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Report on Statistical Publications of ICNAF

by R.S. Keir

Sampling Yearbook

1. Sampling Yearbook Volume 3 for 1958 was published in May 1960. The increase in sampling data recorded is exemplified by the increased number of pages devoted to sampling data:

Volume No. and Year		No. of Data Pages (including back data)
Volume 1	1956-57	83
Volume 2	1957	115
Volume 3	1958	138

2. Following a suggestion by the Committee on Research and Statistics the arrangement of the tables has been altered, so that

(1) All the data from years prior to 1958 is given at the beginning.

(2) The 1958 data are arranged by species.

(3) Within each species the length frequency tables are given first, followed by the age/frequency tables, then the age/length composition tables and length/weight tables.

3. Three standard forms were circulated with the official request for 1959 sampling data: one for reporting length frequencies, one for reporting age frequencies and one for age/length compositions.

These have been used by member countries in reporting their data, and their use will materially reduce the work in the Secretariat and hence permit an earlier publication date. We found this year that about 75 percent of the man-hours involved in production of the Sampling Yearbook was in editing, converting to standard, rearranging, checking, and correspondence - as against 25 percent for typing, printing and assembling. The use of standard forms and standard presentation will reduce the 75 percent greatly.

An alternative procedure is for the country reporting the tables to have them typed exactly as they will appear in the Sampling Yearbook: these tables can then be photographed onto stencils. This latter method clearly reduces the work in the Secretariat to a minimum. So far, only the United States has been asked to and agreed to present its data in this manner, but it is hoped gradually to expand its use to other countries.

The status of reports on 1959 sampling is indicated in Table 1.

.../2

Statistical Bulletin

1. Statistical Bulletin Volume 7 for 1957 was published during the year. For the first time an attempt was made to include estimates of total (standardised) effort. This work will be continued in Volume 8, and ultimately, standardised effort will be published as part of Table 8 (the detailed table on efforts and landings by month/subdivisions). Volume 8 is nearing completion, but will not be published before the Annual Meeting. However, the statistical data necessary for the assessment group's work was distributed to members of the assessment group earlier in the year.

2. Because of the needs of the work of the assessment group, the opportunity was taken to revise some of the "past data", and these amended data will be published in Volume 8 as appropriate.

3. Standard forms for reporting statistical data were circulated with the official request for statistics on the 1959 fishery. These are being used by member countries, and their use will simplify preparation of future Statistical Bulletins. Following a suggestion of the FAO/ICES/ICNAF Expert Meeting on Fisheries Statistics, countries were asked, if possible, to report data in terms of nominal catch (i.e. landings in metric tons round fresh). This has been done by several countries - sufficient again to reduce the routine work of preparation of the tables materially.

List of Vessels

Following the recommendation of the Standing Committee on Research and Statistics, correspondence was initiated with Mr. Jan-Olof Traung of FAO. A slightly amended form of Mr. Traung's letter is given below.

Rome,
17th November, 1959.

Dear Mr. Keir,

I want to return to your letter of the 14 August forwarding the ICNAF Committee on Research and Statistics proposal that I should advise you on the question of the vessel characteristics necessary for the study of relative fishing power.

I want first to refer to Appendix II of paper E.1: "The Measurement and Analysis of Fishing Operations" presented by FAO to the joint scientific meeting of ICNAF, ICES and FAO in Lisbon in 1957. In this, I stated that trawlers from one port had normally a certain relation between length, beam, depth, engine power, and even height of the mast. By this was meant that when comparing trawlers from one port, it really did not matter too much which parameter one used.

I then went on to explain that length is measured very differently and, especially with the introduction of transom sterns in some recent British trawlers, the use of length could cause some confusion as to the size of the vessel. Gross register tonnage was considered to be most representative of the tonnage of a vessel, but it should perhaps have been made much clearer that boats of the same gross tonnage might have very different horse power.

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The explanation of the different power attributed to engines was intended to show how very careful one has to be with power ratings, and also that it is always necessary to consider the r.p.m. of the engine. Similarly, it was indicated that trawlers did not always use the full output of their engines while trawling, but it should perhaps have stressed also that the percentage used is quite different in various classes. At the end it was mentioned that the propeller itself could be used as an indicator of the thrust delivered by the engine.

The more I have thought about the problem and discussed it with colleagues and Mr. Sidney Holt, the more I feel that in any future Vessel List we should try to obtain information about the actual propeller in use, and under which condition it works. With such information I am almost certain that we could determine some kind of "Trawling-No." which would be proportional to the resistance of the trawl, and which would give a better straight line relation when plotting fishing power and, above all, make possible comparisons between fishing vessels from one port to another, and from one age to another. The "Trawling-No." would be derived from existing test reports from series of model propellers.

Naturally, any such number should really be used together with the actual trawling speed, but we all know that trawling speed is very seldom measured and skippers judge the speed quite differently. If, further, the current along the bottom sometimes differs from that on the surface, even a correct measurement of the trawling speed might include errors. I am inclined to suggest that we should try out such a "Trawling-No." in relation to a standard speed of, say, 3 knots, and then simply assume that if the net is smaller than standard, and thus the trawling speed higher or vice versa, the "screened water" is approximately the same. I admit that this is a simplification, but the method would result in greater accuracy than by using parameters like length, nominal engine power or gross tonnage.

If you consider the proposal worth testing by a selected number of boats from various countries to begin with, some information would be required on their propellers and on the propeller r.p.m. while trawling in wind forces less than Beaufort 3. Ideally, we would need the blueprints of the different propellers used.

In high wind forces the r.p.m. will be increased in order to overcome the resistance by waves and wind. I assume that if we have the r.p.m. for calm water conditions, the trawling pull will be about the same in heavy weather. It will naturally be impossible to obtain blueprints of propellers for any great number of vessels, and for a first trial of the method we could perhaps satisfy ourselves if we could get particulars about the diameter and pitch of the propeller, the developed blade area or ratio, the number of blades and the material of which the propeller is made.

The more exact the information we have on the propellers for the first test, the more accurately can we calculate the thrust delivered by the propeller. For practical use later on, I believe we would only need information on diameter and pitch of the propeller and its number of blades. Then we could prepare a set of diagrams, so that a non-technician could use them to select the "Trawling-No." himself for further plotting.

.../4

In a Vessel List I consider the data necessary for the study of relative fishing power to be simply the following.

1. Identification of vessel (name, date of construction or reconstruction, registered number, home port, etc.)

2. Fishing Method

3. Fishing Areas

4. Sizes

   (a) Linear measures such as length, beam, draft, distance between centres of trawl gallows.
   (b) Volume measurement such as gross registered tonnage.
   (c) Crew number.
   (d) Range.

5. Power

   (a) Nominal BHP and corresponding propeller r.p.m.
   (b) BHP and corresponding propeller r.p.m. used while trawling in wind forces less than 3.
   (c) Trawling speed.

As stated before, I would attach most importance to factor 5(b) and possibly 5(c), and far less importance to factors 4(a) and 4(b). 4(c) might have a certain influence on the fishing power, whereas 4(d), to my mind, has hardly any.

In any Vessel List it is naturally important to have information about the equipment on board, so that one can form an opinion on how modern the vessel is. I do, however, personally consider information on radio, radar, automatic pilots, etc. not to be as important as the propeller data.

During our discussions, Mr. Holt stated that the curve of plotting fishing power on length has a certain parabolic character. It might well be that this is due to the fact that the distance between the trawl gallows is not in proportion to the length overall of trawlers of various sizes, the distance between the bow and the forward gallow and from the stern and the aft gallow being almost the same on both small and large trawlers. That is why I have suggested information about this distance under 4(a), and it would be very interesting if you could obtain data on that distance from some selected trawlers and plot the fishing power on that parameter. One reason for the parabolic character of the curve might also naturally be that the engine power increases faster than in proportion to the length.

To sum up, I propose we make a pilot study of the possibility of using information on the propeller and its operating r.p.m. for plotting of the trawling power. If you could select some 10 to 20 trawlers from various areas and of various sizes, and give me detailed data about their propellers, I would endeavour to calculate for each individual ship the "Trawling-No.", so that we could find out how it works. At the same time, we will obtain the basic material for making diagrams from which you could then later on estimate the "Trawling-No." for all vessels for which a few particulars were given of the propeller.

Jan-Olof Traung

.../5

On the basis of his suggestions, the recommendations of the Standing Committee on Research and Statistics and the Report of the Expert Meeting on Fisheries Statistics held in Edinburgh, the following items were requested on vessels of over 50 gross tons fishing in the Convention Area, and a form for reporting the data was circulated from the Secretariat.

Name of Vessel
Date Built
Gear: Type and Name
Size of Gear
Mesh or Hook Size
Gross Tonnage
Overall Length
Distance between Trawl Gallows
Register Number and Home Port
Engine and Fuel: Name or Type of Engine
Fuel
Range on Fuel Capacity
Power - Nominal Rating: Brake H.P.
Propeller r.p.m.
Trawling in Calm Weather: Speed
Brake H.P.
Propeller r.p.m.
Propeller: Diameter
Pitch
Blade Area
No. of Blades
Crew
Control Pitch Propeller
Radio
Radar
Echosounder
Loran
Automatic Navigator
Automatic Pilot
Radio Direction Finder
Subareas Fished

The form was designed so that, when completed, the tables can simply be photographed, reduced slightly and printed in a format similar in size to the Statistical Bulletins and Sampling Yearbooks.

The status of replies is summarised in Table 1.

Copies of all standard forms are available for inspection at the Annual Meeting.

24th May, 1960.

Document No. 28
Table 1

Table 1. Present Status with Respect to Statistical Submissions - 1959

Country	Statistics	Sampling	List of Vessels
Canada: Maritimes	x	x	x
Quebec	x		x
Newfoundland	x		x
Belgium	x		
Cuba			x
Denmark: Faroes		x	
Greenland	x	x	
France: Metropolitan	x		
St. P. & M.	x		x
Germany: West	x		
East	x		
Iceland			x
Italy	x		x
Norway	x		x
Poland	x		
Portugal	x		x
Spain	x		x
U.S.S.R.	x	x	x
United Kingdom	x	x	x
United States	x		