

PROCEDURES ADOPTED BY THE SECRETARIAT FOR COLLECTING AND PROCESSING STATISTICS RECEIVED AT ICCAT HEADQUARTERS

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I. TASK I STATISTICS

1. Data requirements

The data required are:

Catch - Annual total catches (in round live weight), by species, by regions of ocean (specific with each species) and by gears used.

Fishing power - Number of boats which are engaged for fishing of tunas and tuna-like species in the Atlantic during the corresponding year, by type of fishing gear used and by capacity or size category of the boats.

The criterion used for assigning a catch to a country is the flag of the fishing vessel. Therefore, each country is responsible for reporting all catches made by fishing vessels flying that country's flag.

Another important criterion adopted by the SCRS for reporting Task I catch data is that the scientists best estimates supercede official statistics provided by national statistical offices.

2. Collection of statistics

The request for data is mailed in January of each year to:

- Statistical correspondents officially nominated by member countries and some non-member countries which have close collaboration with the ICCAT (e.g., Italy).

- Government fishery statistics offices of non-member countries who catch a significant amount (over 100 MT per year) of tuna (e.g. Turkey, Mexico).

- Members of the Coordinating Working Party on Atlantic Fishery Statistics (e.g., FAO, ICES, EUROSTAT).

The deadline for submitting statistics is April 1. If a country does not meet this requirement, reminders are sent via letter, telex, cable or telephone. For those countries which fail to report any data (mostly non-member countries catching minor quantities of tunas and tuna-like species), the Secretariat uses catches reported to FAO by these countries.

Preliminary statistics which are sent before the deadline can be updated at a later date. Many countries do not finalize their statistics until two years after the catch was made.

Besides those statistics collected through national or international offices mentioned above, the Secretariat also receives catch data through its direct contacts with people in the fishing industry. ICCAT port sampling carried out since 1975 has been a good source of data as well.

3. Data verification

All Task I catch and fishing power data thus received are verified by the Secretariat staff before being entered into the ICCAT data base. The checkpoints in verification of data are:

Landing vs. catch - Many countries confuse "catch" and "landing".

Catch is the amount of fish (round live weight) recorded for the year and area of catch. Landing is the weight of fish landed in various conditions (e.g., filleted, gilled-and-gutted), and assigned to year and area of landing. Therefore, landing at an Atlantic port in 1983 can represent filleted fish 20% less in weight than at the time of catch in the Pacific or Indian Ocean in 1982. If it is known that the reported figures are in other than round live weight, the Secretariat converts them into round live weight using approved conversion factors.

Nationality of catches - As was mentioned before, the flag of the fishing vessel which made the catch is used to identify the nationality of the catch. However, this is not necessarily practiced by all countries. Many countries report catches made by foreign boats chartered or licensed by that country (e.g., Brazil, Korea), while the same catches may be doubly reported by the flag countries. On the other hand, some catches are not reported by any (including flag) countries (e.g., some Panamanian flag boats). Other countries report all landings at their ports as their catches, regardless of the nationality of the boats. Therefore, the Secretariat has been very careful in sorting out the problem of double reporting and failure of reporting, comparing all the records available at hand.

Different data sources - The Secretariat often receives different sets of data from various sources. For example, three distinct sets are received one each from national statistical offices, statistical correspondents and FAO. When this happens, the Secretariat asks the statistical correspondent why the difference exists. If a satisfactory explanation is given, the data received from correspondence is used in updating Task I base.

Others - The Task I figures are also checked against previous years' records, Task II catch and effort data and Task II biological data, for consistency. If a sudden substantial increase or decrease is noted in the reported catches, an explanation for such a change is

requested from the data sources. If there are discrepancies between Task I and Task II data, a question is also sent to the data source.

4. Data base

The Secretariat maintains a data base "TASKI" at INFONET to which all the Task I catch data are entered. The format of the base is attached as Appendix 1. The base keeps data sources, history of updating and codes for the type of data sources which are used for footnoting the tables produced for the Statistical Bulletin.

The fishing power data are entered into a file (much smaller in size), which are kept in the micro computer "Apple II".

5. Updating and change in Task I catches

When new data are received, they are entered into the data base at the earliest opportunity. However, when a change of data is suggested, much caution is exercised.

a. Changes requested by national offices and scientists

Changes in figures, after the final Task I is received, are unconditionally admitted only when requested by the same source that provided the previous data. If corrections are received from a different source than that which sent the original figures, statistical correspondents of that country are contacted for the clarification. When doubt remains, the figures approved by the correspondent are taken. If there are no statistical correspondents, the Secretariat has to judge which figure represents the best scientific estimates.

If some changes in catch figures are requested by scientists from a country other than the one for which the catches are reported, the suggestions are forwarded to the national statistical correspondent of that nation. If the correspondent informs the Secretariat of his agreement with

the changes, then the suggested changes are formally entered to the data base. If no agreement is reached, no changes are made.

b. Changes made by SCRS or its Working Groups

Catch figures are very often changed by the SCRS during its annual meetings. Some of the corrections are carefully studied and qualified explanations accompany them. Such changes are immediately incorporated to the base by the Secretariat after the SCRS meeting. However, there are other changes which are proposed and adopted without much investigation or without any explanation for the changes in records. When the Secretariat finds such apparently unfounded corrections, it requires the scientists concerned to explain on what basis the changes are proposed. Only after a satisfactory explanation is given are the changes accepted.

Working groups which meet during the inter-sessional period also propose changes to Task I catch figures. Most of the changes proposed are based on scientific facts and/or solid assumptions (e.g., new yellowfin-bigeye catch proportion proposed at the Working Group on Juvenile Tropical Tunas). The Secretariat effects these changes after the SCRS formally approves the procedures and changes (e.g., results of the Billfish Workshop and Bluefin Working Group).

6. Estimates and changes made by the Secretariat

a. Unreported catches

The Secretariat is constantly monitoring the fisheries in the Atlantic. When we discover catches which are not reported by any nation (e.g., Panamanian flag vessels' catches), we estimate the amount based on data from various sources and add it to the TASKI base.

As explained in Section 3, nations to which catches are assigned are often confused. For example, Korea reports not only the catches made by Korean flag vessels but also those by some Panamanian vessels to which the

Korean Government issues fishing licenses. Therefore, the Secretariat requests from the Korean Government a list of the boats covered by their statistics and compares the list with landing records which the Secretariat gathers through port sampling, in order to eliminate double reporting. Catches made by Panamanian boats minus those reported by the Korean Government are reported as the Panamanian catches.

Venezuelan catches are another example. In recent years, Venezuela reported all landings at Venezuelan ports as Atlantic landings. However, these landings include catches made in the Pacific Ocean while Atlantic catches unloaded at ports outside Venezuela are not reported anywhere else. In order to estimate total Venezuelan Atlantic catches, we compare landing data reported from the government with those from various other sources.

b. Species breakdown of combined catches

One of the problems in Task I statistics is that many countries report a few species of tunas and tuna-like fishes combined. If one important species dominates the catch and the other species are of minor importance, it is entered as the dominant species catch. When these figures are published, an appropriate footnote is attached (e.g., "skipjack catches include minor quantities of little tuna and bonito").

However, a major problem concerns the catch under which a few species of major importance are reported together (e.g., billfish including white marlin, blue marlin, sailfish, etc.). The Secretariat first reports these catches as reported from the national offices. If the SCRS make estimates of species breakdown for the combined catches, such revisions are introduced to the data base accordingly. However, if the SCRS fails to do so, and if the general methodology of estimating species breakdown has been adopted by the SCRS, the Secretariat makes the breakdown. For example, the Billfish Workshop approved a procedure for breaking down the combined billfish catches reported by the longline fleet. Therefore, the same procedure was adopted to make similar estimates for more recent years' data.

When these Secretariat estimates are published, they are footnoted as "the Secretariat estimates".

c. Area breakdown by the Secretariat

When a nation reports catches without areas, the Secretariat tries to assign the catches to areas (i.e., east, west, north or south Atlantic, or Mediterranean). If they are coastal fisheries, the country's geographic location is often used to identify the area of catches.

On the other hand, the catches reported by longliners for the total Atlantic have to be distributed into ocean regions. If corresponding Task II catch and effort data are available, Task I catch figures can be proportioned to the Task II catches combined by regions. If Task II data are in terms of number of fish, the average weight calculated from the Task II biological data are used in estimating weight of Task II catches. If the Task II data are not available, the methodology already approved by the SCRS is applied. These figures are published with a footnote "area broken down by the Secretariat."

7. Dissemination of data

Task I data are published in the Statistical Bulletin twice a year. In September, a provisional volume is issued and a final version in February of the next year. In the provisional volume, the catches are mostly reported as sent from each country. Since the SCRS meets in October-November, even if a Working Group proposes some changes of figures, they are not incorporated. However, all the necessary corrections of data as described in Section 5 and 6 are made after the annual meeting of the SCRS and before the final version of the Statistical Bulletin is issued.

In addition to the Statistical Bulletin, the TASKI base is used to create tables used in SCRS reports. These are the summary catch tables for each species covering more than a decade. Tables (corresponding to the

provisional Statistical Bulletin) are made before the SCRS meeting to facilitate the scientists in drafting and the final tables are redone after the SCRS including all the necessary changes (using the base corresponding to the final version of the Bulletin).

As is the case in 1984, when a working group (i.e., Working Group on Juvenile Tropical Tunas) proposes a substantial changes in the Task I catches, the Secretariat produces two sets of species summary tables, one based on the official data base at the time of the SCRS, and another including the proposed changes. Since the working group proposal is not yet approved by the SCRS, the changes are not yet considered to be official but are considered to be useful for the scientists to discuss the catches of pertinent species.

II. TASK II DATA

1. Basic files vs. working files

Although so-called Task II data are considered to be the same, there are two distinct types of data, the basic data and the working file. The basic data are the summaries of logbooks and biological samplings and have no data substitutions or raising to the catches.

The working files consist of the data set created using the basic data with some hypothesis. An example would be size frequencies raised to the total catches after some strata substitutions.

Some countries present only basic data (e.g., Cuba, Brazil), others present only the working file (e.g., France) and some others present both types of data (e.g., Japan, Spain, U.S.A.).

Since these two types are different in nature, they are discussed separately here.

2. Data requirements

a. Catch and effort data

Catches by species and amount of fishing effort are required to be reported by latitude and longitude of 1° squares (or 5° x 5° areas in case of longliners) and by month (or quarter for longliners). Generally they are summaries of data collected through fishing logbooks. Catches must be reported in round live weight or in number of fish, while effort should be in fishing days, number of hooks used, or some units which index the level of fishing effort accurately. The data should be compiled by gear and flag.

b. Biological data

For major fisheries, it has been required that size frequencies (in fork length for tunas and lower-jaw fork length or eye-fork length for billfishes and swordfish) be reported by fishing gears, species and smallest time-area strata feasible. If the lengths specified above are not taken, weight frequencies, predorsal length, or age frequencies can be reported. The original sampling data before the frequencies are substituted and/or raised to the catches are required (basic data type). Reporting size frequencies raised to the total catches (working file type data) is also encouraged.

2. Collection, verification and updating the data

The system to collect statistics is very similar to that for the Task I data. However, the deadline for submitting Task II data is August 31. Data verifications by the Secretariat are also similar to those for the Task I data, except more common sense is practiced. For example, 140 cm predorsal length must be an error; 100 cm fork length for skipjack must be incorrectly recorded, etc.

Contrary to Task I data, much of the Task II data are submitted on magnetic tapes. Upon receipt of a tape the Secretariat transforms the data into the ICCAT format and creates a new file or adds on to a corresponding

file. When a hard copy is received, they are coded and entered to the ICCAT files at the Secretariat.

Although unraised biological data are requested (basic data), some countries provide instead size samples which are raised to the catch from which the sample was taken are reported as the basic data (France Mediterranean and Spanish tropical fleet). They might be raised again to the total catches with various data substitutions.

The data received are entered to the base in the smallest time-area strata available. When they are output for publication, naturally they are summarized.

3. Data base

The Task II data (regardless whether they are the basic data or working file types) are kept in the ICCAT data base maintained in the INFONET system as files but not as a base in a strict sense. In general, standard formats are used for catch and effort and size frequency files, respectively (attached as Appendix one). Some of the data received, however, are difficult to convert into the standard format (for example, frequencies in irregular intervals of size categories). If this is the case, the data are kept in the original format.

4. Changes in Task II data

When the Secretariat receives corrections of data, we are very careful in distinguishing between corrections of erroneous data and a new set of data using different working hypotheses. Corrections requested for erroneous data are immediately effected and old data files are discarded. This is usually the case for corrections on the basic files.

However, if the changes requested are of the latter nature, the basic files which contain original data (i.e., logbook summaries or raw sampling data) are untouched and only the new working files are added. Nothing is discarded in this case.

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FILE:

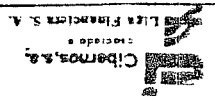
REGISTRO.

1	YEAR
1	COUNTRY
1	GEAR
1	TIME STRATA
1	KIND OF SQUARE
1	Q.
1	LAT.
1	LONG.
1	(PORT)
1	KIND OF CATCH
1	KIND OF EFFORT
R	EFFORT
R	COVERAGE
1	DATE OF ENTRY
1	YFT
2	SKU
3	BET
4	BFT
5	SBF
6	ALB
7	LTA
8	FRI
9	YOU
10	BLE

Catches (Real)

11	SMT	BON	BOP	SSM	KGM	WAM	BLN	BUM	WHM	BIL	SNO	SAL	SPE	BGT	KGX	OTH	100
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REGISTRO



DATA FORMAT FOR TASK II SIZE DATA

1	YEAR
1	COUNTRY
1	GEAR
1	PORT
1	-
1	-
1	TIME STRATA
1	WEIGHT (100 KGS)
1	Q.
1	LAT.
1	LONG.
1	SPECIES
1	KIND OF FREQ.
1	(BEGIN)
1	INTERVAL
1	ICCAT AREA
1	KIND OF SQUARE
1	MN
1	HX
1	F(MN)
1	F(MN+1)...
1	FAREQS. (Real)
1	END

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1	YEAR
1	COUNTRY
1	GEAR
1	PORT
1	-
1	-
1	TIME STRATA
1	WEIGHT (100 KGS)
1	Q.
1	LAT.
1	LONG.
1	SPECIES
1	KIND OF FREQ.
1	(BEGIN)
1	INTERVAL
1	ICCAT AREA
1	KIND OF SQUARE
1	MN
1	HX
1	F(MN)
1	F(MN+1)...
1	FAREQS. (Real)
1	END

F(MN)

RCS