resume in Document 9 which is available. However, we should appreciate an opportunity of presenting, in somewhat greater detail than is embodied in Document 9, a discussion of the research findings with reference to the haddock fishery, and for that purpose I would like to call upon Dr. Howard Schuck.

THE CHAIRMAN (MR. SARGENT): The Chair recognizes Dr. Schuck.

Dr. Schuck, if you would present your material, we would appreciate it very much.

DR. SCHUCK (UNITED STATES): The general haddock situation was presented first in Document 9. The material was further discussed in two biological seminars on Tuesday and Wednesday evenings. As a result of these seminars, and of the comments and opinions of many other biologists attending, our conclusions have been revised somewhat from those presented in Document 9.

I will summarize, at this time, the haddock situation in respect to the United States fishery, and our present opinions on the matter of regulation.

Haddock populations in only Sub-areas 4 and 5 are important to the United States. Since 1931 about 67 percent of the haddock landed at principal ports have been caught

in Sub-area 5, and about 33 percent in Sub-area 4; only about one-tenth of one percent in Sub-area 3. We have extensive collections of data from Sub-area 4 in our files, but they remain unanalyzed due to lack of personnel, and all of our studies have concentrated on the data for Sub-area 5.

In Sub-area 5, the catch increased to a high of about 223,000,000 pounds in 1929, and then declined very rapidly to only 50,000,000 pounds in 1934. Since then, the landings have averaged about 94,000,000 pounds, and have never exceeded 122,000,000.

At present we are not able to state whether overfishing of Sub-area 5 haddock is occurring; in other words, whether too many fish are being caught. We do feel, however, that the production is being held at a low level due to fish being killed at too small a size. Thus, we feel that if small haddock were protected instead of being killed at small size, most of them contributing no value to the catch, total production could be increased.

At present we lack conclusive proof of this. However, what data are available seem to favor this conclusion. These data are:

First, there are very large numbers of small haddock caught each year, the catching of most of which serve no useful purpose as they are killed and discarded at sea.

Second, there is an intensive fishery which results in a substantial percentage removal of the stock per year.

Third, there is a rapid rate of growth, especially during the early years.

Fourth, there is no substantial emigration of the species from Sub-area 5.

Lastly, there is possibly a low natural mortality rate of the ages being destroyed.

I would like to briefly elaborate on each of those five points as follows:

First, as to the numbers of small haddock destroyed, for the last four years only do we have estimates of the numbers of small haddock destroyed at sea. It has varied from 33,000,000 to 12,000,000 in the four years, with an average destruction at sea of about 18,500,000 individuals. The landings in those years have averaged about 36,000,000 individuals. Thus, the destruction at sea amounts in numbers to about 50 percent of the numbers of fish landed.

Second, a substantial percent of available stocks are taken in the fishery each year. The total mortality rate of the ages most appropriate is about 44 percent per year. Some indirect evidence is available which indicates that, of this total rate, the greatest portion is probably due

to fishing. Thus, we feel that if young fish are spared, the intensive nature of the fishery is such that they eventually will be caught.

Third, the growth rate of Sub-area 5 haddock is high. At the end of the first year of life, the haddock average about two-tenths of a pound. At the end of the second, they average about eight-tenths of a pound. The percentage increase, therefore, from the end of the first year of life to the end of the second is about 300 percent. At the end of the third year of life they average about 1.6 pounds. The percentage increase there is about 100 percent. The growth increment; therefore, especially between the first and second years, is of such magnitude as to make it probable that a considerable increase in yield would result if the juveniles were permitted to survive in the sea for one or two additional years.

The fourth point. There is no substantial emigration from Sub-area 5. This conclusion is based on studies by American and Canadian biologists through the use of growth rates, vertebral counts, and some tagging.

Fifth, natural mortality is probably low. In point 2, above, we credited most of the total mortality to the fishery. Therefore, natural mortality must, if that is true, be rather low. Those rates applied only to the ages which are completely available to the fishery. However, it seems that natural mortality of the younger ages is probably low also. We admit that this is one weak point in the argument. As yet we know very little about mortality and survival rates of the very young ages.

In the light of these five points, if it is concluded that protection of small haddock is desirable, it remains to determine how best this might be accomplished. The methods available are closed seasons, closed areas, modifications of gear, minimum size limits, or combinations of these. We will briefly comment on each.

Closed seasons. The destruction of small haddock at sea is not restricted to any particular season of the year. It goes on around the year. However, it is much more prevalent in some seasons than in others. For instance, in the spring season the average number is about 1,700,000, in the summer it is 5,500,000, in the fall it is about 9,500,000, and in the winter it is about 2,700,000.

Thus, the greatest destruction occurs in the fall season. Approximately half of the total occurs in the fall. However, the heaviest landings of large haddock are also in the fall season. Thus, it does not appear efficient to close the fall season for the protection of young fish, as, possibly, the loss of the large fish which are ordinarily caught in that season might outweigh the gain in survival of the small.

Closed areas. Closure of areas frequented by small fish appears impractical. The reason: The areas are very large, extensive, and variable. Small haddock are found over much of Georges Bank in both shoal and deep water.

Minimum size of fish. A minimum size of fish to be landed alone is of no great value, for, although landings of small fish would be curtailed by such a measure, these fish would still be caught, killed, and discarded at sea.

Modifications of gear. The use of larger mesh in the trawl is an effective way to prevent the capture of small haddock. This is borne out by numerous experiments made by British and American biologists. Small haddock in Sub-area 5 cease being discarded when they reach a size of about 36 centimeters, about 13.8 inches. If we concede that protection of these fish is desirable, those which are needlessly destroyed at sea, then we should try to protect most of those under 36 centimeters.

A mesh opening of about four inches will release about 75 percent of fish of 36-centimeter size. A mesh opening of $4\frac{1}{4}$ inches will release about 90 percent of the fish of 36-centimeter size.

A measure of $4\frac{1}{4}$ inches, in addition to releasing the numbers of fish destroyed at sea, will also release a percentage of the fish which are at present landed. I have made some rough calculations as to the probable numbers of these. Roughly, I figure that about 23 percent of the fish landed at the present time will be released by a mesh of $4\frac{1}{4}$ inches, and in addition to that number, all of the fish which are being discarded will be released. That is in terms of numbers. It probably will work out that about 10 percent of the poundage now landed will be released.

In other words, the fishery in the first year might have a situation where their total landings might be reduced about 10 percent. In the second and following years, the production should be increased, of course.

In order to state the mesh size in terms used by the industry, it is necessary to add the diameter of the knot to the size of the mesh opening. For the size of twine which is commonly in use, the average knot diameter is about .57 inches. Thus, the mesh size corresponding to a mesh opening of 4 inches would be about 4.6 inches, and the mesh size corresponding to a $4\frac{1}{4}$-inch mesh opening would be about 4.8 inches.

This larger mesh would be necessary only in the top of the rear part of the otter trawl net, in other words, the rear part of the top of the cod end or cod end extension.

We have done relatively little research on the small fish problem in recent years. With the prospect that protection of small fish may be attempted, it appears desirable to increase certain studies relevant to the small fish problem, not only to provide necessary basic data, but to provide a before-and-after method of assessing whether or not the regulation has had its desired effects.

The biologists at the evening seminars seemed to think, and I agree, that among these projects might be, first, more study of food habits of the possible predators of haddock, such as whiting, whose numbers might be increased, along with baby haddock, by a mesh regulation, and thus might tend to counteract the saving of small haddock.

Second, there might be a test of the thinning theory, in other words, to see if cessation of thinning, which we proposed, will depress the growth rate.

The third would be a study of the effect of competitors of haddock upon haddock growth rates and survival rates.

Fourth, there might be technological studies on characteristics of nets and their construction.

The fifth would include better records of the actual numbers of fish destroyed at sea. The estimates we have at present are admittedly very rough, and are probably only minimum estimates.

Sixth, estimations of the number of each age destroyed at sea. These projects should go on before and after any regulation.

Seventh, determination of the mortality rates of the young ages before and after a regulation, to assess, in part, whether the regulation has had any effect.

The effectiveness of any regulation which is adopted, therefore, should be the subject of further study, and provision should be made to modify the regulation to the extent such modification may be proved necessary. It does not seem possible to undertake these studies on an adequate basis without an enlargement of present research staffs and research facilities, however.

THE CHAIRMAN (MR. SARGENT): Is there any discussion on Mr. Schuck's report?

DR. NEEDLER (CANADA): Well, Mr. Chairman, I think that Mr. Schuck has given a very interesting presentation of what we regard as a complicated and difficult subject, and we feel that before any conclusions can be reached a great deal of further discussion will have to take place. What I have

to say now, therefore, I would like to characterize as preliminary remarks which are made without prejudice.

We, in Canada, who have been engaged in ground fish research have doubted the wisdom of restricting the fishery, on the basis, principally, of our lack of knowledge--I mean by "our" to include all fishery biologists--of certain of the essential factors which would determine whether or not it would pay to leave small fish in the sea.

These have been mentioned in our informal discussions, but I would mention again particularly the natural mortality rates which might, in our opinion, be very high, especially at these very early ages. I mention also the proportion caught, because although in the later ages there is a figure for total mortality, the basis for dividing that into fishing mortality and natural mortality has perhaps not been presented, if it does exist, and a very small change in this proportion would really affect the question very greatly.

If, of the 40 percent, half is fishing mortality and half is natural mortality, the case for restriction would not be nearly as good as if only a small proportion was natural mortality.

I am mentioning these points now just to emphasize that we feel there is a considerable degree of doubt as to whether it would pay to restrict the fishery, in other words, as to whether restrictions might be expected to increase the take.

I have always felt, Mr. Chairman, speaking a little bit more lightly, that it is strange that on this continent, whenever the use of a natural resource comes in question, everyone seems to assume that by putting out less effort to take the fish, or the deer, or whatever is under review, you will get more. I have always thought that the first assumption would be in the other direction, that you would expect that a larger effort, rather than a smaller effort, would get more, unless there is very strong evidence to the contrary.

Now, we have regarded this problem as in two phases. One question is whether or not it pays to leave in the sea small fish which are not used. The answer to this might well be in the affirmative, because it would only pay to take and destroy small fish if thinning was necessary to allow the others to grow and survive, and there doesn't seem to be any evidence to that effect. On the other hand, the second phase of the question is more doubtful. Once the fish have reached a size at which they are used, you must then very carefully compare, or as carefully as possible compare, the quantities which are lost through the restriction, lost to the catch, and the increases in quantities caught at a later age which may be expected to result.

And once we reach these quantitative considerations, it is very important to have reliable information on the proportion which will die before you have a chance of catching them again, the proportion of take which determines what your chances are of catching them again within a reasonable time, and the growth rate. And it appears that it is only on the latter point that fairly reliable information, or really reliable information, is available.

Our view, therefore, is that before the panel recommends the mesh regulation to the Commission, a very careful review of the whole question must be made, and while we feel that we may well arrive at the conclusion that a mesh regulation intended to avoid the capture of the fish which are so small that they are not used is desirable, even then the measure will be, to some extent, experimental, a matter of trial and error, and it should only be undertaken at a time when we have a good basis for comparing what goes on before and after the regulation is put into effect. And this means that we need, not only a review of the evidence as to whether or not such a mesh regulation is likely to be advantageous, but we also need a careful review and careful planning of cooperative research through this body, in order to assure that we will obtain the full benefits of the provisional regulation, because I think all fishery regulations of this kind would have to be regarded as provisional and subject to adjustment as our knowledge improved.

I might sum up the position by saying while we believe the subject is of sufficient importance to the industry we need review and action without unnecessary delay, and while some restriction, perhaps at a lower level than that just mentioned, may be desirable, what is first needed is a very thorough discussion by this panel at a time when we have had an opportunity to review the data just as thoroughly as possible.

THE CHAIRMAN (MR. SARGENT): Thank you, Dr. Needler.

Does anyone else care to comment on these observations?

DR. DEASON (UNITED STATES): The United States certainly agrees fully with the observations of Dr. Needler.

In particular, I wish to emphasize my conviction that before we institute a regulation or even consider the formal adoption of a regulatory recommendation to the Commission for its approval and transmittal to the governments, which is the procedure under the Convention, we should obtain all of the information we can concerning what is now happening in the fishery with the present mesh that is being used.

I think we would also agree that at this juncture there is, if we decide to institute a minimum mesh regulation, little or no justification for preventing the capture of

sizes of fish that are now marketed, even though there has been a tendency, during recent years, to bring in and market smaller sizes of fish than perhaps heretofore. However, the capture of tremendous quantities of fish at sea which are thrown overboard and discarded, and which we must presume to be dead, would appear to be a matter which could be dealt with, and perhaps should be dealt with. It is, on the surface, uneconomical, and of course the purpose and objectives of the Convention are to promote optimum utilization. We don't know, but we must assume, that better utilization of the resource would be to leave them in the sea until they are of marketable size.

We would fully agree, should we decide on any minimum mesh regulation, that that, too, must be considered on a provisional basis, and we should, within the limits of the personnel and facilities available, obtain all of the information we can on what is happening because of the use of the minimum mesh size.

So I think we really are in full agreement with Dr. Needler. Certainly any conservation regulation must not be considered a static thing and a cure. All regulations must be viewed as provisional, and we must constantly assess what we are doing in order to determine their effectiveness. If they are no good, we don't need them, but we should find out.

Do you have any particular observations you would like to make, Dr. Walford?

DR. WALFORD (UNITED STATES): Well, I would simply like to add to what Dr. Deason has said, that we are in full agreement with what Dr. Needler has said.

First of all, we must establish with our colleagues a firm basis for the a priori opinion that this regulation be effective. We must understand what all of the effects would be. That would be the work which will follow this meeting. And the effect of the regulation, when it is finally put through, must be observed continuously by the research people.

DR. NEEDLER (CANADA): I might say, Mr. Chairman, that just as a biologist, often regarded as one of the lower forms of the scientific genus because it is so difficult to make their science, precise, most biologists would welcome the opportunity really to experiment, having good knowledge bofore and after a change, just in order to see by experiment what effect a change might have.

Perhaps we could get ahead faster in the world if we were able to conduct good experiments. In most cases, however, these experiments, to meet our desires in discovering the principles, would be a little too drastic for the industries concerned.

We really regard this as having some real value along those lines. Just as biologists, we would like to see a thoroughly conducted experiment, and I say that just to make it clear that we are not just arguing for maintenance of the status quo, and that our desire for caution is really not the sort of thing that the scientist wants. He would like to have more drastic experiments and see what happened. But the caution is really in the interests of the communities which make use of the resource, and to avoid taking away more livelihoods than necessary, or avoid any chance of making our already scarce protein foods still scarcer.

THE CHAIRMAN (MR. SARGENT): Thank you, Dr. Needler. Your point is very well taken.

Dr. Deason, would you like to say anything further?

DR. DEASON (UNITED STATES): I would welcome hearing what our colleagues from the other side might have to say. Possibly Dr. Graham might have some observations on this general point we are discussing that might be helpful to us.

DR. GRAHAM (UNITED KINGDOM): Thank you, Mr. Chairman.

I have, of course, lived with this general point through all my life, and I, too, have felt the temptation to advise experiments and have begun to live, at any rate, with the threat of some of the results of what seemed at the time to be a rather harmless suggestion, and so I rather share what Dr. Needler just said about the caution about experiments with things where human societies are concerned with them.

I don't want to take up a lot of time, because I don't think that any advice I could give is really necessary. I think it is well understood. But if I might speak just for myself, I make a distinction in the mesh regulations that we have recommended in Europe between the mesh which was recommended for the North Sea, which was 80 millimeters internally on the gage. There, undoubtedly, there was a price to pay in the fisheries for whiting and sole, and there was a gain to be expected in the fisheries for haddock, and that price we still would willingly pay, and that gain we would still confidently expect.

At the same time we recommended a larger mesh for northern waters, where the principal fish is the cod, and this was purely as a precaution in order to meet the anxiety expressed by our Scandinavian colleagues. And I can only say, giving my personal experience, that I wish now that we had not put the mesh quite so high, because there was little sacrifice involved in it. The fish were the big fish that we wanted and the smaller fish were an embarrassment to us, and it seemed better not to catch them.

But in other ways, that appeared to be minor ways at the time, that rather high mesh of 110 millimeters which was recommended is proving very difficult to get accepted. There is this difficulty, that if we get what we call a crow's foot, that is, one broken thread so that you have a mesh with toes to it like a crow's foot, you have made quite a big hole in your net and that causes the fishermen anxiety. And there is the difficulty that at certain times and seasons a trawler man who is normally fishing for cod may be fishing for haddock, and doesn't like to see haddock which he finds marketable swimming away from his net.

So I just thought--all I can do is just add my personal opinion at the end of it all--that I shall be more cautious in the future in advising on a harmless regulation, an apparently harmless regulation, unless it is rather a moderate one.

Thank you.

THE CHAIRMAN (MR. SARGENT): Thank you very much, Dr. Graham.

If the Chair may voice an opinion, I agree with you that caution is very, very important from the point of view of everybody concerned.

Do any of our other friends who are not involved in Sub-area 5 have any comments that could help us in this problem?

DR. DEASON (UNITED STATES): Mr. Chairman, Dr. Graham has raised a very interesting point. Without perfecting whatever research information we have, at the same time it seems to be a practical consideration that is going to involve some thought and consultation.

When the United States Commissioners met with their industry advisory committee recently and we discussed this problem of minimum mesh size, the question and the difficulty referred to by Dr. Graham did arise, namely the possible loss of the catch through the breaking of a bar of one of the meshes, particularly on the under-side of the trawl. I think at that meeting of the advisory committee it was developed that probably most of the selectivity of the trawl, the cod end of the trawl, occurred through the meshes in the top half, but yet we didn't see any unanimity of opinion at that time as to whether, if there was a minimum mesh regulation, just where in the cod end and in what other part of the net that minimum mesh should be inserted.

I, personally, would hope that the biologists and others in the fishery organizations of the United States and Canada would proceed forthwith to a consultation with the fishing industry, and perhaps the netting manufacturers, on that specific point. It seems we do need more ideas and suggestions and a better community of thought on just where we should put in the minimum size of mesh, whether in the top half of the cod end or the entire cod end, et cetera. So we do need information on that very practical point, too.

THE CHAIRMAN (MR. SARGENT): Thank you, Dr. Deason.

Does the Canadian delegation have any comments on Dr. Deason's statement?

DR. NEEDLER (CANADA): Well, I don't think, Mr. Chairman; that we really have anything more to say at the present time, although I fully agree with Dr. Deason that the practical matters of designing the new gear which would be required are very important.

We had an experience which is analogous. We believed that we might improve our scallop catches by a mesh regulation, and our belief was strong enough to start some experiments on the effects of various sizes of rings in the scallop drags on the sizes caught. We found, in the course of these, that the gear which we thought we would recommend was actually impractical, and that particular line of endeavor at the moment is now being held up on just this practical problem.

We have found that if we simply enlarged the mesh, the ring size, and didn't adjust the design of the drag, the drag was not effective in the hands of a commercial fisherman who was asked to use it every second day, in comparison with his normal gear.

I just say that in support of Dr. Deason's view that the practical matters of designing gear are very important indeed.

THE CHAIRMAN (MR. SARGENT): Thank you, Dr. Needler. I think that is a very good point, and we will have to study the matter of the gear very, very closely before any regulation is undertaken.

Dr. Walford, do you have any further comments that you would like to make at this time?

DR. WALFORD (UNITED STATES): Not this morning. I am waiting for our technical meeting when some of the questions which involve the design of gear can be discussed in a technical way. It is my understanding that there is to be such a technical meeting; isn't that correct, Mr. Chairman?

THE CHAIRMAN (MR. SARGENT): That is correct.

DR. DEASON (UNITED STATES): Mr. Chairman, I think we have a general meeting of minds here. I wonder if I might venture to suggest a few things about which we might agree, which would perhaps focus our attention on this problem a little more, and perhaps bring us along a little further with it.

Might this panel not suggest first that the appropriate research people of the United States and Canada go into consultation immediately to determine what additional information, what types of information, they need on the present gear in operation?

Might we not then schedule another meeting of Panel 5 within six months, say prior to the end of September next,

in which this question of minimum mesh size in Sub-area 5 in the haddock fishery would be a prime agenda item for definitive consideration at that time?

And might we also note--and this is parenthetically, may I say, something we should like very much to have recognized--that the research facilities and personnel (which of course depend upon the available appropriations that are being expended) now available and utilized for fishery research in Sub-area 5 are totally inadequate in relation to the job to be done, and that efforts should be made to obtain additional personnel and facilities to do an adequate job?

THE CHAIRMAN (MR. SARGENT): Thank you, Dr. Deason.

As I recall, you have three major points that you brought out. One was the getting together of the research people of Canada and the United States on this matter. Another was a meeting of Panel 5 some time prior to the annual meeting, perhaps in September.

DR. DEASON (UNITED STATES): I would be more specific and commit ourselves to another meeting of this Panel prior to the end of September next, with the possible definitive adoption of a minimum mesh regulation for Sub-area 5, for the haddock fishery only, as the primary topic on the agenda.

THE CHAIRMAN (MR. SARGENT): Right. And your third point was to consider the inadequacies of research facilities and personnel.

DR. DEASON (UNITED STATES): To have it appear as the sense of this group that present facilities and personnel for research in Sub-area 5 are inadequate in relation to the job to be done, and that additional funds, personnel, and facilities are necessary.

THE CHAIRMAN (MR. SARGENT): Does the Canadian delegation have any comments on the three points brought out by Dr. Deason?

DR. NEEDLER (CANADA): Just as a matter of clarification, Mr. Chairman, I presume that Dr. Deason means an examination of the entire problem of the need for restrictions, I mean by the research people, not narrowing it down to just a particular gear aspect, but review of the fundamentals of the whole problem.

DR. DEASON (UNITED STATES): Quite true, sir.

THE CHAIRMAN (MR. SARGENT): Any other comments regarding Dr. Deason's suggestion?

DR. BATES (CANADA): Mr. Chairman, I am just interested in the selection of the September date. Is there any particular reason for that, or is it just six months from now?

DR. DEASON (UNITED STATES): Well, it is generally the six-months period. I shouldn't like to see us let this thing die. It is easy for Canada and the United States to have a meeting, and I think we should have another one within, say, the six-month period. But I felt that probably setting a definite date before which it should occur, might spur us on a little more to plan for it.

I have no strong feelings on it, but our industry group seems to be--they are keyed up now to the idea of possibly moving towards something of this sort. They are beginning to recognize the desirability of it, although I don't think we should move too rapidly, but I do think we should begin to work on the problem.

I just suggested September 30, before September 30, as a time we possibly could get our heads together and do some preparatory work, and have a meeting in which we would be able to consider it further and maybe come to some more definitive agreement on the general topic. Not only on possibly what we would introduce as a mesh size, but also how we should do it. We have an enforcement problem. There are a lot of other corollaries to consider when we introduce minimum mesh, and so forth, and we have to explore those things. We do need rather a thorough ventilation of the idea in terms, perhaps, of actual draft language of a regulatory recommendation.

DR. WALFORD (UNITED STATES): Mr. Chairman, may I suggest that we may have a more definite opinion as to how soon that Panel should meet after our technical meeting this afternoon? That is, it seems to me that the technicians should review what they have and what they need to have, and how much analysis would have to be completed before the next meeting of this Panel.

DR. BATES (CANADA): Just a matter there, Mr. Chairman, as to the directions this Panel might give to the technical meeting. The Standing Committee on Research and Statistics covers the whole area, of course, in its general considerations, but actually the greater proportion of the problems seems to be centered in Sub-Area 5, and therefore closely concerned with this particular Panel.

I am not sure what was intended for discussion at the technical group this afternoon, whether it was primarily the Panel 5 problem or the whole program.

DR. DEASON (UNITED STATES): If I may speak, I agree with Dr. Bates that I think the Standing Committee on Research and Statistics is an over-all standing committee to consider research for the area as a whole, to consider statistics as applying to the Convention area as a whole, to think perhaps more in terms of long-range, area-wide problems and programs. To consider the coordination and integration of existing research programs conducted by various governments, and bring them to focus on the major problems of the area. In other words, more of the long-range and area-wide planning and thinking on research would come out of that committee.

By implication, I believe Dr. Bates meant to say that problems intimately associated with problems common to a particular area are appropriate for consideration of the technical people who are attached to the Commissioners on a particular panel, as they are assigned to be advisers, scientific advisers. Isn't that your view, Dr. Bates?

DR. BATES (CANADA): There is one other point, really. It doesn't arise particularly out of the matters discussed this morning, but it is a point as to the place of planning on this.

It seems to me that on the panel the purely technical expert has to sell the ignoramus like myself on the particular types of regulation and so on. You can have your technical groups and your technical meetings, but there are some of us here who represent the other groups, the non-technical people, and it is surely in the panel that your language has to drop from its jargon to a level which we know we can sell to the fishing industry. In other words, you must persuade us in the panel first.

I think that kind of thing is likely to come up in the Commission from time to time, and it seems to me the panel is one of the instruments we have in the Commission for converting, shall we say, a biological truth into a practical measure that may be acceptable to governments.

Perhaps I am not raising any point here at all. I am just wondering, however, how far we as a panel should go on discussing scientific questions before saying we leave it entirely to a standing committee on research.

DR. DEASON (UNITED STATES): I agree with you fully, sir.

DR. BATES (CANADA): In other words, if there is to be a research program, if there is to be a meeting of the scientists in six months' time, don't we in the panel here want to know exactly what these fellows are going to be doing during that period and why? I am speaking now to the other non-expert members of the panel.

MR. KNOLLENBERG (UNITED STATES): Mr. Chairman, that would be conspicuously myself, and I certainly agree with Dr. Bates. That would be my own feeling.

I also had another query. If we should come to a resolution later, and that would be on the question of additional personnel and additional expense, I just don't know. I would be willing to be convinced on that, but I certainly wouldn't be prepared now, with my limited knowledge, to take an affirmative vote to recommend that there should be any increase in costs involved. Personnel, of course, would involve that.

DR. BATES (CANADA): Well, Mr. Chairman, I am trying to see this relation of the Panel to the research program and Standing Committee on Research. I am trying to see through it a little more.

Surely, in the long run, it is the Panels that determine the subjects for research. That is, it is the Panels that refer questions to the Standing Committee on Research. At this, our first meeting, the question has come up from the biologists. They are the experts. But isn't it the

Commission, and the Panels primarily, that determines what the scientific program should be? They are the people who should be placing questions.

In other words, it is the American fishing industry, presumably through the Panel, through its representatives on the Panel, that brings the question in here, and then we, as a Panel, refer these problems to the Standing Committee on Research. After their advice, a general program is determined.

MR. DOBSON (UNITED KINGDOM): Mr. Chairman, might I say a word on this to clarify my own mind? My friends will put me right if I am wrong.

If I understand Dr. Bates, it is this: That the respective industries want certain work done which depends upon scientific research. Their natural channel of agitation, if you like to put it, would be the Panel. The Panel would consider what work should be done. But if it leads to any regulatory recommendation, it would have to come finally before the Commission as a whole.

Now, the Commission as a whole would surely look for advice to the Standing Committee on Statistics and Research. If I am right on that, then the Committee on Statistics and Research, the Standing Committee, would be advisers to the Commission.

So that you would start with your Panel, and the Panel would say, "This is what we want to do", and the matter would then go, with other Panel observations from other Panels, to the Standing Committee on Statistics and Research, who would then advise the Commission, so that the Commission, who ultimately must take the decision, would have their experts' advice.

Do I understand that is what Dr. Bates had in mind?

DR. BATES (CANADA): That is right.

MR. DOBSON (UNITED KINGDOM): I think that is what Dr. Graham possibly feels is the right procedure.

DR. GRAHAM (UNITED KINGDOM): Might I add to that Mr. Chairman? I am sure I support my chief in saying that that is the right procedure. I am not quite sure, sir, whether at the present moment you haven't got a matter of some urgency, though that might at this first meeting, as I understand it, require in some form or other some support at once.

As I understand it, from our informal talks, there is a requirement for a great deal of observation by a research vessel, and quite clear observation, and until information is available on certain matters under present conditions--better information than there is--we would find it difficult to have a basis of comparison later on.

So that if this Commission is going to recommend any regulation, one has to look to a period of perhaps a whole year, perhaps two years, during which the information on the fish younger than are caught in commercial catches is obtained.

I may be quite wrong in my understanding of this. One only picks up things. But, as I understand it, on our side of the water I should want certainly a full year of activity of a research vessel in full commission.

And again, if I may say--and I am probably sticking my neck out and interfering in what isn't my business--if I were going to run a research vessel for a year in that sort of way, I should want eight professional scientists. They wouldn't all be at sea all the time.

Well, now, it is perfectly true that not all European research vessels work on that ratio of eight scientists to a research vessel, but I know we can claim, sir, that in the British Isles we tend to run in most of our affairs to relatively small staffs. We are not people in general who go in for unnecessarily big stuff. And certainly since 1945 that is the ratio that we have been using.

Although I fully agree with what has been said by Dr. Bates and Mr. Dobson about the correct procedure, I don't think it is ever too soon to start getting vital information. Otherwise, one may find oneself rather lost--embarrassing, if so

So that as I understand it, sir, I thought I would just tell you the ratio on which we work in Great Britain if we want to use a research vessel properly. And it seems to me that you haven't got anything like that. And that is why I thought I would just mention that at this present time.

THE CHAIRMAN (MR. SARGENT): Thank you very much.

DR. BATES (CANADA): Mr. Chairman, I am indebted to what Mr. Graham has said, because it seems to me that is one reason why I am moving at the subject in this roundabout way. Dr. Deason's proposal to meet in September seems to take us no farther forward. Perhaps another year is lost.

I should have thought that following this discussion this morning, it might be that the Research and Statistics Committee this afternoon could review the matter and bring it back to the Panel, this Panel, on Monday, with a view to laying out some of the bare bones, perhaps, of the program. Perhaps we can't implement very much in the year 1951, budgets being what they are, but, nevertheless, it is going to take man's mind some time to become attuned to an integrated research program, and the sooner we start the better. Likewise, it is going to take some time for North America to become attuned to the costs of fisheries conservation--all the budgets of North America. That is one that is perhaps the smallest. It is going to take time to get legislators either in state governments or in federal governments to recognize that it takes, as Mr. Graham says, eight men to a boat, and that it may take that boat several years before you can wisely make one suggestion even on a mesh size.

MR. KNOLLENBERG (UNITED STATES): Mr. Chairman, I entirely agree with Mr. Bates on this and hope that it will, perhaps, take the form of a motion before we are finished. I did want, however, to point out perhaps a nuance in his statement with which, if I correctly interpreted it, I wouldn't agree. That was the stress on industry initiating whatever we might do.

I think that industry, certainly, in many cases should initiate it, but I don't think that that should be exclusive. I can well imagine that some of our most profitable activities might be suggested to us, proposed, even urged by the Fish and Wildlife Service independently of the suggestion, and possibly even sometimes initially in opposition to what industry might like, and that, certainly, we ought to feel free either in the Panel or in the Commission as a whole to consider those sympathetically, as well as we would ideas that were introduced by industry.

Now, as far as I know, there would be nothing in the Convention, at least, that would limit us to the consideration of matters that might be initiated by industry. It was only that phrase of yours, Dr. Bates, that I wanted to clarify. I don't imagine there is any difference of opinion.

DR. BATES (CANADA): I think not. I think I was perhaps trying to make the point a little more vividly at this first meeting, that we do have to keep in mind that our main purpose is the serving of fishermen. That is the aim of the conservation program. It is not simply the fishing industry, so to speak.

MR. KNOLLENBERG (UNITED STATES): Mr. Chairman, there possibly is a difference in our conceptions, because I would rather say that our primary duty was service to the community, and sometimes you have, in my opinion, a clash between a given industry and the public as a whole. I should think I would go a step further in my thinking as to whom we were primarily designed to serve.

I came across that so much in some other work I did here, between the Public Health Service and the medical service, when I was in Lend-Lease, and I found that there was a real clash between the profession, the industry as it were, and the United States Public Health Service. And I certainly felt that in some cases the United States Public Health Service had the superior concept. And I can conceive that we may have a similar difference here. And if that should arise, certainly my own thought would be that the ultimate object would be the community--service to it.

DR. BATES (CANADA): Yes. I could never disagree with that statement. But I refer again to one other that I did make, and that is that in North America, insofar as there is a clash between fishing and the other industries of North America, the fishing has come out at the short end of the stick in terms of programs, biology, and everything else. And it might behoove this Commission to try to give that stick a tilt in favor of the fishing.

MR. KNOLLENBERG (UNITED STATES): I entirely agree. I was sympathetic to fishermen before I was appointed to the Commission and am naturally becoming increasingly so as I sit in these sessions.

MR. DOBSON (UNITED KINGDOM): Perhaps I was rather loose in my remarks. I would like to say, in view of what Mr. Knollenberg said, that I didn't mean to imply that the Panel depends entirely on the initiative of the industry. God forbid that the government department concerned should always agree with the industry. I meant, of course, that the industry's views, whether they are concurred in by, in your case, the Fish and Wildlife Service, of course would come through the Fish and Wildlife Service, who could add anything to it, or subtract anything from it, or put their own views in. I was speaking loosely. I am entirely in accord with what Mr. Knollenberg says.

DR. DEASON (UNITED STATES): Mr. Chairman, Dr. Walford has one or two observations I should like him to make.

DR. WALFORD (UNITED STATES): I am at quite a disadvantage, having come to this meeting late, and I am not up to the minute on what has gone before. But Dr. Bates remarked a while ago that one of the functions of this Panel is to formulate questions to the technicians, and I agree with that fully.

Now, it seems to me that if those questions have not yet been formulated, it would help the technicians greatly in their discussions this afternoon, if you would formulate the questions. What are the central questions that you feel must be answered?

MR. GUSHUE (CANADA): I have been doing a little writing while I have been listening, and I wonder, in view of the discussion which has taken place, and the clarifications we have had, if a recommendation from this panel this morning, somewhat to this effect, would be in order.

That the Committee on Research and Statistics be asked to pay attention promptly to the report of Panel 5, with reference to the research programs and fishing practices of the area, with a view to developing and recommending to the Commission such changes, if any, in existing programs and practices as may be deemed desirable.

I wonder if that would be the appropriate action of the Panel? It is rather throwing the thing on the table without--

THE CHAIRMAN (MR. SARGENT): Thank you, Mr. Gushue. Are there any comments?

DR. DEASON (UNITED STATES): Mr. Chairman, if Mr. Gushue has offered that in the form of a motion I will be very happy to second it.

MR. GUSHUE (CANADA): I will be glad to move it.

MR. KNOLLENBERG (UNITED STATES): Mr. Chairman, may I ask that that be read again? I think I agree with it, but I am not perfectly certain.

MR. GUSHUE (CANADA): That the Committee on Research and Statistics be asked to pay attention promptly to the report of Panel 5, which reference to the research program and fishing practices of the area, with a view to developing and recommending to the Commission such changes, if any, in existing programs and practices as may be deemed desirable.

That may stand a lot of changes.

MR. KNOLLENBERG (UNITED STATES): No. That's all right.

THE CHAIRMAN (MR. SARGENT): Would that be a recommendation to the Panel or a recommendation to the Commission?

MR. GUSHUE (CANADA): Well, it would be a recommendation to the Commission. That would be the proper procedure. But I think that there would be nothing to prevent, and, as a matter of fact, it would be natural--because you have members on both the Panel and the Commission--that if an interim conclusion were reached, the Panel would know, would be fully aware of the conclusion, as to a recommendation and be able to discuss it.

DR. DEASON (UNITED STATES): Mr. Chairman, I don't think we need to be too sticky about procedure here. I think it would be perfectly proper, at this junction, for that to go from this Panel as a charge or an assignment to the Committee that meets this afternoon, since we shall not convene a full Executive Session of the Commission in the interim to receive this and pass it on. I think we might agree that the Research and Statistics Committee might take this motion, if adopted by this Panel, and go to work on it this afternoon.

THE CHAIRMAN (MR. SARGENT): You feel that there is no further formality necessary then? If there is no opposition--

MR. GUSHUE (CANADA): My motion is that this be a recommendation to the Committee on Research and Statistics, but, formally, the recommendations of the Committee on Research would be to the Commission, when they came to that point. But at the same time, as I said before, the Panel would certainly know of the action.

THE CHAIRMAN (MR. SARGENT): Since I have heard no opposition, I would assume that that goes into the record and no further action is necessary.

DR. DEASON (UNITED STATES): Venturing to disagree with you, Mr. Chairman, if that goes into the record, I would assume that it is a charge to the Committee to meet this afternoon to consider the resolution offered by the Commission.

THE CHAIRMAN (MR. SARGENT): I think we agree.

DR. DEASON (UNITED STATES): Dr. Walford wanted to make an observation.

DR. WALFORD (UNITED STATES): I feel there is an important point to consider which is not covered in the wording by means of which Dr. Gushue has stated the question. As a biologist, I would rather that we consider what the estimated effects would be of various changes in fishing practices, but not what would be desirable. It seems to me that it would be up to the Commission to determine what was desirable, but not up to the biologists. The biologists can say, "We estimate if such and such a change is made, these will be the effects." The Commission will decide what is desirable, and the biologists should give you a range of effects to choose from.

I feel that is of fundamental importance, because biologists very often become involved in questions that are not really biological, at least which don't touch on the biology of fish, but on the biology of man.

DR. GUSHUE (CANADA): Mr. Chairman, my reference there is to research programs. I have not just said "programs".

DR. WALFORD (UNITED STATES): I beg your pardon.

MR. GUSHUE (CANADA): And the Committee under the Rules of Procedure is given the responsibility of recommending to the Commission, from time to time, such changes in existing programs, or such new programs as may be deemed desirable, but I have said "research programs" in my draft.

THE CHAIRMAN (MR. SARGENT): Is that agreeable with you?

DR. WALFORD (UNITED STATES): That is quite agreeable, yes.

THE CHAIRMAN (MR. SARGENT): Is there any further discussion?

DR. GUSHUE (CANADA): Perhaps I should add too, that I have also put in the words "fishing practices". I don't know if that would affect your observation.

DR. WALFORD (UNITED STATES): No.

THE CHAIRMAN (MR. SARGENT): Is there any further discussion on this matter or any other matter pertaining to Panel 5 at the present time?

I gather that there is no further discussion.

DR. BATES (CANADA): I don't know just where Dr. Deason's original suggestion stands in the light of this.

DR. DEASON (UNITED STATES): I would think, Dr. Bates, that, inasmuch as we are giving a charge to this Research Committee and we are going to convene this Panel again on Monday to hear what they come in with, that any other motions or considerations to the Panel might be in the way of summing up after we have heard what the Research Committee has to offer on Monday.

DR. BATES (CANADA): Yes. As long as we are meeting again and there is time before we break up as a Panel, I am satisfied.

DR. DEASON (UNITED STATES): I am very happy at your suggestion that we go forward and--

DR. BATES (CANADA): I am anxious we do not appear, as Panel 5, to be neglecting what the fishing industry of the United States might regard as a problem of theirs.

DR. DEASON (UNITED STATES): I am very happy at your suggestion that wo do more than I originally thought we might accomplish after this meeting, Dr. Bates, and I am fully in sympathy with you. We have sufficient time--all day Monday if necessary--to get on with this Panel 5 proposition.

THE CHAIRMAN (MR. SARGENT): Thank you very much.

Then, as I understand it, if there is no further discussion, Panel 5 will again meet at some time which will be later designated on Monday.

MR. GUSHUE (CANADA): Mr. Chairman, I have to reopen just to make a minor correction here. I read twice with reference to the research programs and fishing practices of the "area". That should be "sub-area" .

THE CHAIRMAN (MR. SARGENT): Yes.

MR. GUSHUE (CANADA): I will just make that point.

THE CHAIRMAN (MR. SARGENT): If there is no further discussion, I declare the meeting of Panel 5 closed.

THE SECRETARY GENERAL (MR. WHEELER): The Chair has a suggestion to make at this time, and a note also for information.

The noto first. The minutes of the Third and Fourth Executive Sessions were distributed this morning, and it would bo appreciated if any recommended changes therein are handed in to the Technical Secretary today, in order that the Corrigendum may be published and the minutes approved at the next Executive Session.

Second, at yesterday's Executive Session an ad hoc Committee to consider Item 22 on the agenda was announced, and the membership thereon as indicated by the members of

the Commission were: For Canada, Dr. Bates; for Denmark, Mr. Taning; for Iceland, Dr. Fridriksson; for the United Kingdom, Mr. Dobson; and for the United States, Mr. Knollenberg.

It has been suggested that that Committee meet now in order to consider Item 22. Is that agreeable to the members here?

MR. DOBSON (UNITED KINGDOM): Quite, but I am very anxious that the Danish representative should be present.

THE SECRETARY GENERAL (MR. WHEELER): We will make efforts to find him.

MR. DOBSON (UNITED KINGDOM): He is rather interested.

THE SECRETARY GENERAL (MR. WHEELER): I would suggest the Committee meet in Committee Room C, and I will endeavor to find Dr. Taning.

THE CHAIRMAN (MR. SARGENT): I declare the meeting of Panel 5 closed.

(Thereupon, at 11:30 a.m., the Panel adjourned.)

- END -

Corrigendum to Annex No. 13

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

FIRST MEETING - WASHINGTON, D. C. - APRIL 2, 1951

RESTRICTED
Corrigendum A
DCC/36
April 9, 1951

CORRIGENDUM A
SUMMARY REPORT
(MINUTES)
OF
PANEL, SUB-AREA 5

April 7, 1951

The sentences of the following paragraphs should read as shown below (changes in text indicated by underscoring):

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(Paragraph 1, second sentence)

It doesn't arise particularly out of the matters discussed this morning, but it is a point as to the place of panels in research.

(Paragraph 3)

I think that kind of thing is likely to come up in the Commission from time to time, and it seems to me the panel is one of the instruments we have in the Commission for converting, shall we say, a biological truth into a practical measure that may be acceptable to governments and industry.

(Paragraph 6, first sentence)

DR. BATES (CANADA): In other words, if there is to be a research program, if there is to be a meeting of the scientists in six months' time, don't we in the panel here want to know exactly what those experts are going to be doing during that period and why?

Page 16

(Paragraph 1, first sentence)

Commission, and the Panels primarily, that will in the longer run determine what the scientific program should be?

(Paragraph 6)

Omit "other Panel" in the third line.

RESTRICTED
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(Paragraph 9)

I should have thought that following this discussion this morning, it might be that the Research and Statistics Committee this afternoon could review the matter and bring it back to this Panel on Monday, with a view to laying out some of the bare bones, perhaps, of the program. Perhaps we can't implement very much in the year 1951, budgets being what they are, but, nevertheless, it is going to take men's minds some time to become attuned to an integrated research program, and the sooner we start the better. Likewise, it is going to take some time for North America to become attuned to the costs of fisheries conservation--all the budgets of North America.

Delete the fourth sentence--"That is one that is perhaps the smallest."

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(Paragraph 7, third and fourth sentences)

But I refer again to one other that I did make, and that is that in North America, insofar as there is a clash between fishing and the other industries of North America, the fishing industry has been at the short end of the budgetary stick in terms of programs, biology, and everything else. And it might behoove this Commission to try to give that stick a tilt in favor of the fishing industry.

Page 22

(Paragraph 4)

DR. BATES (CANADA): I am anxious we do not appear, as Panel 5, to be neglecting what the fishing industry of the United States might regard as an immediate problem of theirs.

- END -