

**Report of the Fourth Session of the  
Working Party  
on  
Data Collection and Statistics**

Victoria, Seychelles November 25 , 2002



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## Opening of the meeting and adoption of the Agenda

The Fourth Meeting of the Working Party on Data Collection and Statistics (WPDCS) opened on November 25<sup>th</sup> 2002 in Mahé, Seychelles by the Chairman, Ms. Rose Marie Bargain, from the Seychelles Fishing Authority, Seychelles, who welcomed the participants (Appendix I). The Agenda for the Meeting was adopted as listed in Appendix II. The documents available for discussion are listed in Appendix III.

### 1. Progress Report of the Secretariat

Document WPDCS-02-01, which included sections about the status of reporting during 2002 and the general status of the databases held at the IOTC, was presented by the Secretariat. The following sections summarize this report.

#### Data Collection

##### General Status of Reporting during 2002

**Timeliness of reporting:** Only three countries (13 in 2001) submitted statistics to IOTC before the deadline of June 30. Furthermore, only partial statistics were submitted in most cases. Reminders were sent to **55 countries** in June-July 2002. Second and third reminders were needed in most cases.

**Table 1** below shows the catches for 2001 reported (**Rep**) and unreported (**Unrep**, as catches of 2000 carried forward for non-reported strata) in the IOTC Nominal Catches (NC) database by the deadline for data submission and before November 2002 (**Nov-02**). Only 22% of the catch was reported by the deadline, with only the 34% of the catches reported before November 1<sup>st</sup>, 2002. The reporting of species other than tropical tunas before the deadline was negligible. Almost no longline data, whether preliminary or final, were reported for 2001 before the deadline.

Late reports also compromise the validation and verification of data, especially when data are submitted close to or during Working Party meetings.

**Table 1.** Nominal Catches reported to IOTC (thousands of tonnes) by the deadline for data submission (30th June 2002) and before 1st November 2002

Reporting 2001	Jul-02			Nov-02		
	Unrep	Rep	%Unrep	Unrep	Rep	%Unrep
Billfish	77	3	96	55	25	68
Neritic Tunas	392	1	100	359	34	91
Temperate Tunas	70	7	91	41	36	53
Tropical Tunas	521	296	64	451	366	55
TOTAL	1059	307	78	906	461	66

**Table 2.** Proportion of the NC, CE and SF statistics available at the IOTC Secretariat compared to the total catches estimated for 2001 (20th November 2002) and proportion of catches reported by official sources (SO) *versus* total catches reported.

2001	NC	CE	SF	SO
Available	1000	675	590	870
Total	1500	1500	1500	1000
% Available	<b>67</b>	<b>45</b>	<b>39</b>	<b>87</b>
% 2000	49	46	20	77

**Completeness of reporting:** **Table 2** above summarizes the reporting of statistics to IOTC as of November 20<sup>th</sup>, 2002. Reporting rates for 2000 are shown for comparison. Levels of reporting therefore improved for 2001, although these are still very low.

Australia, China, Malaysia, and Singapore were the only countries to provide complete sets of data for 2001. More details about the reporting of each specific data set can be found below:

- **Nominal Catches:** The levels of reporting of nominal catches are similar to those in 2001, 25 out of 55 countries having provided partial or complete sets of catches.

Better levels of reporting were noted from South Africa, Sudan, Egypt and Belize, which either did not reply or submitted their statistics very late in previous years. Japan submitted the entire data series from 1970 to 2001 for the new IOTC boundaries.

To date, no data or only partial nominal catch statistics have been received from several member or cooperating non member parties, namely the European Community, India, China, Seychelles, Oman, Madagascar, Comoros, Vanuatu, Eritrea, and Sudan. Furthermore, 1999 and 2000 nominal catches have not yet been submitted by Madagascar and India (seerfish).

Other important fishing parties not having submitted catch statistics to the IOTC are Indonesia, Maldives, United Arab Emirates, and Yemen. The catches of non-reporting longline fleets operating under several flags (Honduras, Belize, Panama, Equatorial Guinea, Cambodia, fresh tuna longliners from Taiwan,China, etc.) usually recorded under NEI are mostly unreported for 2001. A fleet of purse seiners, formerly belonging to Soviet interests, has been operating since 1995 under the flags of Panama and Belize and their catches are unreported so far.

- **Catch and effort and size-frequency statistics:** Catch and effort statistics were only submitted by 11 (7 members) and size-frequency data by 5 (3 members) countries. Either incomplete or non-validated statistics were submitted by Iran, Sri Lanka, Seychelles, Sudan and the European Community.
- **Discards:** Only Australia and Seychelles reported discard statistics for 2001, despite the fact that discard rates are presumed high, especially from longliners and in purse seiners setting on logs.
- **Fishing craft statistics:** Fishing craft and nominal catch statistics are usually reported together. Craft statistics are not available, incomplete or inaccurate for many artisanal fleets. The number of non-reporting vessels operating in the Indian Ocean for the period 1973-2000 was re-estimated this year from new information collected through the IOTC Sampling Programs and new vessel records.
- **Vessel Record and Foreign Tuna Vessel Activity:** Many new data were received at the Secretariat during the year 2002, regarding both domestic and foreign fleets. Belize submitted lists of ships operating in the Indian Ocean for the year 2001. Nevertheless, the number of ships operating under several flags, including Honduras, Equatorial Guinea, Panama, Cambodia and fresh tuna longliners from Taiwan,China, is still uncertain.
- **Data source:** The reporting of statistics is usually by the flag country. However, the statistics of purse seine fleets presumed to be European owned but flagged in non-European countries were reported by the scientists covering the EC fleet.

## Status of the IOTC databases

### Main progress achieved during 2002

The Secretariat informed the Working Party on the progress achieved during 2002 in collection, validation and verification of catch, effort and fishing craft data in the IOTC databases. The data available at the Secretariat for 2001 is shown in **Table 3**.

**New datasets** were also obtained in 2002 from:









- **The IOTC Sampling Programs (Malaysia, Thailand, Sri Lanka and Indonesia):** More than 300,000 individual weights and 30,000 length-weight measurements have been collected to date through sampling and retrieval of historical records from tuna operators in Phuket and Penang. The IOTC Vessel Record is also under review to include the more than 1,700 vessel names and characteristics collected through these schemes. Sampling programmes implemented in 2002 in Sri Lanka and, especially, in Indonesia, and the continued sampling in Thailand and Malaysia allowed the Secretariat to conduct more accurate estimates of un-reported fresh-tuna longline catches during 2002, extending as far as 1973.

The Catch Monitoring Scheme implemented in Indonesia in 2002 (June), involving several local and foreign institutions (DGCF and RIMF Indonesia, ACIAR/CSIRO Australia, IOTC/OFCF Seychelles), whose main objective is improving both past and current estimates of catches of fresh tuna longliners operating in the country, is yielding encouraging results. More than 100,000 (30,000 length measurements) fish have been monitored since August 2002.

**Table 3: Statistics available to IOTC for the year 2001**

Country	Catch	M/C	NC	CE	SF	DI	FC	FT	VR	TI
EUROPEAN UNION	245	M								
INDONESIA	185									
SRI LANKA	140	M								
INDIA	135	M								
CHINA	5	M						N/A		
TAIWAN,CHINA	115							N/A		
MALDIVES	115									
IRAN	105	M								
BELIZE	70							N/A		
PAKISTAN	60	M								
THAILAND	40	M								
JAPAN	40	M						N/A		
NETHERLANDS ANTILLES	30							N/A		
SEYCHELLES	30	M								
PANAMA	30							N/A		
HONDURAS	20							N/A		
OMAN	20	M								
MALAYSIA	15	M								
EGYPT	15									
UNITED ARAB EMIRATES	15									
MADAGASCAR	10	M								
AUSTRALIA	10	M								
COMOROS	10	M								
EQUATORIAL GUINEA	10							N/A		
YEMEN	10									
SAUDI ARABIA	10									
MOZAMBIQUE	5									
KOREA	5	M						N/A		
TANZANIA	5									
PHILIPPINES	2	C						N/A		
KENYA	2									
MAURITIUS	2	M								
QATAR	<1									
VANUATU	<1	M						N/A		
CAMBODIA	<1							N/A		
COTE D'IVOIRE	<1							N/A		
BOLIVIA	<1							N/A		
ERITREA	<1	M								
SOUTH AFRICA	<1									
FRANCE	<1	M								
KUWAIT	<1									
JORDAN	<1									
DJIBOUTI	<1									
BAHRAIN	<1									
SUDAN	<1	M								
BANGLADESH	<1									
EAST TIMOR	<1									
UNITED KINGDOM	NIL	M								
SINGAPORE	NIL									
MYANMAR	Unkn									
SOMALIA	Unkn									
IRAQ	Unkn									

**Key, Table 3**

<b>Catch</b>	Recent catches amounting to (thousands of tonnes)	
<b>M/C</b>	Is Member ( <b>M</b> ) or Cooperating Non Member Party ( <b>C</b> )	
<b>NC</b>	Nominal Catch	
<b>DI</b>	Discards	 Fully reported
<b>CE</b>	Catch and Effort	 Partially Reported
<b>SF</b>	Size Frequency	 Not Reported
<b>FC</b>	Fishing Craft	 No catches
<b>FT</b>	Foreign Tuna Vessels Activity	 N/A Not Applicable
<b>VR</b>	Vessel Record	
<b>TI</b>	Timeliness of Reporting	 Good (before deadline)  Fair (whithin a month after deadline)  Poor (more than one month after deadline)

- **Australia:** The catch and effort of surface and longline domestic vessels for the period 1994-2001 were reported in 2002. These data were input after aggregation requested by Australia to meet confidentiality requirements. In addition, Australia submitted size data for southern bluefin tuna for the year 2001.
- **Belize, Indonesia, Madagascar, Malaysia, Mauritius, Oman, Seychelles and Thailand** submitted new lists of foreign and/or domestic vessels operating in the Indian Ocean during 2001.
- **Japan** updated nominal catches (1970-2001) and catch and effort data (1952-2001) during 2002, estimated according to the IOTC boundaries (past reports referred to the FAO Area 51 and Area 57).
- **Portugal** provided catch and effort data series for years prior to 2001.
- **Oman:** Catch and effort records for the artisanal fishery from 1987 to 1999 were collected in a mission to this country by the IOTC Deputy Secretary and will be input to the database after validation and verification.
- **Singapore** provided lists of vessels fishing for tuna and tuna-like fishes in the Indian Ocean, landing at Jurong fishing port, for the period 1992-1994 and 2001. These, along with records coming from other sources, are used as basic data for estimating the catches of fleets IUU.
- **South Africa** reported the 1997 to 2000 series of catches and efforts of longliners operating in the IOTC Area for the first time. South Africa will also be submitting catch and effort and size-frequency data for the period 1997-2000.
- **Taiwan,China:** The catches of deep-freezing longliners for 1954-69 were estimated from new data available and the catches of southern bluefin tuna updated from CCSBT data for the complete time series.

**Changes to data in the IOTC databases:** The following reviews conducted during 2002 led to major changes in the data in the IOTC databases:

- **Indonesia:** The catches of artisanal vessels were re-estimated for the period 1993-2001 mainly from FAO data. Current artisanal catches of tuna and tuna-like species are estimated to be above 100,000 tonnes.
- **Non-reporting fresh-tuna longliners:** New historical information collected in Sri Lanka through the IOTC sampling programme, permitted preliminary estimates of catches for the fresh-tuna longline fleet landing in Colombo. Updated catch estimates are also available for Indonesia, Thailand and Malaysia. The retrieval of historical records in ports where fresh-tuna longliners land, especially in Indonesia, will help to estimate more accurately the complete time series of catches (from the mid-eighties to date).
- **Non-reporting deep-freezing longliners:** The 1985-2000 catches of non-reporting longliners were estimated by flag for the first time from new vessel records obtained in 2002.
- **Non-reporting ex-Soviet purse seiners:** The 1995-2000 catches of ex-Soviet purse seiners were re-estimated during 2002 from new vessel records, based on EC vessel catches rates.

- **The validation and verification of data** in the IOTC databases continued during 2002. Codes indicating poor quality were assigned where inconsistencies were found in specific records or complete series of catches or sizes. The catch, effort and size frequency statistics available for the Republic of Korea were all assigned poor quality due to numerous inconsistencies.
- **Fishing Craft, Foreign Tuna Vessels Activity and Vessel Record** data were compared in order to complete, as much as possible, the craft statistics series. Each data series was also reviewed in order to give consistency to the data recorded, especially regarding changes due to inconsistent reporting of vessel characteristics or numbers throughout the years. The fishing craft statistics database is thought almost complete as refers the industrial fleets (purse seine and longline) in recent years.

## Problem Areas Identified

Despite improvements in the data held by IOTC, the Secretariat identified several problem areas undermining the completeness, quality and timeliness of the information stored:

- **Data availability:** Incomplete or non-reporting can be because the fisheries are not monitored, statistical systems cannot produce reliable estimates of catches or statistics are produced but not reported to IOTC.

Estimates from alternative sources are more or less complete depending on the information available. The following cases can be distinguished:

- The IOTC sampling schemes provide estimates of nominal catch and size-frequency, for fresh tuna longliners, but no data are available for effort and catch location.
- No size frequency statistics are available from **Taiwan,China** since 1989: These statistics are of utmost importance, especially for bigeye, albacore and billfish caught by longliners. The low coverage rates for size frequency statistics collected on longliners from **Japan** are also of concern, especially because of the general scarcity of size data. The catch and effort and size frequency statistics reported by the Republic of **Korea** and the **Philippines** still remain of poor quality.
- With the exception of the baitboat fishery for the Maldives where complete data sets are reported, no effort data and very few size-frequency data are available for artisanal fisheries, which produce nearly half the total catch in the Indian Ocean, particularly of neritic species.
- The reporting of catches aggregated by species and/or gear is of concern. **Indonesia** alone has been reporting as much as 50% of the total catches reported as aggregates in recent years. These aggregates include significant amounts of tropical tuna and billfish.
- Unreported catches of purse seine (30,000 t) and longline fleets (about 170,000 t), in recent years, amounted up to 25% of the total catches of tropical tunas and billfish in the Indian Ocean. No data are available for non-reporting deep-freezing longliners and nominal catch is, at best, estimated from vessels records using reporting fleets as comparators. The same is true for a fleet of ten purse seiners operating under the flags of Belize and Panama.
- No information is available for some artisanal fleets known to operate in the Indian Ocean, mainly in the early years of the fishery. Although these catches are probably small, the existence of historical records in each country should be investigated. FAO statistics are used to complete the series of nominal catches of some non-reporting countries. As FAO statistics are not disaggregated by gear this often involves allocation to gears by the Secretariat.
- The craft statistics of many coastal countries, having fleets operating artisanal gears, are unknown, incomplete or inconsistent. This is the case with the statistics of India, Indonesia, Iran, Madagascar and Yemen. The number of non-reporting longliners, mainly from Taiwan,China, Indonesia (fresh tuna), Honduras, Equatorial Guinea, Panama, etc. (deep-freezing) operating in the Indian Ocean is also uncertain, although the numbers estimated recently represent an improvement relative to previous years. The lack of reporting of characteristics that could help in the identification of individual vessels complicates the validation of vessel record.
- **Data Quality:** Codes indicating poor quality are assigned to partial or complete series of catches when many inconsistencies are found during the validation of the catches or a large number of assumptions have to be made in estimates. The proportion of the total catch data considered to be of poor quality has increased since the late



1980's. This is a result of an increase in the activities of **non-reporting fleets** whose catches have to be estimated by the Secretariat.

- **Timeliness of reporting:** This is covered above, but remains a question of major concern.

## **General Discussion on data collection**

In spite of the existing deficiencies, the WPDCS considered that the improvements in the data situation were significant and commended the Secretariat for its effort to achieve these results. In particular, it was considered that the information obtained from the IOTC Sampling Programs is of the outmost importance, since it has led to better estimates of catches for the involved fleets.

It was indicated that the European Community has reported most of its catch statistics with only a few fleets missing (mainly longline), which represent a small percentage of the total catches and effort.

## **2. Review of the Situation by Species**

The chairman of the Working Party on Tropical Tunas presented the report on the data situation for tropical tunas (Document WPDCS-02-07). The report identifies a number of problems in this area, among them the poor knowledge or lack of reporting of catches, effort and size frequencies for certain fresh tuna longline fleets, certain deep-freezing tuna longline fleets (since the mid-eighties), Indonesian longline fleet (in recent years) and ex-Soviet purse seine boats with flag of convenience in recent years. It also identified a discrepancy between nominal catches and catch/effort in the IOTC database for the early years (1952-1970) of the Japanese longline fleet. Some of these issues, in particular the reporting situation of Taiwan, China, and the data discrepancies for the Japanese longline fleet are discussed in Section 3 of this report.

The report of the WPTT also noted the improvements by the Secretariat in a number of areas, including: better level of reporting, in particular, the acquisition of statistics for Omani vessels, the integration of Mauritian purse-seine size frequency and Korean catch/effort and size frequency statistics into the IOTC database (although the quality of the Korean data is thought to be low); improvements in the collection of vessel record information, the recovery of historical activity and size data from processing plants, the estimation of catches and effort of non-reporting fleets, and the implementation of sampling programs (in particular the new programs in Sri Lanka and the large scale operation in Indonesia). The report of the WPTT also elaborated on the data situation for yellowfin, bigeye and skipjack tunas.

## **3. Update on National Statistics Systems**

Document WPDCS-02-09 discussed the status and possible paths to improve total catch and weight statistics for the Japanese longline fishery during 1952-1969 in the IOTC's database. This document was produced in response to the report of the last Working Party in Tropical Tunas, which noted discrepancies in these data. It was remarked that, at least officially, Japan has submitted catch in weight statistics only since 1970, when size data became available for most tunas and billfish species. For earlier years, size data were collected only for a limited number of tuna species (such as yellowfin and albacore). Several possible paths to correct IOTC's database estimates for these years were proposed and discussed, including removing the data from the database and re-estimating the catch in weight using other sources. It was agreed that the Secretariat and Japanese scientists should meet later to find the best path to produce a corrected data set. It was noted that at its last meeting the WPTT utilized, for stock assessment purposes, catch data which included a correction for yellowfin tuna for the period 1952-1969.

The relatively low coverage of size frequency data collection for the Japanese longline fleet was discussed. Recent size frequency data comes mainly from training vessels and attempts to obtain this information directly from fisherman have not been very successful. Observer coverage for the Indian Ocean fleet, as well as landing sampling were discussed as possible alternatives.

Document WPDCS-02-05 presenting a status report of the Taiwan, China, deep sea tuna fishery in the Indian Ocean was presented and discussed in the context of national statistics. The document indicates that information currently collected for the frozen tuna fishery includes annual catches, logbook catch and effort information, size data and fishing vessel records. The logbook data coverage for this fleet had been 50-80%, but declined to about 15% in 1990-1992, and stayed at the level of 20-40% thereafter. Collection of annual catch and logbook information for the foreign-based fresh tuna longliners has been initiated recently. Current coverage is low but expected to improve in the future.

Regarding the progress in collection of data from supply vessels, it was indicated that only 4 supply vessels were licensed to operate this year in Seychelles' EEZ, compared to 7 in 2001 and 9 in 2000. Although vessel characteristics information is available, no logbook data for these supply vessels have been collected. Some new information for EC supply vessels is available and will be presented in the next WPTT meeting. The WPDCS indicated that the progress on this area was disappointing since it was agreed that information about the activities of supply vessels and FAD deployment was important and necessary in order to improve current estimates of the fishing effort. It was noted that the EC observer program includes a special form to collect information on FAD operations and associated catches.

#### **4. Problem areas in the data situation and possible improvements**

##### **IOTC-OFCF project. Brief summary on the status of the project**

The WPDCS was briefed regarding the current status of the IOTC-OFCF project to improve national data collection systems. It was noted that progress on this project has been satisfactory, in spite that the implementation in Indonesia, the main priority, has been more complicated than expected (it involved setting up several data-entry points, initiating size frequency sampling programs and establishing collaboration agreements with 2 different agencies). In addition, the IOTC-OFCF project has also taken over funding and technical assistance for the sampling programs in Thailand, Sri Lanka and the gillnet and handline yellowfin fisheries of Oman. A training workshop on WinTuna 2000, the software developed by the secretariat to collect and process fisheries information, was held in August this year with about 20 participants from 11 different countries. Also under the context of IOTC-OFCF project, Mauritius was provided with hardware, software and technical assistance to actualize their data entry and reporting system for tuna fisheries.

##### **Observer programs and bycatch data: new information gathered**

The WPDCS was briefed on the current status of the EC National Plan to improve data collection on fisheries and bycatches. The plan has a duration of 4 years (2002-6), but is expected to be continued in the future, and includes establishing of an observer program for the EC fleets, with collaboration of IRD (France), AZTI and IEO of Spain. The observer program will cover 46 observer purse-seine trips (30 trips for the French fleet and 16 for the Spanish fleet). The program intends to extend the observer coverage in particular for the FAD fisheries in the Mozambique Channel and off Somalia. It was noted that the observer program does not cover European-owned vessels not flying EU flags, however results can be extrapolated to these vessels since they follow similar activity patterns to EU-flag vessels. It was indicated that a similar observer program will be conducted for EC longliners, although it was still not clear how this would be done.

The WPDCS was informed that China is also including observers in their longline vessels, and that Australia has developed a pilot observer program to monitor both target and bycatch tuna species in its Indian Ocean tuna fishery. The United Kingdom continued its observer program for purse-seine and longline vessels licensed to fish the Chagos Archipelago, and indicated that some results from this program will be presented during the coming Scientific Committee meeting. It was noted that Seychelles Fishing Authority is also collecting bycatch information for their local, semi-industrial longline fishery and for licensed Taiwanese longliners, and that this information has been submitted to the Secretariat.

##### **Statistical needs for the Indian Ocean Tuna Tagging Program**

Document WPDCS-02-06 presents a proposal to improve traceability of fish and marketing information for purse-seine catches. The main objective of this proposal would be to optimize the analysis of tag recovery rates for the IOTTP. It was considered that improving the traceability of fish is desirable. The WPDCS agreed that possible ways to obtain this information should be further studied, and that this information should be entered in the national databases. It was also emphasized that analysis of tag recapture data to estimate parameters such as mortality rates requires availability of catch and effort statistics at very high level of spatial and temporal detail.

##### **Catch certification information: use of catch certificates to improve estimation of catches of IUU vessels**

The Secretariat briefed the WPDCS on the current situation and work on catch and trade certification, including a short discussion on the outcome of the FAO Expert Consultation on Harmonization of Catch Certification and relevant

issues regarding IOTC bigeye statistical documentation scheme. It was noted that as to date the Secretariat is not receiving any trade certification data from participating countries, and that only Japan has an operating trade documentation scheme for bigeye. Seychelles informed the Working Party that since 2001 around 89 catch certificates were issued and this has played a positive effect in the logbook returns of Seychelles longline vessels. It was agreed that catch certification schemes are an important tool to identify IUU vessels and their level of activity. It was also agreed that IOTC bigeye statistical documentation scheme should be improved in several areas. In particular, it was considered that the current requirement for twice-a-year summary information is not sufficient for identifying IUU vessels and that the original trade documentation should be required. In addition, information about the trip date, and port and date of landing and/or transshipment should be included in the original trade documents to allow the estimation of the level of activity of involved vessels.

### **Situation of the reporting from Taiwan, China**

A summary of Document WPDCS-02-05, reporting the status of data collection and statistics of Taiwan, China, was already presented in Section 3 of this report. In addition is worth mentioning that catch and effort and size frequency data will be available for collaborative studies to be presented in the next WPTT. If no problems are detected in the data, then they will be submitted to the Secretariat after the WPTT meeting.

## **5. Dissemination of IOTC data and documents**

### **Standard formats for data distribution**

The Secretariat presented Document WPDCS-02-08 describing the new standard formats used to disseminate information and fulfil data request by interested parties. The Secretariat was commended for the clarity and user-friendliness of these new data formats. It was recommended that the new format should also include a more precise definition of *ad-hoc* and irregular areas.

### **Catch at size data preparation (yellowfin and bigeye tuna)**

The Secretariat presented document WPTDCS-02-04 describing the assumptions and procedures used to generate catch-at-size matrices for yellowfin and bigeye. These matrices were used during the last meeting of the WPTT. Most of the calculations for yellowfin were carried out during the WPTT meeting, therefore the used scheme could be subject to improvements. The computations for bigeye were performed by the Secretariat prior to the meeting. Several areas of uncertainty, as well as recommended solutions were discussed. It was recognized that this information was important and should be completed as early as possible to allow national groups to conduct sufficient analyses before the meeting of the WPTT. The Secretariat noted that, conditional to the timely completion of the current review of purse seine data by EC scientists, catch-at-size datasets for skipjack, yellowfin and bigeye could be made available as early as March 31<sup>st</sup> of 2003. EC scientists indicated that the review of the 1984-1990 data will be completed sufficiently in advance of the March 31<sup>st</sup> deadline.

Document WPDCS-02-02 containing an alternative estimation catch-at-age matrix for yellowfin in the Indian Ocean was presented and discussed. The presented catch-at-age estimates were done on a quarterly basis using a length-at-age key, rather than the slicing of extrapolated yearly catch-at-size by gear used during the last WPTT. It was agreed that using a length-at-age key was a simpler alternative than performing a large amount of MULTIFAN analyses for the modal decomposition. It was suggested that this kind of task should be better tackled through collaborative work between the Secretariat and national scientists.

### **Proposal for the development of an IOTC Atlas illustrating the Indian Ocean Tuna Fisheries**

The production of an updated atlas that summarizes and illustrates tuna fisheries information in the Indian Ocean was discussed. The last document containing such information was an atlas produced by IPTP in 1993. There was agreement on the principle that this type of material is useful, not only for scientists but also for fishermen, government officials, policy-makers and other agencies. It was noted that the Secretariat has in fact already done some work aimed at the production of an atlas in electronic format, however, the current workload of the Secretariat staff has precluded further development. It was agreed that the best approach would be to create a small group to develop a proposal regarding the most appropriate format and type of information to be included in the atlas. Alain Fonteneau volunteered to coordinate this small group.

## **6. Other matters**

### **Availability of catch statistics from previous year**

A proposal requiring that last year catch statistics be available for the time of the WPTT meeting was discussed. It was agreed that this information might be useful to show if these catches are average, substantially higher or lower than previous years. The feasibility of making last-year estimates available for the WPTT meeting is conditioned to several factors: (i) the WPTT meeting usually takes place before or around the deadline for data submissions. This could result in unreliable catch estimates based on a very small subset of the data; (ii) although purse-seine statistics are usually available in time for the WPTT, this might not be the case for longline statistics.

It was agreed that the Secretariat would do its best to produce previous year catch estimates available for the WPTT, noting that the reliability of these estimates will depend on the timeliness of the reporting of the main tuna fleets.

## **7. Adoption of the report**

The Report of the Fourth Session of the WPDCS was adopted on November 26th , 2002.

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## **Appendix II. Agenda of the Meeting.**

1. *Progress Report of the Secretariat on data related issues*
  - *General status of Reporting during 2002.*
  - *Status of the IOTC Databases.*
  - *Progress achieved in 2002 and remaining problem areas.*
2. *Review of the situation by species*
  - *WPTT*
3. *Update on National Statistical Systems*
  - *Report on issues related to the EU purse-seine monitoring programme.*
  - *Progress in the collection of data from supply vessels.*
  - *Update on Japanese catches in the early period of the longline fishery.*
4. *Problem Areas in the Data Situation and Possible Improvements*
  - *IOTC-OFCF project. Brief summary on the status of the project.*
  - *Observer programmes and by-catch data: New information gathered.*
  - *Statistical needs for the Indian Ocean Tuna Tagging Programme.*
  - *Catch certification information: use of catch certificates to improve the estimation of the catches of IUU vessels. New information.*
  - *Situation of the reporting from Taiwan, China.*
5. *Dissemination of the IOTC Data and Documents*
  - *Standard formats for data distribution.*
  - *Catch at size data preparation (Yellowfin and Bigeye Tuna )*
  - *Proposal for the development of an IOTC ATLAS illustrating the Indian Ocean Tuna Fisheries.*
6. *Other matters*
  - *Availability of catch statistics for previous year.*
7. *Adoption of Report*

### Appendix III. List of Documents

WPDCS-02-01	Progress Report of the Secretariat. <i>IOTC Secretariat</i>
WPDCS-02-02	Catch at age matrix of Indian Ocean yellowfin tuna estimated on a quarterly basis and using an age length key. <i>Fonteneau, A., Lumineau, O.</i>
WPDCS-02-04	Notes on the preparation of catch-at-size datasets. <i>IOTC Secretariat</i>
WPDCS-02-05	Status Report of Taiwan deep sea tuna fishery in the Indian Ocean. <i>Shui-Kai Chang</i>
WPDCS-02-06	Note upon additional specific statistical needs of purse seiners fleets during the IOTTP. <i>Fonteneau, A.</i>
WPDCS-02-07	Report from the WPTT on the data situation for tropical tunas.
WPDCS-02-08	IOTC Standard formats for data dissemination
WPDCS-02-09	Status and Improvement of the total catch in weight statistics for the Japanese longline fishery during 1952-1969 kept in the Indian Ocean