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Notes on Fishing Effort Measures and Data

by

The Secretary
Coordinating Working Party on Atlantic Fishery Statistics
FAO Department of Fisheries

CONTENTS

1. FAO Fisheries Circular No.252 - Notes on Percentage of Effort Data arrived at by means of Estimates,
2. FAO Fisheries Circular No.254 - Notes on Classification, Definition and Codification of Fishing Effort Measures
3. FAO Fisheries Circular No.255 - Notes on "Days on Ground" as one of the Effort Measures

FAO Fisheries Circular No. 252
(Distribution restricted)

FIEs/C252
Statistical standards

NOTES ON
PERCENTAGE OF EFFORT DATA ARRIVED AT BY MEANS OF ESTIMATES

Prepared by

The Secretary
Coordinating Working Party on Atlantic Fishery Statistics
FAO Department of Fisheries



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, April 1970

PREPARATION OF THIS DOCUMENT

This document has been prepared for presentation to the annual meetings of ICNAF, ICES and CWP in 1970/71.

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FAO Fisheries Circular (FAO Fish.Circ.)

A vehicle for distribution of short or ephemeral notes, lists, statistical tabulations, etc., including provisional versions of documents to be issued later in other series.

Percentage of Effort Data Arrived at by Means of Estimates

1. Introduction

1.1 Line 7 of the STANA LW form and line 11 of the STANA LE form are to be used by national statistical offices to report the extent to which effort data inserted on the preceding lines of these forms were not actually recorded but were obtained by either sampling or estimates or both. Since it appears that an appreciable percentage of effort data are in fact arrived at by means of estimates, the following action has been taken by the CWP and ICNAF.

2. Recommendations of the CWP and ICNAF

2.1 The Report of the Sixth Session of the CWP (Copenhagen, 3 - 7 February 1969) contains the following paragraph:

"12.2 The CWP noted that serious difficulties are arising through the reporting of an appreciable percentage of effort data arrived at by means of estimates. The CWP recommends:

(a) that this problem be drawn to the attention of the stock assessment experts at the next ICNAF and ICES meetings;

(b) that this question be included on the agenda of the special meeting on fishing effort measures, to be convened just before the 1970 Statutory Meeting of ICES."

2.2 The Report of the 1969 ICNAF Subcommittee on Statistics and Sampling includes the following :

"The Subcommittee noted the CWP concern that an appreciable percentage of reported effort data is estimated, and it has requested that the attention of both ICNAF and ICES be drawn to this. The Subcommittee

recommends (11)

(i) that the CWP Secretary obtain from the national offices detailed descriptions of the methods used to arrive at these estimates of effort;

(ii) that the material be submitted to ICNAF at its 1970 meeting and also to the 1970 ICES Special Meeting on Measurement of Fishing Effort."

3. Comments Made by National Statistical Offices

The Secretary of the CWP has therefore taken this matter up, by correspondence with national statistical offices, and received the comments listed below:

3.1 Belgium

"We do not use estimates or sampling methods except when, in case fishing took place on more than one ground, the effort has to be allocated to the most important ground."

3.2 Canada

"Three classes of effort are used in processing ICNAF statistics:

- a) class 1 - complete effort available, i.e. number of trips, days absent, days fished and hours or lines fished
- b) class 8 - partial effort available, i.e. number of trips only
- c) class 9 - no effort available

Effort is estimated for class 8 documents only, not for class 9, and the calculations are now carried out by the computer during tabulation.

When part of the effort data is unknown, total effort is calculated as follows:

$$\frac{\text{Total quantity landed}}{\text{Quantity for which effort is known}} \times \text{known effort}$$

The percent estimated is calculated as follows:

$$\frac{\text{Quantity for which effort is unknown}}{\text{Total quantity landed}} \times 100$$

An example might illustrate the method more clearly. Suppose a vessel made 7 trips during the year and landed 1,000,000 lb. It is known that 600,000 lb. were landed in 4 trips with 48 days absent, 40 days fished and 300 hours fished. For the remaining 400,000 lb. it is only known that the quantity was caught in 3 trips. The total number of days absent, days fished and hours fished have to be estimated:

$$\frac{1,000,000}{600,000} \times 48 = 80 \text{ days absent}$$

$$\frac{1,000,000}{600,000} \times 40 = 67 \text{ days fished}$$

$$\frac{1,000,000}{600,000} \times 300 = 500 \text{ hours fished}$$

To calculate the percent estimated:

$$\frac{400,000}{1,000,000} \times 100 = 40\%$$

3.3 Denmark

The Danish fishery statistics do not yet include effort data.

3.4 Finland

"Our method of getting these facts are shortly as follows:

We are sending yearly an inquiry to each fishing craft which is listed in our Register of fishing crafts.

About 70% of the crafts are returning the enquiry. For the rest of the crafts we must estimate the catches and fishing time.

Fishing power need not be estimated, because this information is available in our Register of fishing crafts.

You'll have to notice that the catch of these fishing crafts is only under 20% of the total catch in Finland."

3.5 France

The information supplied in the STANA 1W forms are extracted from the books kept on board by the skippers of boats fishing in the ICNAF area. The catch is therefore estimated by the skippers according to the number of hauls made and their size.

3.6 Federal Republic of Germany

"So far, estimates have not been made for the data concerning line 7 of STANA 1W and line 11 of STANA form 1E, since the relevant data are available."

3.7 Greenland

"Neither line 7 of STANA 1W nor line 11 of STANA 1E are filled in for Greenland. We are not in a position to do so for our small boat mixed fishery, but hope it will be possible to give actual fishing time for the developing trawl fishery without being forced to estimate part of that effort in terms of fishing time."

3.8 Ireland

"Unfortunately we have not been able to furnish catch/effort statistics for our fisheries, except in relation to the Dunmore East herring fishery. Statistics relating to catch/effort for this fishery have been submitted to ICES for Statistical Newsletters."

3.9 Netherlands

"As regards the completion of line 7 of STANA form 1W and line 11 of STANA form 1E, it may be observed that the data given in the lines 1 and 5 to 10 incl. were not estimated, so that line 11 is not completed. When we complete lines 2 and 3 by means of estimates, this will be stated on line 11."

3.10 Norway

"On the STANA 1W forms all fishing effort data for trawlers are given according to their own log books. On the STANA 1E forms fishing effort data for trawlers are both recorded figures and estimated figures as some of the smaller trawlers fail to give the necessary data. These estimates are based on average figures within each size group and each fishing area. This method is mainly used for the two smallest size groups in the North Sea area, and the percentage of estimates varies considerably from year to year.

As regards long liners and other fishing vessels our statistical material does not justify giving any effort data at all, neither recorded figures nor estimates."

3.11 Poland

"Here we would like to comment on the method adapted in filling in the line 7 of STANA form 1W and line 11 in STANA form 1E for the use of Polish statistics, named "percent estimated". In Polish statistics forwarded to international organizations, these lines are left empty. This is caused by the lack of sufficient instruction in STANA FAO forms 1W and 1E (FAO Circulars Nos. 203 and 204). Filling in those lines based only on their names may appear confusing.

Replying at the same time to the question contained in sub 4(a), we would explain that our data indicated in lines 1, 3 and 5 of STANA forms 1W and 1E are not estimations only, but consist of full information based on data received from all the vessels fishing on ICNAF and ICES fishing grounds."

3.12 Portugal

"All our fishing effort is registered directly and not estimated."

3.13 Sweden

As Swedish fishery statistics do not comprise any effort data at all, there are no comments on this specific problem.

3.14 United Kingdom

"All data is based on returns given by skippers, mates etc. to collectors of statistics. A certain degree of estimating is unavoidable. We scrutinize the returns and where any figures appear suspect we in the Statistics Branch query them with the collector. The basis of our check relates the credibility of the effort data as related to other details of the voyage, principally the catch."

3.15 U.S.A.

"The percentage of effort arrived at by Woods Hole, by means of estimate is zero (none). We use observed effort."

3.16 U.S.S.R.

"As the USSR statistics include the statistical data of all Soviet fishing vessels, we do not estimate the percentage of effort data."

NOTES ON CLASSIFICATION, DEFINITION AND CODIFICATION OF FISHING
EFFORT MEASURES

Prepared by

The Secretary
Coordinating Working Party on Atlantic Fishery Statistics
FAO Department of Fisheries



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, April 1970

PREPARATION OF THIS DOCUMENT

This document has been prepared for presentation to the Annual meetings of ICNAF, ICES and CWP in 1970/71

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FAO Fisheries Circular (FAO Fish.Circ.)

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Notes on Classification, Definition and Codification of Fishing Effort Measures

1. Introduction

1.1 The problems related to the classification, definition and codification of fishing effort measures (gear, craft propulsion and craft size) have been reviewed by the Secretary of the CWP in Fisheries Circular No. 229. This document was presented to the Sixth Session of the CWP (February, 1969) and to the annual meeting of ICNAF (1969). These two bodies made the comments and recommendations listed in the following paragraphs.

2. Recommendations of the CWP and ICNAF

2.1 The Report of the Sixth Session of the CWP reads as follows:

"19.2 The CWP reviewed the gear classifications used by ICES and ICNAF and took note of certain differences and deficiencies which would require rephrasing of the relevant STANA Notes (see Section 12.1, paragraph (j) of this Report).

19.3 The CWP recommends:

That Professor Dr. A. von Brandt and the Secretary of the CWP prepare a revised version of FAO Fisheries Circular, No. 229 for initial review by ICES and ICNAF during 1969/70 and for circulation to countries. A second revision, taking into account all comments, should be presented to the 1970 ICES Special Meeting called to discuss methods of measuring fishing efforts for different fisheries and their application for fishery statistics."

2.2 The Report of the 1969 ICNAF Subcommittee on Statistics and Sampling includes the following:

"The Subcommittee noted that Res.Doc. 69/27, giving details of the effort measure definitions currently used in the notes for the completion of the STANA forms 1W and 1E, and description of the gear types used in the notes together with material proposed by Dr. von Brandt, was submitted to the CWP's 6th Session, February 1969. The Subcommittee

recommends (10)

- (i) that all countries endeavour to comment on Res.Doc. 69/27 through the CWP Secretary before mid December 1969;
- (ii) that, taking into account all the comments received, Dr. von Brandt and the CWP Secretary be asked to prepare a final version for submission to the 1970 meeting of ICNAF;
- (iii) that the final version, with ICNAF comments, be submitted to the 1970 ICES Special Meeting on the measurement of Fishing Effort."

3. Comments made by National Statistical Offices

The Secretary of the CWP has therefore taken the matter up by correspondence with national statistical offices, and received the following comments:

3.1 Belgium

"a) - Number of hours fishing

These are based on the register held by the Maritime Police in which are noted, from the skippers log-books, the number of hauls and the average duration of each haul. The product of the latter by the former data gives the time during which the gear was actually fishing.

3.1 Belgium (continued)

"b) - Number of hauls

Was not recorded in our statistics up to now. We are examining the possibility, and eventually the date of changing our computer program in order to give this information.

"c) - Number of days fished

Is not recorded. The introduction of this new entry would meet with serious difficulties. Moreover, as the number of days on the grounds, and the number of hours of actual fishing are known, the necessity of recording it does not seem overwhelming. Nevertheless the possibility of introducing it on a later date is being explored.

"d) - Number of days on ground

As said before this entry is made as defined on page 4 of Circular No. 229.

"e) - Number of days absent from port

This number is calculated on a slightly different base than the one described in Circular No. 229. In Belgium date and hour of sailing and of arrival back in port are noted, and the number of hours elapsed divided by 24.

Up to now no effort has been made to divide the number of days at sea proportionally between fishing areas in the case of fishing on more than one ground during the same trip. No data are available to do so. Most of the time visiting more than one ground only occurs when fishing starts near the boundary of one ground and gradually goes over to the other one. The statisticians try to find out in which ground most of the fishing was done and the whole of the trip is allocated to this ground. When the vessel visited quite different grounds the choice of the main fishing area is based upon the importance of the species caught during the trip, as grounds which are geographically far apart contain different species. The only other alternative would be to wait for the skipper coming back from his next trip in order to ask him. This however would result in much delay in publishing our statistics, so it is not judged worthwhile.

"f) - Number of trips made

The same remarks are valid for this entry.

"g) - Average horse power

Will be given from 1969 on.

"h) - Average horse power

The weighing in our statistics is slightly different from the one described in Circular No. 229, being calculated on the basis of the "number of hours fished" instead of the "number of trips". Difference in the results is probably too small to be noticed.

"i) - Average length

The possibility to give straight averages for 1969, and weighted averages from 1970 on, is being investigated.

At the moment however only registered length can be given, as length overall is only known for recently built vessels.

"j) - Number of fishing units operating

In our statistics, in the case of pair boat fishing, both crafts are counted for one unit. The catch is equally divided between the two boats. It would be difficult to work as recommended on page 5 of document No. 229 as the basis of our statistics is formed by date sheets per vessel.

3.1 Belgium (concluded)

"k) - Fishing gear

Our fishermen use only the trawl as a fishing gear. We have otter trawls, pair trawling and beam trawling. As for the latter gear, however, this is somewhat special and should, I think, be mentioned in Dr. von Brandt's classification as a special item, i.e. "twin beam trawling", as its fishing power, especially for flatfishes, is much higher than that of the otter trawl and that of a single beam trawl.

From 1971 on we will probably also use the pelagic trawl and in a somewhat more remote future probably also electrically assisted bottom trawling.

We are now engaged, together with some other countries, in an extensive study to find out which vessel characteristics are determining fishing power and how the influence of these characteristics on fishing power can be mathematically expressed.

3.2 Canada

"a) - Appendix A - Fishing Time

1) number of hours or 1,000 hooks fished

We follow the definitions given in these paragraphs. The definition for otter trawlers is also used for Danish seiners, Scottish seiners and scallop druggers.

Effort measures are not used for nets, seines and traps and, for harpoon fishing for large pelagic fish, days only are recorded;

2) number of days fished

In measuring the number of days fished, every day that some fishing took place is considered a day fished. Days searching for large pelagic fish are considered days fishing;

3) number of days on ground

Not used by Canada. Days absent and days fished are already recorded and are considered more useful;

4) number of days absent from port

As it has been customary for large Canadian fishing vessels to leave port in the evening and arrive in the morning, the number of days absent has been determined by Canada to the nearest half day. This is slightly different from the definition shown in the circular;

5) number of trips made

No comments required except that effort is also allocated proportionately when more than one gear is used on a fishing trip.

"b) - Appendix A - Fishing Power and Appendix B

Nothing to report as we follow the instructions. On Page 7, under ICNAF, "mid-water trawls" should be included.

"c) - Appendices C, D and E

The only comment here is that "harpooning" (p.14 and 15) should not refer to sea mammals but also to swordfish.

3.3 Denmark

The Danish fishery statistics do not yet include effort data.

3.4 Federal Republic of Germany

Fishing effort statistics, gear, craft propulsion and craft size are already covered in the statistics of the Federal Republic and, where this is requested, reported in the tables supplied to you.

3.5 Finland

I would say that we have no comments on the classification, definition and codification, which are listed in the Circular. All the fishing gears and methods used by Finnish fishing are included in Circular No. 229.

3.6 France

Fisheries Circular No. 229 requires no remarks.

3.7 Greenland

Fishing time: the definition of dory hours makes it necessary to estimate a mean time for the dories' absence each day. All dories may well leave their mother vessel within a very short period in the morning, but I suppose the time for returning will be much more dispersed.

The definition for hooks seems to be made on the assumption, that numbers of hooks do not vary significantly between sets. It would be logical to say something like "the sum of hooks used in each set".

The breakdown and allocation of "days absent" and "trips" in cases where more than one fishing area is visited seems to be so difficult to manage, that one would always be extremely careful in using this part of the statistic. If fishing time is correctly reported the days absent or number of trips do not matter much for biological analysis but of course for economic analysis, but this may be left to national offices. ICNAF does, as you know, no longer report "days absent" or "trips".

Fishing power: as we all know this is extremely difficult to define and even more so to get reported. Some of the most important parts of fishing power cannot be measured (skill of captain and crew in searching and fishing). The ICNAF classification (tonnage class, side-stern, gear) provide some estimate especially when supplemented every three years with the detailed "List of Vessels". I am not too familiar with problems in the ICES area to comment further on this.

3.8 Ireland

We have no comments on Fisheries Circular No. 229.

3.9 Netherlands

FAO Fisheries Circular No. 229 gives no reason for comments.

3.10 Norway

I have no comments on the Fisheries Circular No. 229.

3.11 Poland

In "FAO Fisheries Circular No. 229", we have found the information stressing the differences in statistical data gathered by ICNAF and ICES to describe "fishing effort" and "fishing powers" as well as other considerations.

We would therefore suggest the following:

"a) - To standardize requirements of statistical data regarding "fishing efforts" and "fishing powers" collected by ICNAF and ICES.

"b) - We are of opinion that the classification of fishing gear and especially of fishing fleet as in Circular No. 204 serving the purpose of completion of statistical data for ICES, is more complete than the classification of ICNAF introduced in Circular No. 203. As a consequence and in order to standardize the statistical system, we would give preference to use the system shown in Circular No. 204. In connection with the fact that Polish fishery disposes only of few types of serial vessels and also that the fleet, fishing on conventional waters, is using mostly trawls and only in small extent drift nets, the set of statistical data and information regarding fishing fleet and its gear, seems to be at present abounding and representative to such an extent that even detailed analysis is possible both in the scope of "fishing effort" and "fishing powers".

We therefore believe that the existing practices are justified under presently prevailing conditions. However we declare ourselves to be always ready to discuss the subject in the future and to take part in further consideration of the improvement of statistical data system in respect of "fishing effort" and "fishing power".

3.12 Portugal

We agree that the fishing effort must also be grouped in terms of engine power and not only by tonnage as at present in use. The weighted averages seem to be a useful procedure.

3.13 Sweden

As our fishery statistics do not comprise any effort data, we have no comments to make on this specific problem.

3.14 United Kingdom

"a) - Our statistics for fishing effort are related to two factors, viz. group of species fished (viz. demersal, pelagic) and registered length of vessels engaged.

The following is available:

- (i) For vessels of 40ft. and over fishing for demersal species - gross tonnage method of propulsion and capture ground fished, number of hauls made and hours fished (but not for liners), number of days at sea and number of voyages.
- (ii) For vessels of under 40ft. fishing for demersal species - method of propulsion and capture, grounds fished and number of voyages.
- (iii) For all vessels fishing for pelagic species - method of propulsion and capture and ground fished.

There are no effort statistics available for vessels fishing for shellfish.

3.14 United Kingdom (concluded)

- "b) - We get no separate returns either for long lines or for hand lines. For statistical purposes we equate the former with lining by vessels of 40ft. and over, and the latter with lining by vessels under 40ft.
- "c) - No separate figures are available for stow netting. However, any such catches made are small and usually returned to us as trawled.
- "d) - There are no midwater trawlers operating from English or Welsh ports. The number of beam trawlers is relatively small. They are mainly employed for shellfish catching. No separate figures of landings by beam trawlers are available and any such landings of demersal or pelagic fish are included with landings by other trawlers.

3.15 United States

The coding and classification system for effort statistics as outlined is much too detailed. in most categories to adopt for ICNAF reporting. Our present system of reporting would make it difficult to supply breakdowns within the broader categories that we presently use.

3.16 USSR

See special paper by A.I. Treschev (VNIRO, Moscow) issued as ICNAF Res.Doc.70/35 and also being issued as a document by ICES.

NOTES ON "DAYS ON GROUND" AS ONE OF THE EFFORT MEASURES

Prepared by

The Secretary
Coordinating Working Party on Atlantic Fishery Statistics
FAO Department of Fisheries



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, April 1970

PREPARATION OF THIS DOCUMENT

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NOTES ON "DAYS ON GROUND" AS ONE OF THE EFFORT MEASURES

1. Introduction

- 1.1 The entry "days on ground" appears on line 4 of both STATLANT forms 1W and 1E. In the Notes for the completion of these forms, "days on ground" is defined as follows:

"No. of days on ground"

This is defined as the number of days (24-hour periods, reckoned from midnight to midnight) in which the craft was on the fishing ground, and includes in addition to the days fishing and searching also all the other days while the craft was on the ground."

The CWP and ICNAF at their 1969 meetings reviewed this problem and made the following recommendations.

2. Recommendations of CWP and ICNAF

- 2.1 The Report of the 6th Session of the CWP reads as follows:

"The CWP considered an ICNAF request to refine the definition of the effort measure "days on ground" on the STANA form. The CWP, however, noted that increased amounts of data on more precise and useful types of effort measures e.g. "days fishing" have become available. The CWP recommends:

That both ICNAF and ICES consider deleting "days on ground" from their lists of effort measures.

- 2.2 The Report of the ICNAF Subcommittee on Statistics and Sampling reads as follows:

"The Subcommittee noted the CWP's proposal (Section 19.4 of the Report of the CWP, 6th Session, February 1969; Res.Doc. 69/3) to consider deleting "days on ground" from its lists of effort measures. The Subcommittee, after discussion

recommends

- (i) that the definition of "days on ground" as it now appears in Section 4.2 (line 4) of FAO Fisheries Circular FEs/C 203, (Notes for the completion of form STANA 1W) be retained;
- (ii) that all countries reporting effort data on line 4 of STANA 1W against the entry "days on ground" be requested by the CWP Secretary to define their interpretation of this heading;
- (iii) that the CWP Secretary approach the authorities in the Faeroe Islands (Denmark) to determine whether or not it is possible for them to report either "hours fished" (line 1 of STANA 1W) or "days fished" (line 3 of STANA 1W), instead of "days on ground";
- (iv) that the usefulness of the effort measure "days on ground" be considered at the 1970 ICES Special Meeting on the Measurement of Fishing Effort.

3. Comments made by National Statistical Offices

The Secretary of the CWP has therefore taken the matter up, by correspondence, with national statistical offices, and received the comments listed below.

3.1 Belgium

The entry "days on ground" means, in our statistics, the number of 24 hour periods during which the vessel dwelt on the fishing grounds, even if she was not actually fishing due to weather or other circumstances. Basis of our information are the logbooks of the skippers. A register with the most important data noted in these books, is held by the Maritime Police.

3.2 Canada

"Days on ground" are not collected by Canada and, of course, not reported to ICNAF. The general opinion is that "days at sea" and "days fished" are more useful measures of fishing effort.

3.3 Denmark

The Danish fishery statistics do not yet include effort data.

3.4 Faeroe Islands

See appendix A.

3.5 Federal Republic of Germany

It will be possible to supply information on "No. of days on ground" for the results beginning with 1970.

3.6 Finland

The entry "days on ground" listed as one of the effort measures. The fishing trips made by Finnish fishing craft take mainly one day. So the entry "days fished" in the report is the same as "days on ground".

3.7 France

Regarding the STANA 1W forms, the log books given to the skippers going to fish in the ICNAF area, include 3 columns, i.e.:

- hours travelling (from port to fishing ground and back; from one fishing ground to another);
- hours "on grounds" not fishing (when the boat is on the fishing ground but no fishing operations occur because of bad weather);
- hours fished (when the boat is actually fishing).

To calculate the number of "days fished", the "hours on ground" are added to the "hours fished" and the total is divided by 24. If the division gives a remainder, the number of the hours is indicated after the number of days. (For example: 493 hours = 20 days, 13 hours). France is not yet in a position to supply the effort statistics required by the STANA 1E.

3.8 Greenland

Greenland has not yet had fishing crafts for which it was possible to achieve figures for landing or effort per vessel. In 1969 the first Greenland trawler (500 gross tons) has come into operation, and it is hoped to supply you with specific statistical information on this new fishery. At present, I take it that "Days on ground" will be interpreted according to the ICNAF definition.

3.9 Ireland

Unfortunately we have not been able to furnish catch/effort statistics for our fisheries, except in relation to the Dunmore East herring fishery. Statistics relating to catch/effort for this fishery have been submitted to ICES for Statistical Newsletters.

3.10 Netherlands

Just as the "days fished" the "days on ground" cannot be entered on the STANA forms by the Netherlands, because exact data about this are unknown. Lines 3 and 4 could therefore only be completed by making an estimate.

3.11 Norway

Unfortunately, we have not sufficient statistical material to give "No. of days on ground" in the STANA forms. As regards trawlers we give "No. of days fished" according to their log books, whereas fishing effort data cannot be given at all for long liners and other fishing vessels.

3.12 Poland

In line 4 of Stana forms 1W and 1E sub "days on ground", we are inserting data comprising time spent by the vessel on fishing ground, beginning from the day when serving out of nets (drift nets, trolling lines) has begun, till the day when same are hauled in before leaving the ground. Search time on fishing ground is considered as a fishing time, whereas weathering and repairs time is deducted.

3.13 Portugal

In our interpretation, "days on ground" includes the time fishing and searching for fish, and the days that the craft is on the ground waiting while, for instance, there is bad weather; it doesn't include, however, the time spent due to an accident, an engine failure or to any other damage.

3.14 Sweden

As Swedish fishery statistics do not comprise any effort data at all, I have no comments on this specific problem.

3.15 United Kingdom

We do not return "days on ground" figures because our present system of collection of statistics (which, incidentally, is now being reviewed) does not make provision for such information being generally provided for fishing vessels. This information is only supplied by certain freezer-trawlers.

3.16 United States

We understand, "days on grounds" to mean total days on the fishing banks, from the time fishing is started to the last day of fishing. This includes time for searching, repairs, and storms.

3.17 USSR

Number of "days on ground" is defined as the number of days (24-hour periods) fished, transition to the factory-ships and time of stopping near them for landing and supplying, and days lost due to weather conditions.



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ANNUAL MEETING - JUNE 1970

Addendum to

Notes on Fishing Effort Measures and Data

by

The Secretary, CWP, FAO

The following statement received by the Secretary, CWP, from Faroe Islands on 11 May 1970 should be inserted in Section "3.4 Faroe Islands" in the contents of FAO Fisheries Circular No.255 "Notes on 'Days on Grounds' as one of the Effort Measures" which is the last of three papers making up ICNAF Res.Doc.70/29.

"Regarding the question of 'hours fished' or 'days fished', it is unfortunately impossible for us to give any other information but days 'on ground' as the information we get is very poor; we only know when the boat leaves port and when it gets back. Another problem we have is the catch, as we only refer to landings for each month, and not to the actual catch during the months.

"We will do our very best for this year (1970). We have decided to make special tables which will be sent on board every boat for the skipper to fill out, so we hope for a better result."