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Indian Ocean Tuna Commission
Commission des Thons de l'Océan Indien

Report of the Fourth Session of the Indian Ocean Tuna Commission

Kyoto, Japan, 13-16 December 1999

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REPORT
OF THE
FOURTH SESSION OF THE
INDIAN OCEAN TUNA COMMISSION

Kyoto, Japan, 13-16 December 1999

INDIAN OCEAN TUNA COMMISSION

VICTORIA, 2000

MEMBERS OF THE INDIAN OCEAN TUNA COMMISSION
AS AT 13 DECEMBER 1999

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Participants in the Session,
Members of the Commission
Other interested Nations and International Organizations
FAO Fisheries Department
FAO Regional Fishery Officers

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EXECUTIVE SUMMARY

The Fourth Session of the Indian Ocean Tuna Commission (IOTC) was held in Kyoto, Japan, from 13 to 16 December 1999. Representatives of 15 Members of the Commission, observers from seven FAO member nations and from four intergovernmental organizations attended the Session.

The Secretariat is now fully staffed and all core activities were undertaken as planned in 1999.

The Commission took note of the report of the Scientific Committee and endorsed the recommendation that the western boundary of the IOTC statistical areas be changed from 30ºE to 20ºE and that the southern boundary be extended southward to the Antarctic convergence. The Commission agreed that the eastern boundary should remain at 150ºE, since changing it to 141ºE would reduce the IOTC area of competence and would thus involve amending the Agreement creating the IOTC. The Commission decided the port sampling scheme outlined in the report of the Committee be implemented as soon as possible, noting the vital importance of reliable and comprehensive information on catches for the activities and decisions of the Commission.

The Commission approved the research recommendations of the Scientific Committee regarding tropical tunas and the proposed tagging programme, noting the importance of the programme and the need to put it into effect as soon as possible. No management recommendations were made for skipjack and yellowfin tunas, but the Commission noted that, if catches of bigeye tuna continue at high levels, the stock is likely to become over-exploited. The Commission adopted a resolution on the management of fishing capacity and on the reduction of the catch of juvenile bigeye tuna by vessels, including "flag of convenience" vessels, fishing for tropical tunas in the IOTC area of competence (Resolution 99/01). The Commission also adopted a resolution on the elaboration of a control and inspection scheme for IOTC (Resolution 99/03).

The Commission approved the creation of the Working Party on Tagging, and also the terms of reference for the Working Parties on Billfish, Neritic Tunas and Tagging. The principle of the creation of a Working Party on Temperate Tunas was generally supported, contingent upon appropriate terms of reference being adopted, on the understanding that it should concentrate on the management of albacore tuna.

The Commission adopted a resolution on the status of cooperating Non-Contracting Parties (Resolution 99/04). Japan reported that it had implemented the reduction in the number of Japanese large-scale tuna longline fishing vessels by 20 % in accordance with the FAO Plan of Action on Fishing Capacity. The Commission adopted a resolution calling for actions against fishing activities by large-scale "flag of convenience" longline vessels (Resolution 99/02). Australia informed the Commission of the mandate of, and progress by, FAO in developing an International Plan of Action to curb illegal, unregulated and unreported (IUU) fishing.

FAO reported on the progress in the consultations with China concerning data from Taiwan Province of China, noting that the People's Republic of China had accepted that a non-governmental organization representing the fishing interests of Taiwan Province of China be invited to participate in IOTC meetings. The Commission encouraged the Scientific Committee to carry out research on the predation by marine mammals and sharks on tunas caught on longlines, including those proposed at this session.

CCSBT presented a report to the Commission on its activities, noting that a Trade Information Scheme has been adopted and will be implemented in 2000. The Commission agreed on a number of actions between the Secretariats of tuna RFBs and Programmes that will improve coordination in a situation where highly mobile fleets move from one ocean to another in response to management pressures.

The Commission endorsed the programme of work of the Secretariat and approved the budget and scale of contributions, following a reallocation of funds to cover the cost of the preliminary study to plan a tagging programme. The Commission also noted that transfer of technology and training activities are within its mandate, and requested that the Secretariat take into account these activities in future work programmes.

Several delegations from developing nations bordering the IOTC area of competence stressed the fact that the Commission should take actions to guarantee that developing coastal Members should be able to share in the exploitation of the tuna resources of the Indian Ocean. It was also stressed that nationals of these States should not be constrained by lack of funds in participating in the technical activities of the Commission.

The Commission decided that the Third Session of the Scientific Committee would be held in Seychelles on December 4-8, 2000, followed by the Fifth Session of the Commission on December 11-15. The report of the Fourth Session of the Indian Ocean Tuna Commission was adopted on 16 December 1999.

TABLE OF CONTENTS

INTRODUCTION

1. The Fourth Session of the Indian Ocean Tuna Commission (IOTC) was held in Kyoto, Japan, from 13 to 16 December 1999. Representatives of 15 Members of the Commission, observers from seven FAO member nations and from four intergovernmental organizations attended the Session. France and the United Kingdom are both Members by virtue of their respective territories in the area of competence of the IOTC. The list of participants is attached as Appendix I.

OPENING OF THE SESSION

2. Mr Isao Nakatsu, Director-General of the Fisheries Agency of Japan, welcomed the participants to Japan. He emphasized Japan's commitment to the conservation and optimum utilization of the tuna resources of the Indian Ocean and the importance of basing decisions on sound scientific evidence stemming from a unified research programme. He noted that fisheries resources were facing difficulties all over the world and expressed his hope that other nations would follow the example set by Japan in reducing its high seas longline fleet by 20 %, in accordance with the FAO Plan of Action. Bigeye tuna in the Indian Ocean was especially in need of attention; another challenge facing the IOTC was the question of fishing by "flag of convenience" vessels and the associated problem of illegal, unregulated, and unreported fishing. Measures similar to those adopted by FAO and other regional fisheries organizations were necessary for tuna in the Indian Ocean. He noted that resolution of the question of the Japanese Experimental Fishing Programme for southern bluefin tuna was still pending. He further noted that mutual collaboration, in particular for IOTC to provide appropriate advice to CCSBT regarding assessment of the southern bluefin tuna resource, is necessary. He stated that the IOTC involvement in the conservation and management of neritic species, of particular interest to the coastal developing nations of the region, should be continued and extended. He wished the Commission success in its deliberations. His observations are reproduced in Appendix II.

3. In a communication addressed to the Commission, the Chairperson, Mr S.K. Pather (Mauritius), apologised for being unable to attend the Session, having been retained by urgent professional obligations, and gave his best wishes for the harmonious conclusion of the Session. In consequence, Mr. M. Komatsu, the First Vice-Chairperson, chaired the Session.

4. The Chairperson welcomed the delegates and observers to the Session. His remarks are reproduced in Appendix III. The delegate of the European Community (EC) made an opening statement, attached as Appendix IV.

ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION (IOTC/S/04/99/1)

5. The Commission adopted the Agenda as presented in Appendix V to this report. The documents before the Commission are listed in Appendix VI.

ADMISSION OF OBSERVERS

6. Pursuant to Article VII of the Agreement establishing the IOTC, the Commission noted the presence of observers from seven States (Comoros, Mozambique, New Zealand, Philippines, South Africa, Tanzania, United Arab Emirates) and admitted four intergovernmental organizations (APFIC, CCSBT, IATTC, ICCAT) as observers.

PROGRESS REPORT OF THE SECRETARIAT (IOTC/99/2)

7. The Secretary presented this Agenda item. This report primarily concerns administrative issues, as technical matters will be dealt with through the Scientific Committee report. The staff of the Secretariat is now at full complement, following the recruitment of the Data Manager, Analyst/Programmer and filling a vacancy for the post of Data Clerk. Wide publicity had been given through IOTC liaison offices, the official FAO national contact points, FAO representatives offices, the IOTC Web site and e-mail listing of tuna specialists.

8. Various delegations commented on the fact that not all the posts had been filled by nationals of member nations. It was noted that neither FAO practices nor the IOTC Convention required that nationality be taken into account. It was agreed that the overriding consideration in the selection of staff should be the candidate's technical competence. Among those qualified candidates, preference might be given to nationals of member countries.

9. Two working parties met in Seychelles during the intersessional period and their reports were addressed to the Scientific Committee. The Working Parties are made up of scientists from Contracting Parties, eligible States, and invited scientists, attending in their individual capacity as experts, not as national delegates.

10. The Scientific Committee and Commission meetings were organised in Kyoto as scheduled, in close association with the Japan Fisheries Agency of the Government of Japan, following the provision of funds to cover the additional costs to the Secretariat of holding the meetings away from the Commission headquarters.

11. Consultancies and staff missions were organised to Indonesia and Thailand to address critical data issues. The report of the consultancy to Indonesia is available to interested parties. Attempts to establish contact with Maldives, one of the most important tuna fishing countries in the Indian Ocean, remained unproductive.

12. The proportion of catch data which had to be estimated has increased regularly. About half the reported catches come from artisanal fisheries, for which detailed catch-and-effort information are rarely available. The increased range of operation of artisanal fisheries compound the problem, as the statistical systems used to estimate catches rarely record catch locations, effort or length frequencies. In addition, the dramatic increase in unreported fishing by small longline vessels probably results in substantial underreporting.

13. Secretariat staff were involved in six meetings involving coordination between regional fishery bodies or dealing with subjects directly relevant to the Commission's interests. Activities have started with the *Institut de Recherche pour le Développement* (IRD – France) in developing a software suite for logbook data entry, analysis and reporting. Discussions were also held with several countries and organizations on VMS reporting standards and programmes.

14. The information and data diffusion activities of the Secretariat were implemented as scheduled, in print, through the Internet and direct communication. The IOTC Internet Web site in particular has been developed extensively in both English and French and contains links to all documents and public domain data sets diffused by the Secretariat.

REPORT OF THE SCIENTIFIC COMMITTEE (IOTC/99/4)

15. Mr Renaud Pianet, Chairperson of the Scientific Committee, presented the report of the Committee (IOTC/99/4; Appendix VII), which had studied the reports of the Working Parties on Tropical Tunas and on Statistics and Data Collection.

Issues arising from the Permanent Working Party on Data Collection and Statistics:

16. The Commission endorsed the recommendation of the Scientific Committee that the western boundary of the IOTC statistical areas be changed from 30ºE to 20ºE, thus eliminating the gap between the areas covered by IOTC and ICCAT, and that the southern boundary be extended southward to the Antarctic convergence, thus covering the entire range of the temperate tuna species. It also approved the change in the internal boundary dividing the eastern and western Indian Ocean, noting that this boundary had no legal or biological significance, but existed for convenience and because it was advantageous to be able to differentiate catches taken in the two sections of the Indian Ocean. The Commission endorsed the Scientific Committee's recommendation that any change should be based on scientific evidence. Australia has conducted extensive research in the south-east of the IOTC area of competence, and would provide a summary of the data and its relevance to the definition of the IOTC boundary. The Commission agreed that the eastern boundary should remain at 150ºE,

since changing it to 141ºE would reduce the IOTC area of competence and would thus involve amending the Agreement creating the IOTC.

17. The Commission approved the recommendation of the Scientific Committee that the port sampling scheme outlined in the report of the Committee be implemented as soon as possible, noting the vital importance of reliable and comprehensive information on catches for the activities and decisions of the Commission. The Member nations in which the sampling would take place expressed their support and intention of cooperating fully in the implementation of the programme.

Issues arising from the Working Party on Tropical Tunas

18. The Commission approved the research recommendations of the Scientific Committee regarding tropical tunas (bigeye, skipjack, and yellowfin), presented in Appendix VII, noting that the most of the effort and analyses had been dedicated to the first of these three species.

19. The Commission approved the recommendations of the Scientific Committee regarding the proposed tagging programme, noting the importance of the programme and the need to put it into effect as soon as possible. The Commission also approved the seed funding of US$25,000 required to undertake the necessary preparatory work without modifying the total budget for IOTC for the year 2000.

20. The Commission endorsed the Committee's request that the Secretariat carry out a study of the feasibility of organizing training courses on sampling methods, stock assessment and other techniques and methods, to be held in conjunction with meetings of Working Parties.

21. No management recommendations were made for skipjack and yellowfin tunas, but the Commission endorsed the Scientific Committee's recommendation that these two species be included in the planned tagging programme.

22. Regarding bigeye tuna, the Commission noted the conclusions of the Scientific Committee that, if the catches continue at high levels, the stock is likely to become over-exploited and, taking account of the precautionary approach, there is a need for immediate management action.

Establishment, terms of reference and activation of Working Parties and of Sub-Commissions

23. The Commission approved the creation of the Working Party on Tagging, and also the terms of reference proposed by the Scientific Committee for the Working Parties on Billfish, Neritic Tunas and Tagging.

24. The principle of the creation of a Working Party on Temperate Tunas was generally supported, contingent upon appropriate terms of reference being adopted, and on the understanding that such a Working Party should concentrate on the management of albacore tuna. Activities concerning southern bluefin tuna (SBT), for which the primary responsibility must remain with CCSBT, would be limited to the exchange of information with CCSBT and the analysis of information collected by IOTC research and sampling programmes, and the examination of the report of the Scientific Committee of CCSBT to a level of involvement similar to that of ICCAT. Australia supported such a Working Party on condition that it should refer only to albacore tuna; it did not support the Working Party having any reference to SBT.

MATTERS ARISING FROM THE THIRD SESSION

Resolution on Cooperation with Non-Contracting Parties

25. The letter drafted by the Third Session was sent to 21 non-contracting countries known to fish for tunas in the Indian Ocean. Only Bahrain responded, providing information on catches of tuna and tuna-like species, which are limited to small quantities of seerfish.

26. The Commission adopted a resolution on the status of cooperating Non-Contracting Parties (Resolution 99/04; Appendix XI). The Secretariat was instructed to send to non-contracting Parties a letter similar to that mentioned in paragraph 28.

Management of fishing capacity of long-distance tuna longline vessels

27. Japan reported that it had implemented the reduction in the number of Japanese large-scale tuna longline fishing vessels by 20 % (132 vessels) by the scrapping of those vessels in accordance with the FAO Plan of Action on Fishing Capacity.

Recommendation concerning registration and exchange of information on vessels, including "flag of convenience" vessels, fishing for tropical tunas in the IOTC area of competence

28. The Secretariat reported that requests had been sent to all Parties known to fish for tunas in the IOTC area of competence for data on vessels flying their flags, licensed by them or landing tunas in their ports. There have been a limited number of responses, mostly involving vessels from the reporting parties. Additional data have been compiled from a number of alternative sources covering over 3,000 records. There may be many duplicates in the listings, however, as the same vessels may be registered in different countries. As some of the data sets are fairly old, some vessels may have left the Indian Ocean and others may have entered. Some of the difficulty in obtaining data may arise from the fact that vessel registries are not necessarily held by fisheries authorities. The registry concerning oceanic purse seiners is probably complete. Data have been provided by China, the European Community, France, Iran, Japan, Mauritius, Seychelles, Thailand and the United Kingdom.

29. The Commission adopted a resolution calling for actions against fishing activities by large-scale "flag of convenience" longline vessels (Resolution 99/02; Appendix IX). The Secretariat was asked to seek advice from FAO on the most appropriate terminology to describe what is commonly known as "flag of convenience" fishing. It was noted that the term "flag of convenience" should not apply to vessels operated by coastal states in the context of charter or joint-venture operations.

Information on illegal, unregulated and unreported (IUU) fishing

30. Australia informed the Commission of the mandate of, and progress by, FAO in developing an International Plan of Action to curb illegal, unregulated and unreported (IUU) fishing, and the potential for collaborative action between FAO and the International Maritime Organisation (IMO) on this matter.

31. The Commission also noted the request made to the Flag State Implementation (FSI) Committee of IMO to ensure that (a) fishing vessels of all flag States meet international rules and standards, especially the 'genuine link' (UNCLOS Article 91) between responsibility, nationality and ownership of vessels, and that (b) work on port State controls, due to the unwillingness of some flag States to fulfil their obligations, is extended to fishing vessels.

32. The Commission further noted Australia's request that Members brief their maritime agency representatives to the FSI Committee meeting in January and request support for the IMO to work with FAO on flag and port State responsibilities for fishing vessels. In this context, the Commission also noted that the term "open register" should be used in place of the term "flag of convenience".

Progress on arrangements to deal with the implications of catches by Taiwan Province of China on the scientific assessment of tuna stocks

33. The FAO Legal Adviser reported on the progress in the consultations with China concerning data from Taiwan Province of China, noting that the People's Republic of China had accepted that a non-governmental organization representing the fishing interests of Taiwan Province of China be invited to participate in IOTC meetings. The Commission encouraged FAO to continue the consultations and stressed the need to resolve the situation.

Information regarding the ecosystem approach to fisheries management

34. Eleven countries and organizations with experience in the ecosystem approach to fisheries management in relation to predation by marine mammals were contacted. Replies were received from SPC, CCSBT, IATTC, NAFO, ICES, Norway and Iceland. In general, little information is available. Predation of longline caught fish appears to be less serious in other oceans and attains a maximum in the tropical western Indian Ocean. A literature search also provided little information on the effect of predation by marine mammals on prey species where the approach has generally involved modeling of ecosystem dynamics.

35. In relation to the ecosystem approach, the Commission encouraged the Scientific Committee to carry out research on the predation by marine mammals and sharks on tunas caught on longlines, including those studies proposed at this session (Appendix XII).

MANAGEMENT ISSUES

36. The Commission adopted a resolution on the management of fishing capacity and on the reduction of the catch of juvenile bigeye tuna by vessels, including "flag of convenience" vessels, fishing for tropical tunas in the IOTC area of competence (Resolution 99/01; Appendix IX).

37. Korea expressed its reservation regarding concerted action in paragraph 9 of the preamble to this resolution, and stated that Korea cannot accept any consequences which this preamble might cause for its domestic policy on fishing capacity. India stressed the need to ensure that the capacity of the large-scale tuna fleet should not exceed a level required to ensure long-term sustainable exploitation of the resource.

RELATIONSHIP WITH OTHER BODIES

CCSBT

38. CCSBT presented a report to the Commission on its activities, noting that a Trade Information Scheme has been adopted and will be implemented in 2000. It also reported that there was progress on establishing new procedures for conducting the stock assessment work. No agreement has been reached in relation to the Total Allowable Catch (TAC), which remains at the 1997 levels.

Coordinating Mechanism of Secretariats of Tuna Agencies and Programmes (IOTC/99/3)

39. The Secretariat reported on a coordination meeting of the Secretariats of tuna RFBs and Programmes that was attended by CCSBT, IATTC, ICCAT, IOTC and SPC. Future meetings will be organised on an annual basis. The Commission agreed on a number of actions that will improve coordination in a situation where highly mobile fleets move from one ocean to another in response to management pressures. Furthermore, individual vessels are difficult to track through flag and name changes. The agreed actions are to: a) share information on the regulatory measures adopted by each organization; b) agree on minimum standards for data available in the public domain and, c) exchange information and expertise as necessary to further their mandates.

PROGRAMME OF WORK AND BUDGET FOR 2000 (IOTC/99/5)

40. The Secretariat presented a statement on the financial situation of the Commission, noting that nearly 30 % of the contributions for 1999 are still outstanding. The Secretariat has to date been able to continue functioning, despite unpaid contributions, from funds accumulated due to delayed implementation in early phases, but normal functioning of the Commission could be affected if the current situation continues as the balance of funds in hand is severely depleted. It has not yet been possible to obtain a transfer from UNDP of funds remaining from IPTP, despite high-level requests from FAO to UNDP. The delegations of several Members that have yet to deposit their contributions indicated either that they had completed the process of payment or would do so in the near future.

41. The Secretariat introduced its programme of work and budget for the year 2000. Core activities of the Secretariat during 2000 will include organising scheduled meetings and supporting the activities of the Commission and its subsidiary bodies by preparing information and analyses that might be required for their proper functioning. In 2000, automatic verification procedures will be implemented to facilitate quality control of incoming and existing data in the IOTC databases. Critical examination of historical data sets will continue. The Secretariat will support the collection of samples for genetic analyses and initial activities related to the tagging programme approved by the Commission. The staff will also continue to help design, develop software and provide training for the establishment or upgrade of statistical systems in the region. A repository of public domain data analysis software and environmental data will be maintained by the Secretariat and catalogued on the IOTC Web site. The Secretariat will maintain the production of regular publications in both electronic and paper format. The Secretariat will envisage participation in the Aquatic Sciences and Fisheries Abstracts (ASFA) partnership and also in the new partnership being discussed between FAO and RFBs for an Internet-based global fisheries information system (FIGIS).

42. The Commission endorsed the programme of work of the Secretariat and approved the budget and scale of contributions as shown in Appendix XIII, following a reallocation of funds to cover the cost of the preliminary study to plan a tagging programme in the Indian Ocean. The Commission noted, however, that provisions for the initial costs of the tagging programme should be made in the 2000 budget only and not in subsequent years. The activities and funding identified for port sampling were supported as being of high priority.

43. The Commission also noted that transfer of technology and training activities are within its mandate, and requested that the Secretariat take into account these activities in future work programmes. Extra-budgetary funds should be sought to cover the costs of these activities. It was suggested that the Secretariat could facilitate participation of trainees from coastal countries in activities of Members that operate research and training vessels. Training of scientists from Member States could also be conducted through short visits to Commission headquarters, participation in the activities of Working Party, and by Secretariat staff on missions in coastal states.

44. Sri Lanka noted its dissatisfaction over the increase in its contributions for the year 2000 as a result of a change in its classification based on 1997 instead of 1995 or 1996 *per caput* GNP. Korea might propose a revision of the formula used to calculate contributions at the next session of the Commission. The Secretariat confirmed that the formula adopted by the Commission at its First Special Session was followed in the case.

SELECTION PROCESS FOR THE SECRETARY (IOTC/99/6)

45. The Secretariat presented document IOTC/99/06, which proposed a number of alternatives for the selection of the Secretary.

46. The Commission agreed to consider possible changes in the procedure of selection of the Secretary at its next Session, aimed at improving the transparency of the selection procedure, while promoting active participation of all Members in this process. It was agreed that, for the selection of the Secretary at its Fifth Session, the Commission would apply the current procedure.

DATE AND PLACE OF THE THIRD SESSION OF THE SCIENTIFIC COMMITTEE AND THE FIFTH SESSION OF THE COMMISSION

47. The Commission decided that the Third Session of the Scientific Committee would be held in Seychelles on December 4-8, 2000, followed by the Fifth Session of the Commission on December 11-15.

PARTICIPATION OF DEVELOPING NATIONS BORDERING THE IOTC AREA OF COMPETENCE

48. Several delegations from developing nations bordering the IOTC area of competence stressed the fact that the Commission should take actions to guarantee that developing coastal Members should be able to share in the exploitation of the tuna resources of the Indian Ocean.

49. It was also stressed that nationals of these States should not be constrained by lack of funds in participating in the technical activities of the Commission. The Commission agreed that extra-budgetary funds should be sought to facilitate participation in those activities not contemplated in the regular budget of IOTC. It was suggested, however, that many bilateral sources or multilateral fund agency sources could be tapped either by the countries concerned or by IOTC. The Commission also agreed to have a more substantial discussion on this issue in the next Session.

ANY OTHER MATTERS

CITES listing

50. Japan noted that if sharks were listed under CITES, this might have an effect on tuna fisheries in the Indian Ocean. The criteria for inclusion in the CITES index were not necessarily applicable to living marine resources. Japan stated that the management of these species should remain the responsibility of regional fisheries bodies, and stressed the importance of including fisheries experts in the delegations of Member countries to the CITES meeting

Means of monitoring and inspection

51. The Commission adopted a resolution on the elaboration of a control and inspection scheme for IOTC (Resolution 99/03; Appendix X). The Commission noted that holding the inter-sessional meeting proposed in this resolution would have financial implications.

ADOPTION OF THE REPORT

52. The report of the Fourth Session of the Indian Ocean Tuna Commission was adopted on 16 December 1999.

APPENDIX I
LIST OF PARTICIPANTS

IOTC MEMBERS

AUSTRALIA

Murray Johns
Director, International Relations - Fisheries
Department of Agriculture, Fisheries and Forestry
P.O. Box 858
Kings Avenue, Barton Act 2600
Canberra City Act 2601
AUSTRALIA
Tel: (+61-2) 6272 4813, Fax: (+61-2) 6272 4215
E-mail: murray.johns@affa.gov.au

Margaret Bowen
JAPAN

Mary Lack
Senior Manager Tuna and Billfish Fisheries
Australian Fisheries Management Authority
P.O. Box 7051
22 Brisbane Ave. Barton
Canberra ACT 2610
AUSTRALIA
Tel: (+61-2) 6272 4812, Fax: (+61-2) 6272 4614
E-mail: Mary.Lack@afma.gov.au

John Kalish
Senior Research Scientist, Fisheries and Forestry Sciences Division
Bureau of Rural Sciences
P.O. Box E11
Kingston ACT 2604
AUSTRALIA
Tel: (+61-2) 6272 4045, Fax: (+61-2) 6272 4014
E-mail: john.kalish@brs.gov.au

Andrew Serdy
Executive Officer
Department of Foreign Affairs and Trade
Canberra ACT 2600
AUSTRALIA
Tel: (+61-2) 6261 3258, Fax: (+61-2) 6261 2144
E-mail: andrew.serdy@dfat.gov.au

CHINA

Wang Yanliang
Deputy Director General
Bureau of Fisheries, Ministry of Agriculture
P.R.C.
11, Nongzhanguan Nanli No. 11
Beijing 100026
CHINA
Tel: (+86-10) 6419 2974, Fax: (+86-10) 6419 2961

Liu Xiaobing
Deputy Director, Division of International Cooperation
Bureau of Fisheries, Ministry of Agriculture
P.R.C.
11, Nongzhanguan Nanli No. 11
Beijing 100026
CHINA
Tel: (+86-10) 64192974, Fax: (+86-10) 64192961; 64192951
E-mail: inter-coop@agri.gov.cn

Wang Xiaodu
Counsellor, legal Department
Ministry of Foreign Affairs
No. 2 Chao Yang Men Nandajie
Beijing 100701
CHINA
Tel: (+86-10) 65963264, Fax: (+86-10) 65963209

Cui Guo Hui
Officer, Division of Distant-water Fisheries
Bureau of Fisheries, Ministry of Agriculture
P.R.C.
11, Nongzhanguan Nanli No. 11
Beijing 100026
CHINA
Tel: (+86-10) 64192923, Fax: (+86-10) 64193056

Huang Fuxiong
General Manager
Guangdong Provincial Nan Yang Fishery Company
20 Nacun Rd., East Tongfu
Guangzhou
CHINA
Tel: (+86-20) 84246199; 84493671, Fax: (+86-20) 84417464

ERITREA

EUROPEAN COMMUNITY

Emilio Mastracchio
Director Direction Générale Pêche
Commission de l'Union Européenne
Rue de la Loi 200
Bruxelles B-1049
BELGIUM
Tel: (+32-2) 295 55 68, Fax: (+32-2) 296 59 51
E-mail: Emilio.Mastracchio@dg14.cec.be

Ernesto Penas Lado
Deputy Head of Unit "Eastern Central Atlantic, Mediterranean, Antartic" Direction Générale Pêche
Commission de l'Union Européenne
Rue de la Loi 200
Bruxelles B-1049
BELGIUM
Tel: (+32-2) 296 37 44, Fax: (+32-2) 295 57 00
E-mail: Ernesto.Penas-Lado@cec.eu.int

Franco Andaloro
Research Scientist
National Marine Research Institute (ICRAM)
Via E. Amari 124
Palermo 90100
ITALY
Tel: (+39-091) 6114044, Fax: (+39-091) 6114060
E-mail: andalorf@tin.it

Ignacio Ybáñez Rubio
Subdirector General de Organismos Multilaterales de Pesca, Direccion General de Recursos Pesqueros
Secretaría General de Pesca Marítima
José Ortega y Gasset, 57
Madrid 28006
SPAIN
Tel: (+34-91) 402 74 04, Fax: (+34-91) 309 39 67
E-mail: iybanezr@mapya.es

Alain Fonteneau
Chercheur
Institut de recherche pour le développement
B.P. 5045
Parc Agropolis - IRD-HEA
Montpellier 34 032
FRANCE
Tel: (+33-4) 67 63 69 83, Fax: (+33-4) 67 63 87 78
E-mail: fonteneau@ird.fr

Julio Morón Ayala
Assistant Director
Organizacion de Productores Asociados de Grandes Atuneros Congeladores (OPAGAC)
Ayala 54, 2º A
Madrid 28001
SPAIN
Tel: (+34-91) 575 89 59, Fax: (+34-91) 576 12 22
E-mail: opagac@arrakis.es

Jukka Sihvo
Senior Planning Officer Department of Fisheries and Game
Ministry of Agriculture and Forestry
P.O. Box 232
Helsinki FIN-00171
FINLAND
Tel: (+35-89) 160 88902, Fax: (+35-89) 160 4285
E-mail: jukka.sihvo@mmm.fi

Markku Aro
Counsellor of Fisheries
Permanent Representation of Finland to the European Union
Rue de Trèves 100
Bruxelles 1040
BELGIUM
Tel: (+32-2) 287 84 64, Fax: (+32-2) 287 84 07

Juan Jose Areso
Spanish Fisheries Representative
Oficina Espanola de Pesca (Spanish Fisheries Office)
P.O.Box 14
Victoria
SEYCHELLES
Tel: (+248) 324578, Fax: (+248) 324578
E-mail: JJAreso@seychelles.net

Rosanna Fronzuto
Secreteria Tecnica del Direttore Generale della Pesca e dell'Aquacoltura,
Ministero delle Politiche Agricole e Forestali
Viale Dell'Arte 16
Rome 00144
ITALY
Tel: (+39-06) 5908 4604, Fax: (+39-06) 5908 4818
E-mail: pescecq@politicheagricole.it

Giovanni Della Seta
Dirigente Responsabile Divisione Dicerca e Statistica, Direzione Generale Pesca e Aquacultura
Ministero delle Politiche Agricole e Forestali
Viale Dell'Arte 16
Rome 00144
ITALY
Tel: (+39-06) 5908 4746, Fax: (+39-06) 5908 4175 ~ 4818
E-mail: pesca2@politicheagricole.it

Juan Pablo Rodriguez-Sahagun Gonzalez
Gerencia Adjunta
Asociacion Nacional de Armadores de Buques Atuneros Congeladores (ANABAC)
Txibitxiaga, 24 - entreplanta - Aptdo. 49
Bermeo 48370
SPAIN
Tel: (+34-94) 688 06 43, Fax: (+34-94) 688 50 17

Luc Lapere
Head of Division, DGB III Fisheries
Council of the European Union
Rue de la Loi, 175
Bruxelles B-1048
BELGIUM
Tel: (+32-2) 285 66 40, Fax: (+32-2) 285 68 25
E-mail: luc.lapere@consilium.eu.int

FRANCE

Julien Turenne
Chargé de mission pour les affaires internationales, Dir. des peches maritimes et de l'aquaculture
Ministère de l'Agriculture et de la Pêche
3, Place de Fontenoy
Paris 07 SP 75007
FRANCE
Tel: (+33-1) 49 55 82 36, Fax: (+33-1) 49 55 82 00
E-mail: julien.turenne@agriculture.gouv.fr

Renaud Pianet
Chercheur Oceanographe
Institut de recherche pour le développement
B.P. 5045
Parc Agropolis - IRD-HEA
Montpellier 34 032
FRANCE
Tel: (+33-4) 67 63 69 62, Fax: (+33-4) 67 63 87 78
E-mail: pianet@ird.fr

INDIA

V.S. Somvanshi
Director-General, Fishery Survey of India
Ministry of Agriculture
Botawala Chambers, Sir P M Road, Fort
Mumbai 400 001
INDIA
Tel: (+91-022) 2617101, Fax: (+91-022) 2702270
E-mail: fsi@bom.nic.in

JAPAN

Isao Nakasu
Director-General, Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1 Kasumigaseki, Chiyodaku
Tokyo
JAPAN
Fax: +81-3-3502-0571

Kaoru Ishikawa
Deputy Director-General, Economic Affairs Bureau
Ministry of Foreign Affairs
2-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8919
JAPAN
Fax: +81-3-3580-3311

Yoshiaki Ito
Director, Fishery Division, Economic Affairs Bureau
Ministry of Foreign Affairs
2-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8919
JAPAN
Tel: +81-3-3580-3311, Fax: +81-3-3503-3136
E-mail: yoshiaki.ito@mofa.go.jp

Masayuki Komatsu
Director for International Negotiations, Int. Affairs Division, Fisheries Policy Planning Department
Fisheries Agency
1-2-1, Kasumigaseki, Chiyoda-Ku,
Tokyo 100-8906
JAPAN
Tel: +81-3-3591-1086, Fax: +81-3-3502-0571

Ziro Suzuki
Director, Pelagic Fish Resources Division
National Research Institute of Far Seas Fisheries,
Fisheries Agency
5-7-1, Orido
Shimizu 424-8633
JAPAN
Tel: +81-543-366-000, Fax: +81-543-359-642
E-mail: suzuki@enyo.affrc.go.jp

Kengo Tanaka
Deputy Director, International Affairs Division,
Fisheries Policy Planning Department
Fisheries Agency
1-2-1, Kasumigaseki, Chiyoda-Ku,
Tokyo 100-8906
JAPAN
Tel: +81-3-3591-1086, Fax: +81-3-3502-0571
E-mail: kengo_tanaka@nm.maff.go.jp

Kenji Kagawa
Deputy Director, Far Seas Fisheries Division,
Resources Management Department
Fisheries Agency
1-2-1, Kasumigaseki, Chiyoda-Ku,
Tokyo 100-8906
JAPAN
Tel: +81-3-3502-2443, Fax: +81-3-3504-2649
E-mail: kenji_kagawa@nm.maff.go.jp

Keiko Ishihara
Assistant Director, Fishery Division, Economic Affairs Bureau
Ministry of Foreign Affairs
2-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8919
JAPAN
Tel: +81-3-3580-3311, Fax: +81-3-3503-3136

Masao Sugiyama
Specialist for the Marine Resources, Marine Resources Division
Fisheries Agency
1-2-1, Kasumigaseki, Chiyoda-Ku,
Tokyo 100-8906
JAPAN
Tel: +81-3-3591-1086, Fax: +81-3-3502-0571
E-mail: masao_sugiyama@nm.maff.go.jp

Tsuyoshi Iwata
International Affairs Division, Fisheries Policy Planning Department
Fisheries Agency
1-2-1, Kasumigaseki, Chiyoda-Ku,
Tokyo 100-8906
JAPAN
Tel: +81-3-3591-1086, Fax: +81-3-3504-2649
E-mail: tsuyoshi-iwata@nm.maff.go.jp

Yamato Ueda
President
Federation of Japan Tuna Fisheries Co-operative Associations
2-3-22, Kudankita, Chiyoda-ku
Tokyo 102-0073
JAPAN
Tel: +81-3-3264-6161, Fax: +81-3-3234-7455

Tsutomu Watanabe
Managing Director
Federation of Japan Tuna Fisheries Co-operative Associations
2-3-22 Kudankita, Chiyoda-ku
Tokyo
JAPAN
Tel: +81-3-3264-6161, Fax: +81-3-3234-7455
E-mail: watanabe@intldiv.japantuna.org.jp

Masaaki Nakamura
Manager, International Division
Federation of Japan Tuna Fisheries Co-operative Associations
2-3-22, Kudankita, Chiyoda-ku
Tokyo 102-0073
JAPAN

Eiko Ozaki
Deputy Manager, International Division
Federation of Japan Tuna Fisheries Co-operative Associations
2-3-22, Kudankita, Chiyoda-ku
Tokyo 102-0073
JAPAN
Tel: +81-3-3264-6167, Fax: +81-3-3234-7455
E-mail: ozaki@intldiv.japantuna.or.jp

Kazuhide Camie Kamikawana
International Division
Federation of Japan Tuna Fisheries Co-operative Associations
2-3-22, Kudankita, Chiyoda-ku
Tokyo 102-0073
JAPAN
Tel: +81-3-3264-6167, Fax: +81-3-3234-7455

Ryuichi Tanabe
President
Japan Far Seas Purse Seine Fishing Association
6 F Shonan Bldg. 1-14-10 Ginza, Chome Chuo-ku
Tokyo 104-0061
JAPAN
Tel: +81-3-3564-2315, Fax: +81-3-3564-2317
E-mail: JDZ02761@nifty.ne.jp

Toshio Kondo
Vice-President
Japan Far Seas Purse Seine Fishing Association
6 F Shonan Bldg. 1-14-10 Ginza, Chome Chuo-ku
Tokyo 104-0061
JAPAN
Tel: +81-3-3564-2315, Fax: +81-3-3564-2317

Teiji Ohno
Adviser
Maruha Corporation
1-2-1, Chome, Otemachi, Chiyoda-ku
Tokyo 100-8608
JAPAN
Tel: +81-3-3216-0210, Fax: +81-3-3216-0385

Ryoji Kubo
General Manager
Tokyo Office Eikyu Fishing Co., ltd.
JAPAN
Tel: +81-474-37-7541, Fax: +81-474-37-7759

Hiroshi Ishimaru
President
National Ocean Tuna Fishery Association
CO-OP BLDG, 7F 1-1-12 Uchikanda Chiyoda-ku
Tokyo 101-8503
JAPAN

Michio Shimizu
Manager
National Ocean Tuna Fishery Association
CO-OP BLDG, 7F 1-1-12 Uchikanda Chiyoda-ku
Tokyo 101-8503
JAPAN
Tel: +81-3-3294-9634, Fax: +81-3-3294-9607
Hiroaki Yamamoto
Manager
JAPAN

Hiroshi Yagita
Managing Director
Global Guardian Trust
Toranomon 3-7-5, Minato-ku
Tokyo 105-0001
JAPAN
Tel: +81-3-3459-5447, Fax: +81-3-3459-5449

Toshikazu Miyamoto
Global Guardian Trust
Toranomon 3-7-5, Minato-ku
Tokyo 105-0001
JAPAN
Tel: +81-3-3459-5447, Fax: +81-3-3459-5449

Toshihiro Araya
Staff, Planning and Coordination Division
Overseas Fishery Cooperation Foundation
2-17-22, Akasaka, Minato-ku
Tokyo 107-0052
JAPAN
Tel: +81-3-3585-5381, Fax: +81-3-3582-4539
E-mail: araya@ofcf.or.jp

Sumio Hirokawa
No. 2 Research Division
Japan Marine Fishery Resources Research Center (JAMARC)
Godo-Kaikan Building 1, 6F 3-27 Kioi-cho, Chiyoda-ku
Tokyo 102-0094
JAPAN
Tel: +81-3-3265-8301, Fax: +81-3-3262-2359
E-mail: hirokawa@jamarc.go.jp

Keiichi Sawano
Chief Scientist, Development Department
Japan Marine Fishery Resources Research Center (JAMARC)
Godo-Kaikan Building 1, 6F 3-27 Kioi-cho, Chiyoda-ku
Tokyo 102-0094
JAPAN
Tel: +81-3-3265-8301, Fax: +81-3-3262-2359
E-mail: sawano@jamarc.go.jp

Mitsuyoshi Murakami
Executive Director
The Institute of Cetacean Research
Tokyo Suisan Bldg., 4-18, Toyomi-cho, Chuo-ku
Tokyo 104-0055
JAPAN
Tel: +81-3-3536-6521, Fax: +81-3-3536-6522
E-mail: murakami@icr-unet.ocn.ne.jp

Makoto Ito
Secretary
Japan Whaling Association Secretariat
8-3,Higashi Nihonbashi,2-Chome,Chuoh-Ku
Tokyo T 103-0004
JAPAN
Tel: +81-3-3851-2584, Fax: +81-3-3851-1312
E-mail: jwa@mxd.meshnet.or.jp

Seigo Saito
Assistant Director, Fisheries Department
All Japan Seamen's Union
15-26, Roppongi 7-Chome, Minato-ku
Tokyo
JAPAN
Tel: +81-3-5410-8323, Fax: +81-3-5410-8336

Yoshihiro Takagi
Managing Director for International Relations
Overseas Fishery Cooperation Foundation
2-17-22, Akasaka, Minato-ku
Tokyo 107-0052
JAPAN
Tel: +81-3-3585-5382, Fax: +81-3-3582-4539
E-mail: takagi@ofcf.or.jp

KOREA

Yun Hyun-soo
Assistant Director, Economic Cooperation Division, International Economic Affairs Bureau
Ministry of Foreign Affairs and Trade
Seoul
KOREA
Tel: (+82-2) 720-0903~4, Fax: (+82-2) 733-5700

Park Jeung-Sook
International Cooperation Division
Ministry of Maritime Affairs and Fisheries
Jinsol Bldg 8F, 826-14 Yoksam-dong, Kangnam-gu
Seoul 135-080
KOREA
Tel: (+82-2) 3466-2054, Fax: (+82-2) 554-2023

MADAGASCAR

Gabriel Razafitseheno
Directeur
Ministère de la Pêche et des Ressources Halieutiques
B.P. 1699
Antananarivo
MADAGASCAR
Tel: (+261-2) 22-40650/52, Fax: (+261-2) 22-41655

MALAYSIA

M. Mazlan Jusoh
Director General
Department of Fisheries
Tingkat 8 & 9, Wisma Tani, Jalan Sultan Salahuddin
Kuala Lumpur 50628
MALAYSIA
Tel: (+60-3) 2982011, Fax: (+60-3) 2910305
E-mail: kpp01@dof.moa.my

MAURITIUS

Devanand Norungee
Scientific Officer
Albion Fisheries Research Centre
Albion
MAURITIUS
Tel: (+230) 2384829, Fax: (+230) 2384184; 2081929
E-mail: fish@intnet.mu

PAKISTAN

SEYCHELLES

Philippe Michaud
Managing Director
Seychelles Fishing Authority
P.O. Box 449
Fishing Port
Victoria
SEYCHELLES
Tel: (+248) 224595, Fax: (+248) 224508
E-mail: sfasez@seychelles.net

Rose-Marie Bargain
Industrial Fisheries Research Manager
Seychelles Fishing Authority
P.O. Box 449
Fishing Port
Victoria
SEYCHELLES
Tel: (+248) 224597, Fax: (+248) 224508
E-mail: sfasez@seychelles.net

SRI LANKA

H.V.C. Fernando
Deputy Director
Department of Fisheries and Aquatic Resources
Maligawatte Secretariat
Colombo 10
SRI LANKA
Tel: (+94-1) 449170; 446291, Fax: (+94-1) 447650; 449170

SUDAN

Osman Mohamed Saeed
Deputy Director General, Animal Resources Research Corporation
Ministry of Animal Resources
P.O.Box 610
Khartoum
SUDAN
Tel: (+249-11) 465611, Fax: (+249-11) 472690
E-mail: arrc@sudanet.net

THAILAND

Somsak Chullasorn
Senior Marine Fisheries Advisor, Kasetsart University Campus
Department of Fisheries
Paholyothin Road, Chatuchak
Bangkok 10900
THAILAND
Tel: (+66-2) 561-3150, Fax: (+66-2) 562-0561
E-mail: somsakc.@fisheries.go.th

Dhammasak Poreeyanond
Director, Oceanic Fisheries Division, Department of Fisheries
Ministry of Agriculture and Cooperatives
Sri Samuth Road, Paknam, A.Muang Smuth Prakarn
Smuth Prakarn 10270
THAILAND
Tel: (+66-2) 395-0221, Fax: (+66-2) 387-0965
E-mail: dhammasakp.@fisheries.go.th

Wimol Jantrarotai
Director, Foreign Fisheries Affairs Division, Department of Fisheries
Department of Fisheries
Kasetsart University Campus, Phaholyotin Road, Chatuchak
Bangkok 10900
THAILAND
Tel: (+66-2) 562-0529, Fax: (+66-2) 562-0530

UNITED KINGDOM

Louise Savill
Administrator, BIOT Overseas Territories Department
Foreign and Commonwealth Office
King Charles Street
London SW1A 2AH
UNITED KINGDOM
Tel: (+44-171) 270 2890, Fax: (+44-171) 270 2879

Geoffrey Kirkwood
Director, Renewable Resources Assessment Group
Imperial College of Science, Technology and Medicine
8 Prince's Gardens
London SW7 1 NA
UNITED KINGDOM
Tel: (+44-171) 594 9272, Fax: (+44-171) 589 5319
E-mail: g.kirkwood@ic.ac.uk

OBSERVERS

Members of FAO and other UN Agencies

COMORES

Ahmed Said Soilihi
Directeur General de la Pêche
Ministère de la Production et de L'Environnement
B.P. 41
Moroni
COMORES
Tel: (+269) 744630, Fax: (+269) 744632

Mohamed Ben Ousseni
Directeur de Cabinet
Ministère de la Production et de L'Environnement
B.P. 41
Moroni
COMORES
Tel: (+269) 744630, Fax: (+269) 744632

Kamardine Boinali
Chef de Service Regional de Pêche
Ministère de la production et de l'environnement
B.P. 41
Moroni
COMORES
Tel: (+269) 744630, Fax: (+269) 744632

MOZAMBIQUE

Manuel Elias Mazibe
Director
Fisheries Research Institute
B.P. 4603
Maputo
MOZAMBIQUE
Tel: (+258-1) 490406, Fax: (+258-1) 492112
E-mail: mazibe@magumba.uem.mz

NEW ZEALAND

John H Annala
Manager Science Policy
Ministry of Fisheries
P.O. Box 1020
Wellington
NEW ZEALAND
Tel: (+644) 470-2661, Fax: (+644) 470-2686
E-mail: annalaj@fish.govt.nz

PHILIPPINES

Alberto A. Encomienda
Secretary-General, Department of Foreign Affairs
Center for Maritime And Ocean Affairs
2330 Roxas Blvd.
Pasay City
PHILIPPINES
Tel: (+63-2) 831-4052, Fax: (+63-2) 831-4767
E-mail: maou@dfa.gov.ph

Reuben A. Ganaden
Assistant Director, Dep. of Agriculture
Bureau of Fisheries and Aquatic Resources
860, Arcadia Bldg., 860 Quezon Avenue
Quezon City
PHILIPPINES
Tel: (+63-2) 372-5058, Fax: (+63-2) 373-7447
E-mail: rganaden@vlink.net.ph; ganadenj@philonline.com.ph

SOUTH AFRICA

Sarel van Zyl
First Secretary
South African Embassy, Japan
414 Zenkyoren Building, 2-7-9, Hirakawa-cho, Chiyoda-ku
Tokyo
JAPAN
Tel: +81-3-3265-3366, Fax: +81-3-3265-1108
E-mail: sajapan@gol.com

TANZANIA

Sadock P. N. Kimaro
Assistant Director of Fisheries, Fisheries Division
Ministry of Natural Resources and Tourism
P.O. Box 2462
Magogoni, Ardhi House
Dar-es-Salaam
TANZANIA
Tel: (+255-51) 122 930,
Fax: (+255-51) 110 352
E-mail: fisheries@twiga.com

UNITED ARAB EMIRATES

Abdulrazzaq Anwahi
Director of Fisheries Department
Ministry of Agriculture and Fisheries
P.O. Box 1509
Clock Tower Round About
Dubai
UNITED ARAB EMIRATES
Tel: (+971-4) 2958161,
Fax: (+971-4) 2957766

Observers from Inter-Governmental Organizations

APFIC

Veravat Hongskul
Secretary, Fisheries Group
FAO Regional Office for Asia and the Pacific
Maliwan Mansion, 39 Phra Athit Road
Bangkok 10200
THAILAND
Tel: (+66-2) 281-7844, Fax: (+66-2) 280-0445
E-mail: Veravat.Hongskul@fao.org

CCSBT

Campbell Mcgregor
Executive Secretary
Commission for the Conservation of Southern Bluefin Tuna
P.O. Box 37 Deakin West
1/19 Napier Close, Deakin
Canberra ACT 2600
AUSTRALIA
Tel: (+61-2) 6282 8396, Fax: (+61-2) 6282 8407
E-mail: cmcgregor@ccsbt.org.au

IATTC

Brian Hallman
Inter-American Tropical Tuna Commission
8604 La Jolla Shores Drive
La Jolla CA 92037-1508
U.S.A.
Tel: (+1-858) 546 7100, Fax: (+1-858) 546 7133
E-mail: bhallman@iattc.org

ICCAT

Peter M. Miyake
Assistant Executive Secretary
International Commission for the Conservation of Atlantic Tunas
C/Corazón de María, 8-6
Madrid 28002
SPAIN
Tel: (+34-91) 416 56 00, Fax: (+34-91) 415 26 12
E-mail: Peter.Miyake@iccat.es

FAO Headquarters

Denis Fadda
Juriste, Responsible Treaty Section, Legal Office
FAO
Viale delle Terme di Caracalla
Rome 00100
ITALY
Tel: (+39-06) 5705 3672,
Fax: (+39-06) 5705 4408
E-mail: denis.fadda@fao.org

Jacek Majkowski
Fishery Resources Officer
FAO
Viale delle Terme di Caracalla
Rome 00100
ITALY
Tel: (+39-06) 570-56656,
Fax: (+39-06) 570-53020
E-mail: jacek.majkowski@fao.org

IOTC SECRETARIAT

David Ardill
Secretary
Indian Ocean Tuna Commission
P.O.Box 1011
Fishing Port
Victoria
SEYCHELLES
Tel: (+248) 225494, Fax: (+248) 224364
E-mail: iotcsecr@seychelles.net

Alejandro Anganuzzi
Deputy Secretary
Indian Ocean Tuna Commission
P.O.Box 1011
Fishing Port
Victoria
SEYCHELLES
Tel: (+248) 225591, Fax: (+248) 224364
E-mail: aanganu@seychelles.net

Miguel Herrera
Data Manager
Indian Ocean Tuna Commission
P.O.Box 1011
Fishing Port
Victoria
SEYCHELLES
Tel: (+248) 225494, Fax: (+248) 224364
E-mail: herrera@seychelles.net

Sylvana Jones
Administrative Assistant
Indian Ocean Tuna Commission
P.O.Box 1011
Fishing Port
Victoria
SEYCHELLES
Tel: (+248) 225494, Fax: (+248) 224364

APPENDIX II
OPENING REMARKS BY MR ISAO NAKATSU, DIRECTOR-GENERAL OF THE FISHERIES AGENCY OF JAPAN

Ladies and gentlemen, distinguished delegates,

I am Isao Nakasu, Director-General of the Fisheries Agency of Japan. First of all, I sincerely welcome you to Kyoto, Japan. It is my great pleasure to host the fourth Session of the Indian Ocean Tuna Commission (IOTC) here.

IOTC is a regional fisheries management organization with the objective of conservation and optimum utilization of tuna and tuna-like species in the Indian Ocean. As mentioned in the United Nations Convention on the Law of the Sea, management of highly migratory fish species such as tunas should be conducted collectively regardless of inside or outside of EEZs, under regional fisheries management body, by participation of all relevant nations and entities, based on scientific evidence. Following the above basic principle, Japan intends to make the best effort to achieve the sustainable use of highly migratory fish stocks in the Indian Ocean, in cooperation of other member countries in IOTC.

In Japan, we are formulating the medium and long-term fisheries policy, and our basic goal in this policy will be to achieve conservation and sustainable utilization of marine living resources.

When we look at the world fisheries stocks from the viewpoint of the sustainable use, these resources are under serious over exploitation. One of the examples is tuna stock, and Japan has decided to reduce the number of long distance tuna longline fleet by 20%. It was the tough decision. We took in line with the Feb. this year's action plan of FAO. Japan, therefore, strongly urges other states & entities that engage in long distance tuna longline fishing to undertake concerted actions.

In the Indian Ocean, bigeye tuna is the species which needs greatest attention, and I understand that this issue was the main topic in the Scientific Committee last week. Further work is expected in IOTC to keep the status of the resource at the level of sustainable yield.

Flag of convenience (FOC) vessels operating to escape from international management measures is a serious challenge to our efforts of sustainable use of resources, and measures on global level to FOC are the urgent matter. In the annual meeting of the International Convention for the Conservation of Atlantic Tunas (ICCAT) held in Rio de Janeiro last month, a resolution calling for comprehensive actions against illegal, unregulated and unreported fishing activities including FOC was adopted. Japan hopes that similar actions will be taken in other fisheries organizations, particularly IOTC.

Regarding the issue of temperate tuna stocks such as southern bluefin tuna (SBT), IOTC annual meeting had a extensive discussion last December as related with the Commission for the Conservation of Southern Bluefin Tuna (CCSBT). After the meeting, concerning Japan's Experimental Fishing Programme of Southern Bluefin Tuna, Australia and New Zealand have requested Arbitration under International Law of the Sea, and International Tribunal of the Law of the Sea has delivered an order of provisional measures on the Programme. The case proceedings under the Arbitration will commence soon. Although the member states of CCSBT are continuing to make efforts to normalize the CCSBT's function, I think that mutual collaboration of regional fishery management organizations is also necessary, for example, to provide appropriate advise from IOTC to CCSBT regarding SBT resource assessment.

One of the characteristics of the IOTC is that a number of coastal developing countries are participating in IOTC as member states, and are engaging themselves actively in the issues of conservation and management of fishery resources. Japan has been developing fishery cooperation in the area of the Indian Ocean, and will continue to support these developing coastal states in order to promote sustainable use of fishery resources.

Finally, Kyoto is one of the oldest cities in Japan, which is endowed with beautiful nature and environment as well as many traditional and cultural attractive spots. I hope that, during your stay, you can enjoy late autumn season of this traditional city, appreciating nature, history, and culture of Japan.

I would like to close my speech hoping that this Kyoto session of the IOTC will be fruitful and that your stay in Japan will be enjoyable.

Thank you very much.

APPENDIX III
OPENING REMARKS BY THE CHAIRPERSON OF THE SESSION, MR M. KOMATSU

At the last annual meeting, Mr. Pather of Mauritius was elected to be the Chairman, however, due to another engagement he could not attend this meeting. Thus I was asked to chair the meeting as the first vice chairman.

In fact, as I was planning to attend this meeting as Head of the Japanese delegation, I was surprised to be suddenly nominated to serve as a chairman. Moreover, I intend to do my best to serve as the chair and a host in order to make this session a success. Therefore, I would like to seek your cooperation for an efficient proceeding.

This is the 4th annual conference of the IOTC. Last year, the Scientific Committee began its work, and this year two Working Parties started their activities; namely, the Permanent Working Party on Data Collection and Statistics, and the Working Party on Tropical Tunas. To support this, the Secretariat was also reinforced. In addition, the Scientific Committee decided last week to establish a new Working Party, and thus, the IOTC is enhancing its function to establish a concrete system of resource management in the Indian Ocean.

Meanwhile, let us look at the condition of tuna fishery. In the last 10 years, bigeye tuna catch has increased. I believe it is high time for us, the regional fishery management organization to consider seriously the type of responsible actions to be adopted. Since the IOTC is rapidly established its system, we should make this session a fruitful one so that we can actively appeal our existence to the international society. In that sense, despite some difference of mutual positions, I would like to again urge you the participants of this session for your cooperation in achieving the common objective of the IOTC; Conservation and optimal utilization of tuna and tuna-like species in the Indian Ocean.

Finally, though the official languages of the IOTC are English and French, this time as a host country, we would like to use Japanese simultaneous interpreter service especially for this occasion in Japan. Therefore, we would appreciate your kind understanding in this matter.

APPENDIX IV
OPENING REMARKS BY THE SECOND VICE-CHAIRPERSON, MR. E. MASTRACCIO

Mr. Chairman, Ladies and Gentlemen,

The EC would like to thank our Japanese friends for the possibility given to us to come to Japan, particularly in this lovely City of Kyoto, so impregnated with history and culture. As of this Fourth Session, IOTC has terminated its start-up phase and is now an organization confronted by the same problems and challenges as other regional fishery bodies in the World.

We believe that the essential problem, which will condition the future of this organization and which needs to be addressed since the beginning, is that of basic statistics. This is the principal challenge facing us, to which we must address particular efforts, even though these will have to be conditioned by the limits in the budget available.

In this perspective, it is essential to ensure that all the data concerning fishing activities are available, covering the full range of these activities in the convention area.

In this regard, it is essential that China(Taiwan), in view of the importance of its fisheries, should be encouraged to cooperate activity with IOTC.

A solution to this effect must be found during this session if we wish to ensure the credibility of this organization.

In 1998, the Commissioner adopted its first and management recommendations. This year, we wish to continue along this path, and examine possible measures of balanced management, at all times in the light of the recommendations of the scientific committee.

The EC also wishes to express its concern relating to the activities in the Indian Ocean of vessels flying flags of convenience, a problem which will condition the effectiveness of IOTC, as of other fisheries management organizations. This year, we can already establish the basis for future action to address this problem.

Another question, closely tied to the one which we have just mentioned, if that of a future scheme for IOTC control and inspection, which constitutes the underpinning necessary for any regime of resource management. Here also, it is necessary that this organization begin to develop its ideas.

The EC will make every effort to ensure that the work of this commission proceeds in an atmosphere of cooperation, the only way to take fully into account the interests of all contracting parties. Consensus is the best means of attaining this objective. We will approach the work are of this Session in this spirit.

Thank you.

APPENDIX V
AGENDA OF THE SESSION

1. Opening of the Session
2. Adoption of the agenda and arrangements for the Session (IOTC/99/01)
3. Admission of observers
4. Progress report of the Secretariat (IOTC/99/02)
5. Report of the Scientific Committee (IOTC/99/04)
6. Matters arising from the Third Session
7. Management issues
8. Relationship with other bodies
   - CCSBT
   - Coordinating Mechanism of Secretariats of Tuna Agencies and Programmes (IOTC/99/03)
9. Programme of Work and Budget for 2000 (IOTC/99/05)
10. Selection process for the Secretary (IOTC/99/06)
11. Date and Place of the Third Session of the Scientific Committee and the Fifth Session of the Commission
12. Participation of developing nations bordering the IOTC area of competence
13. Any other matters
    - CITES issues.
    - Means of monitoring and inspection
14. Adoption of the report

APPENDIX VI
LIST OF DOCUMENTS

MEETING DOCUMENTS

1. Provisional Agenda (IOTC/99/01)
2. Progress report of the Secretariat (IOTC/99/02)
3. Coordinating Mechanism of Secretariats of Tuna Agencies and Programmes (IOTC/99/03)
4. Report of the Scientific Committee (IOTC/99/04)
5. Programme of Work and Budget(IOTC/99/05)
6. Financial Statement (IOTC/99/05 Add. 1)
7. Selection process for the Secretary (IOTC/99/06)

INFORMATION PAPERS

1. Resolution by ICCAT concerning the need for new approaches to deter activities that diminish the effectiveness of ICCAT conservation and management measures (IOTC/99/Inf.01) [ICCAT]
2. Estimation of total food consumption by cetaceans in the world's oceans (IOTC/99/Inf.02) [Tsutomu Tamura and Seiji Ohsumi]
3. What can we do for the coming food crisis in 21st century? (IOTC/99/Inf.03) [Japan]
4. Whales compete with fishermen for limited resources (IOTC/99/Inf.04) [Japan]
5. Cites Cop 11 Position Paper (IOTC/99/Inf.05) [Japan]
6. Statement for Fourth Meeting of IOTC (IOTC/99/Inf.06) [CCSBT]
7. IUU Fishing: The FAO mandate and a role for the International Maritime Organisation (IMO) (IOTC/99/Inf.07) [Australia]
8. Program of the reduction of Japanese large-scale tuna longline fleets (IOTC/99/Inf.08) [Japan]
9. List of participants (IOTC/99/Inf.09) [IOTC]
10. Definition of Flag Of Convenience Fishing vessels (IOTC/99/Inf.10) [Japan]

DOCUMENTS AVAILABLE

1. Report of the Third Session of the Indian Ocean Tuna Commission, Mahé, Seychelles, 9-12 December, 1998.
2. IOTC Data Summary No. 19 – Indian Ocean Tuna Fisheries Data Summary 1988-1997

APPENDIX VII
REPORT OF THE SECOND SESSION OF THE SCIENTIFIC COMMITTEE

Opening of the Session

1. The Second Session of the Scientific Committee of the Indian Ocean Tuna Commission (IOTC) was held at the International Conference Centre in Kyoto, Japan, on 7-10 December 1999. It was attended by representatives of IOTC Members, Observer Nations and Observer Intergovernmental Organisations. The Session was chaired by Dr Renaud Pianet, of France, the Chairperson of the Scientific Committee.

2. The Secretary of the IOTC welcomed the delegates to the Session and thanked the Government of Japan for its hospitality in hosting the meeting. Dr Yasuhiko Shimadzu, Director of the National Research Institute of Far Seas Fisheries of Japan, welcomed the delegates to Kyoto and noted the significance of holding the meeting in Japan, the world's major harvester and consumer of bigeye tuna. He stressed Japan's commitment to the principles of conservation and sustainable use of fisheries resources and noted that the lack of statistics on catches and information on the status of the stocks of pelagic and neritic tunas and of seerfishes in the Indian Ocean was a matter of great concern. He said that the Scientific Committee carried a heavy responsibility in this regard and that it was important that working parties be established and proceed with research as soon as possible.

3. The Chairperson echoed Dr Shimadzu's comments and noted that there was much work to be done, particularly with respect to bigeye, yellowfin and skipjack tunas. He also noted that tagging studies were a high priority.

Adoption of the Agenda and arrangements for the Session (IOTC/SC/99/1)

4. The Scientific Committee modified the provisional agenda, adding a new Item 3, "Introduction of participants and presentation of documents" and a new Item 9, "Progress report of the working group on tagging". The final Agenda is presented in Appendix I of this report.

5. It was noted that the Scientific Committee was empowered to establish *ad hoc* working groups on matters under its purview and it was decided that a working group on tagging, chaired by Dr Alain Fonteneau, of the European Community, should meet during the course of the current meeting and present its report under the new agenda item.

6. The Chairperson proposed that there be a discussion of the working practices of the Scientific Committee under Item 11, "Other business".

Admission of observers

7. It was noted that all observers present were entitled to attend, since they represented either members of FAO eligible for membership in IOTC or intergovernmental organizations.

Introduction of participants and presentation of documents

8. The Chairperson, noting that the role of the Scientific Committee was not that of a technical working group, requested that all documents presented or distributed at the meeting should be of a general and informative nature, describing progress and results and that they be submitted to the Secretariat in both paper and electronic form.

9. The Chairperson invited the delegates, listed in Appendix II, to introduce themselves. The European Community, France, Japan, United Arab Emirates and FAO stated that they wished to present or circulate documents (see Appendix III). The delegate of ICCAT offered to circulate a list of longline vessels identified by recent ICCAT meetings as carrying out illegal, unregulated and unreported fishing activities in all oceans, according to the agreement between the regional tuna agencies.

10. The delegate of the European Community presented IOTC/99/SC/08, describing a research programme of the European Union on the efficiency of purse-seine vessels and the determination of effective fishing effort. The delegate of Japan presented IOTC/99/SC/09, describing Japan's Experimental Fishing Program (EFP) for southern bluefin tuna in 1998 and 1999, highlighting the differences between the programmes carried out in the two years. The delegate of France presented IOTC/99/SC/10, describing a four-year research program designed by French scientists to study the dynamics of oceanic ecosystems. The delegate of the European Community also presented IOTC/99/SC/11, the report of a world symposium on fishing for tunas on floating objects held in Fort de France (Martinique) in October 1999. He noted the great growth in the use of fish-aggregating devices (FADs) in recent years and the potential effects this had on the biology and distribution of the fish, the catch per unit of effort (CPUE) and the estimation of fishing effort.

11. The delegate of United Arab Emirates presented IOTC/99/SC/12, a summary report of fisheries for tunas and tuna-like fishes in his country and requested that IOTC staff might visit UAE to train local staff in sampling techniques and methods.

12. The representative of FAO briefly summarized two documents, the programme for the Expert Consultation on Implications of the Precautionary Approach on Tuna Biological and Technological Research, scheduled for March 2000 in Phuket (Thailand). He also mentioned another document, "Global Resources of Tuna and Tuna-like Species", thanking those participants who had contributed to its preparation and described FAO plans for the preparation and implementation of a global Plan of Action on illegal, unregulated and unreported fishing.

13. Japan presented three information papers on predation on tuna catches by marine mammals and whales in relation to marine ecosystems.

14. The Committee, noting the Report of the Second Session of the Working Party on the Status and Trends of Fisheries of the FAO Advisory Committee on Fisheries Research, endorsed the conclusions and recommendations in the Report regarding coordination among regional fisheries bodies in the collection of data, the planning and implementation of research programmes, and the design of data quality criteria and quality assurance protocols.

Progress Report of the Secretariat (IOTC/SC/99/02, 03 and 04)

15. The Secretariat presented IOTC/SC/99/02, outlining recent staff changes and the acquisition, processing and dissemination of information pertinent to the tuna fisheries of the Indian Ocean. The submission of catch and effort data had improved in recent months, but some 70 % of longline data were still not reported to the Secretariat. A number of biological databases had been made available to the Secretariat, including a considerable amount of information on length-weight relationships, sex composition and sexual maturity. Other recently-acquired information included summaries of information on biological parameters useful for the Working Parties.

16. Data and information on IOTC activities are disseminated via the IOTC Web site, which is now fully functional, and publications such as the IOTC newsletter and data summaries. The Web site also includes an annotated bibliography on tuna and tuna-like species for the Indian Ocean and pointers to sources of environmental data.

17. Work has continued on establishing automatic data verification procedures and preparing data summaries for the Working Parties. The Secretariat and scientists from the region are cooperating in joint data analyses and developing software for data entry, processing and reporting.

18. The Chairperson congratulated the Secretariat on having accomplished so much in such a short time and several delegates echoed his remarks. The Chairperson called on the participants to submit to the Secretariat any data they might have which could be useful to the IOTC or its members and encouraged the participants to make full use of the information and facilities available on the IOTC Web site.

19. The Secretariat presented IOTC/SC/99/03, noting that the Third Session of the Commission had decided that the best available estimates of catches should be used as a basis for calculating contributions to the budget and that the IOTC Nominal Catch (NC) database was recognised to be the most reliable source. Prior to the calculation of contributions for 2000, Members were advised of the total catch data held by the Secretariat. However, in some cases there was disagreement on the figures used for this purpose. As resolution of the discrepancies were likely to take some time, the Committee expressed concern that the quality of the data used for scientific purposes could be adversely affected if the NC database was modified to resolve the conflict.

20. The Committee decided to recommend to the Commission that, whatever data it should decide to use as a basis for the calculation of contributions, this should not be allowed to affect in any way the integrity of the database used for scientific purposes. It also noted that, should any large discrepancies between official government data and IOTC estimates of catch arise, this should be investigated.

21. The Secretariat presented IOTC/SC/99/04, describing a consultant mission to Indonesia, noting that the tuna fisheries in Indonesia were, in terms of catch, the second most important in the region, and that the Secretariat currently had little or no information on these fisheries. Contact had been established, both directly and via the joint Australia-Indonesia southern bluefin tuna sampling project, with the objectives both of gaining access to information available in Indonesia and of establishing a sampling programme to cover the major tuna landing ports. It may prove impossible to obtain reliable data for some fisheries but, for the longline fishery, highly detailed size data exist, although assumptions might have to be made as to the location of catches. Some data are collected on vessels, catch and effort, but catches are probably underreported and a proportion will have to be estimated. The Committee noted that this was a perfect example of the problems facing IOTC in statistical collection and of the serious consequences there may be in the assessment of stocks if they are neglected.

22. As of 2000 only Indonesian flag vessels will be permitted to fish in the Indonesian EEZ, which will simplify the task of obtaining data. IOTC will, nevertheless, need to conduct sampling in order to obtain detailed data, perhaps through a “mobile” scheme, in association with Indonesian research institutions. The first step would be high-level contacts with Indonesian fishing authorities, followed by technical contacts to establish a sampling programme. The programme would be closely monitored via visits and frequent reports.

Report of the Permanent Working Party on Data Collection and Statistics (IOTC/SC/99/05 and 06)

23. The Chairperson of the Permanent Working Party on Data Collection and Statistics (WPDCS) presented IOTC/SC/99/05, noting than the Working Party had identified large gaps in the data. In particular, about 70 % of longline vessels did not report catches, and size frequency data were often missing or minimal. Fortunately, relatively few transhipment ports are involved, which should permit tackling the problem effectively through relatively inexpensive port sampling programmes.

24. The Working Party proposed a scheme for estimating catches from fishing activities that are otherwise unreported to the Commission, including illegal, unregulated and unreported (IUU) fishing, which is recognized as a major problem, by estimating the number of vessels active in a port, the fishing activity per vessel and the catch per activity. The Secretariat had been asked to establish contacts and estimate costs for sampling in a number of key ports, and the results are reported in IOTC/SC/99/06.

25. It was recognized that, in the list of IUU vessels provided by ICCAT, at least 145 longliners over 24 m LOA appeared to be operating in the Indian Ocean. As these IUU vessels are very mobile and transfer effort from one ocean to another, their movements have to be monitored on a global basis. The Committee endorsed the agreements reached among regional tuna agencies of the world to exchange such information for monitoring purposes.

26. The Committee decided to strongly recommend the implementation of the proposed port sampling scheme, noting that the information obtained was essential to the fulfilment of the Commission's mandate. The scheme should be put into effect as soon as possible, although the cost might exceed the budget presented in the document. Nevertheless, it was noted that the budget required is very low compared to the value of the catch which would be forgone through inadequate management.

27. The Committee also endorsed the recommendations of the Working Party on (1) broadening the scope of the Vessel Registry and using it as an integral part of the proposed sampling scheme for estimating statistical data for fishing otherwise unreported to the Commission, including IUU fishing, and (2) changing the objective of the existing transhipment database into a database listing landings.

28. The Committee agreed that Member countries should be reminded of their obligation to provide the name of a contact person with whom the Secretariat could communicate on matters pertinent to its work. It also recommended that standard 3-Alpha codes for flag and species should be used whenever possible, since this avoided confusion and reduced the Secretariat's workload.

29. The Committee endorsed the Working Party's recommendation that the Secretariat continue its activities in support and assistance of countries which lacked the resources necessary to process data to conform to IOTC requirements.

30. The Committee reaffirmed the principle established by CWP is that each state is responsible for reporting on the activities of vessels under its flag, primarily to prevent the possibility of double reporting. However, states should be encouraged to report all relevant data, including biological data, obtained from non-reporting fleets operating under licensing arrangements. This is in line with the Recommendation Concerning Registration and Exchange of Information on Vessels, approved by the Third Session of the Commission.

31. The Committee approved the recommended change to the mandatory reporting standards for statistical reporting by countries approved by the Third Session of the Commission, adding the italicised phrase in the first sentence in the section under the heading "Size Data", to read as follows: "Considering that size data are of key importance for most stock assessments, size data, *including the total number of fish actually measured*, should be routinely submitted to IOTC on a 5 degree area and month basis, by gear and fishing mode (e.g. free/log schools for the purse seiners)." In spite of the undeniable need for value statistics to understand the behaviour of fishers, the Committee agreed that the collection of this information should not be a priority for the Secretariat as these data are widely available in the public domain.

32. The Committee recognised the potential of Vessel Monitoring Systems (VMS) for identifying vessels and their activities, although this is no substitute to good statistics obtained through logbook reporting and associated port sampling. It also noted that no single VMS standard yet exists. It was recognised that the use of VMS by the Secretariat as proposed in the context of the Code of Conduct would depend on Members placing an obligation on domestic and licensed vessels to report by VMS. This aspect falls outside the mandate of the Committee.

33. The Committee endorsed the changes to the IOTC statistical areas proposed by the Working Party, with the exception of the shift of the eastern boundary from 150ºE to 141ºE. This change is inconsistent with the Area of Competence of the Commission as defined in the Agreement, and would require legal advice to implement. It was concluded that no change could be envisaged without strong scientific evidence. Australia has conducted extensive research in the area, and would provide a summary of the data, which would be very useful in defining the boundary.

34. The Committee approved the Working Party's recommendation that each species-related Working Party should cover the problems of statistics for its respective species and that the WPDCS should meet prior to the session of the Scientific Committee to discuss general issues concerning statistics and receive the reports of the species Working Parties.

Report of the Working Party on Tropical Tunas (IOTC/SC/99/07)

35. The Chairperson of the Working Party on Tropical Tunas presented IOTC/SC/99/07, noting that, in accordance with the decision of the Third Session of the Commission, the Working Party had devoted most of its deliberations to bigeye tuna and the development of terms of reference for the Working Party on Tagging, and had dedicated very little time to other species or to the question of fishing capacity. He proposed that the report would be presented according to species rather than as structured in the agenda.

Yellowfin

36. The Committee recommended continued support to the Japanese initiative aimed at investigating the stock structure of yellowfin in the Indian Ocean using genetic methods. It also strongly recommended that tagging studies be initiated as soon as possible.

Skipjack

37. Catches of skipjack tuna tripled during 1984-1994 but have remained stable since (Appendix IV, Figure 1). As in the case of bigeye, the Working Party looked at available stock status indicators. Between 1992 and 1997, the catch per successful purse seine set on logs declined by almost 50 % and the average weight of the fish caught in those sets fell by 23 %. Catch rates and average sizes have also decreased in the Maldivian pole-and-line fishery. The Scientific Committee identified an urgent need for research into the causes of these declines and recommended that the stock structure of this species be studied and tagging initiated.

Bigeye

38. Purse-seine catches of bigeye tuna had increased steadily from 1952 to 1992, and had doubled since 1993 (Appendix IV, Figure 2), mainly due to the development of the fishery on FADs, and longline catches were currently at twice their 1987 levels. Stock assessments were difficult due to the paucity of catch data, especially from Indonesia and Taiwan Province of China, and the almost complete lack of biological data on bigeye from the Indian Ocean.

39. New studies on CPUE and the environment showed that the spatial distribution of bigeye tuna is strongly affected by El Niño/La Niña events, indicating that these factors should be taken into account in future evaluations.

40. Papers presented at the meeting included a description of a new production model taking into account the spatial distribution of the resource, which might be useful in the future, three age-specific studies related to CPUE analyses, estimation of a catch-at-age matrix and a Virtual Population Analysis (VPA). The Japanese longline CPUE data showed a decrease in bigeye tuna CPUE since the beginning of the fishery, with a discontinuity in 1976-1977, possibly as a result of an increase in catchability (Appendix IV, Figure 3). Future CPUE studies should take into account environmental data and price information to better adjust for availability and targeting.

41. The estimation of a catch-at-age matrix was hampered by the fact that the only comprehensive size frequency data available was for the Japanese longline fleet, and there was a lack of information regarding size frequencies in the time and area strata where other longline fleets operated. As a result, it was necessary to make a large number of assumptions. In view of these uncertainties, combined with the unreliability of data on total catches of bigeye tuna and inconsistencies in the results of the VPA, the Working Party decided not to use the results of the VPA at this meeting.

42. The Working Party attempted to assess the bigeye stock on the basis of the following potential indicators of stock status: average weight of the fish in the catch, catch trends, adjusted abundance indices, catch per unit area fished, size distributions and the apparent relationship between catch and effort.

43. Despite large uncertainties, several indicators pointed to potential problems with the bigeye stock. The CPUE of Japanese longline vessels shows a clear long-term decline, with the standardized CPUE

reduced to between a third and a quarter of its 1954 level. If this represents a corresponding decline in the biomass of mature fish, and the trend continues, there is a risk of a recruitment overfishing of bigeye tuna in the future, although there are no indications that this is happening at the moment. There are also very close parallels between the historical trends in CPUE in the Indian Ocean and the Atlantic, where a decline in CPUE was observed in recent years. The recent increase in purse-seine catch rates does not necessarily indicate that the stock is healthy, but probably reflects an increase in the efficiency of purse-seine vessels. Bigeye is a relatively long-lived species, so any effects would take longer to become apparent and also longer to reverse.

44. Currently about 70 % by number of the total catch is made by the purse-seine fleet, and consists of age 0 and 1 fish, and this could have an adverse effect in future on the longline catches, which consist almost exclusively of mature fish (Appendix IV, Figure 4). Increases in average size in the longline catch and recent declines in the Japanese longline CPUE suggest that this may already have occurred, although the indications are not unequivocal.

45. Japan indicated that an alternative explanation of the observed recent increase in average weight of bigeye tuna in the Japanese longline catch could be that recent data might come from the central area of operations of the fleet only, therefore introducing a bias. Further studies will be carried out to clarify this matter.

46. The Committee noted that the Working Party had been unable to conclude whether the bigeye tuna stock was currently fully or over-exploited. However, taking all the indicators into consideration, the Committee agreed that, if the catches continue at high levels, the stock is likely to become over-exploited and, taking account of the precautionary approach, there is a need for immediate management action.

47. France noted that a three-year programme to study biological parameters of bigeye tuna and swordfish is currently underway and that the data will be provided as they become available.

Fishing capacity

48. The Working Party noted that it had been asked to examine the question of excess fishing capacity in the Indian Ocean. In the time available, this issue could not be addressed in detail. However, it noted that its assessment of the status of the bigeye tuna stock and the management recommendations flowing from it did have relevance to this issue.

49. In this regard, several delegations, noting the transfers of vessels from other oceans and the implications of these increases for fisheries in the Indian Ocean, proposed that the capacity of the fleet should be limited to its present level or the level of recent years.

Recommendations

50. The Committee recommended that other tuna commissions and agencies be approached to establish a joint working group on assessment methodology to exchange information on new methods as they are developed. The Committee also recommended that an ecosystem approach be explored, including not only associated species but also predation of tuna and tuna-like species by marine mammals and elasmobranchs.

51. The previous Scientific Committee session had recommended that Japanese data on the number of hooks between floats be provided. Japan reported that such data have been provided to the Secretariat. Japan also noted that, since the provision of such data is not mandatory, the source of the data should be mentioned in any study and encouraged collaboration with Japanese scientists who are familiar with the data if these are used by other scientists.

52. The Committee endorsed the Working Party's analyses of the stocks of tropical tunas, and approved its recommendations on research (Appendix V).

53. The Working Party made no management recommendations for skipjack or yellowfin.

54. For bigeye there are effectively two different fisheries. The longline fishery provides most of the catch in weight, primarily of adult fish, and the purse seine fishery is responsible for most of the catch in numbers, primarily juveniles. It therefore recommended that:

- The increase in catches of bigeye tuna by all gears should be halted immediately;
- The increase in catches of small bigeye tuna by purse seiners fishing on floating objects should be halted, if not reversed, immediately.

55. The Committee approved these recommendations and discussed the feasibility of different approaches for implementing the first recommendation, noting that controls on catches might be easier to implement than controls on fishing capacity or fishing effort. The Committee also identified another possible approach, the use of economic measures to regulate the market for bigeye tuna, which have the advantage of potentially affecting both monitored and unmonitored fleets.

56. In relation to the second recommendation, the Committee noted the four possible management actions for bigeye considered by the Working Party:

- *Introduction of quotas for bigeye tuna fished on floating objects*. However, quotas are difficult to monitor and certainly require the use of observers on board fishing vessels, in particular because of the difficulties in discriminating between small individuals of yellowfin and bigeye tunas.
- *Restrictions on the use of auxiliary supply vessels,* specifically on their use to deploy and monitor floating objects. The biological and economic effects of these measures would need to be investigated.
- *Establishing a minimum size for bigeye tuna caught.* However, as small bigeye tuna are taken as part of a multispecific fishery, this would be difficult to monitor and would certainly lead to an increase in discards. This option has not worked in other oceans.
- *Area and seasonal closure of fishing grounds to fishing on floating objects*. For maximum effectiveness, the areas and seasons to be closed will require careful scientific design. Enforcement would require the use of observers on board fishing vessels.

57. The Committee agreed that (d) appeared to be the best of the four options considered.

Participation in Working Party activities

58. The Committee recognized that participation in the activities of Working Parties needed to be improved, not only in terms of attendance at meetings but in supplying the data and statistics needed by the Working Parties to carry out their tasks. The cost of attending meetings was the responsibility of individual Members and should not be borne by IOTC; outside funds might be sought for such purposes.

59. The Committee requested that the Secretariat carry out a study of the feasibility of organizing training courses on sampling methods, stock assessment and other techniques and methods, to be held in conjunction with meetings of Working Parties, and to report on this at the next meeting of the Committee.

60. The Committee approved the recommendations of the *ad hoc* working group on tagging (Appendix VI). The Committee considers it essential that this tagging programme be put into effect as soon as possible, since it is indispensable for making reliable assessments of the status of the stocks of yellowfin, bigeye and skipjack tunas and swordfish. The Committee also recommends that the seed funding of US$25,000-30,000 required to undertake the necessary preparatory work be secured as soon as possible.

Terms of Reference and activation of other Working Parties

61. The Committee recommends that the initial terms of reference for the Working Party on Neritic Tunas should be as given in Appendix VII.

62. The Committee noted that, although data on neritic tunas exist in many countries of the region, very little data has been submitted to the Secretariat. It was therefore not advisable to convene a meeting of the Working Party on Neritic Tunas in 2000. However, it was agreed that the Secretariat should approach countries fishing for neritic tunas in order to encourage active participation in future activities of the Working Party and also attend the symposium on seerfish organised by the Central Marine Fisheries Research Institute, India, in May 2000.

63. It was noted that priorities for the future activities of the Working Party on Neritic Tunas should include an update of the statistics available and that special consideration should be given to the question of stock structure. This should be done in association with a meeting of the statistics Working Party.

64. The Committee recommends that the initial terms of reference for the Working Party on Billfish should be as given in Appendix VII.

65. The Committee agreed that the Working Party on Billfish should meet during 2000, with priority given to swordfish, although other species should also be considered if time allows. The availability of statistics for all billfish species should be evaluated.

66. There was also agreement that the Working Party on Tropical Tunas should meet again in 2000, with yellowfin and skipjack tunas as priorities. However, it was agreed that the assessment of the bigeye tuna stock should be updated as more recent data become available. The general terms of reference should be as given in Appendix VII.

67. The Committee recommends that the initial terms of reference for the Working Party on Tagging should be as given in Appendix VIII.

68. To facilitate the participation of scientists from the region, the Committee agreed that the meetings of the Working Parties on Tropical Tunas, Billfish and Tagging should be held consecutively.

69. The Committee recognized the need to address the temperate tunas, albacore and southern bluefin tuna, although they do not represent an immediate priority for IOTC.

70. Albacore tuna is almost exclusively targeted by fleets from Taiwan Province of China, which has not provided information for recent years to the Secretariat. If data become available, either from existing sources or from the sampling schemes proposed, a Working Party may have to be established for this species.

71. The Committee recognized that CCSBT has the primary responsibility for the management of southern bluefin tuna. The Committee discussed two possible courses of action for the Commission. One is to constitute a Working Party on Temperate Tunas to establish a framework through which the Committee could stay informed of the situation and recommendations of CCSBT and exchange information, as takes place between ICCAT and CCSBT. The second is to include a report on southern bluefin tuna to be provided by CCSBT as a distinct item in the agenda of future meetings of the Scientific Committee. The Committee agreed to submit both proposals for consideration by the Commission.

Other business

72. The Chairman presented several proposals for consideration regarding the mode of operation of the Committee. These included:

- Rules governing the presentation of papers for consideration by the Scientific Committee and Working Parties.

- A presentation to the Scientific Committee by each country of a national report describing new information on the fisheries, research and recent actions taken in response to the Commission recommendations. Issues dealing with statistics and fishery trends are of the domain of the Permanent Working Party on Data Collection and Statistics, and should be reported to that group.
- Short executive summaries, prepared by the relevant Working Party, of the status of each species under management consideration by IOTC, to facilitate communication between the Scientific Committee and the Commission.

73. The Committee felt that these are useful proposals and agreed to review them in the future.

74. Japan informed the Committee that proposals for the next meeting of CITES involve consideration for listing some species of marine fish, especially sharks, including the whale shark. Japan's position is that the management of these species should remain the responsibility of regional fisheries bodies, and stressed the importance of fisheries experts be included in the delegations of Member countries to the CITES meeting

75. The Committee decided that the dates and venues for the meetings of the various Working Parties would be decided by consultation between the Secretariat, the Chairperson of the Scientific Committee, and other interested parties.

Adoption of the Report

76. The Scientific Committee approved the report of its Second Session.

APPENDIX I. AGENDA OF THE SECOND SESSION

1. Opening of the Session
2. Adoption of the Agenda and arrangements for the Session (IOTC/SC/99/1)
3. Admission of observers
4. Introduction of participants and presentation of documents
5. Progress Report of the Secretariat (IOTC/SC/99/2, 3 and 4)
6. Report of the Permanent Working Party on Data Collection and Statistics (IOTC/SC/99/5 and 6)
    a. Proposed sampling scheme for estimating statistical data of non-member and flag of convenience vessels
        i. Vessel Registry
        ii. Landings database
        iii. Selection of port sampling sites
    b. Statistical reporting standards for Contracting Parties
        i. Modifications to mandatory standards
        ii. Reporting formats
    c. Proposed changes to IOTC statistical areas
    d. Functional relationships of the Permanent Working Party on Data Collection and Statistics with other IOTC subsidiary bodies
7. Report of the Working Party on Tropical Tunas (IOTC/SC/99/7)
    a. Status of tropical tuna stocks
    b. Research recommendations
        i. General
        ii. Stock Assessment activities
    c. Status of stocks
    d. Management recommendations
8. Participation in Working Party activities
9. Progress report of the working group on tagging
10. Terms of Reference and activation of other Working Parties
11. Any other business
12. Adoption of the Report

APPENDIX II. LIST OF PARTICIPANTS

IOTC MEMBERS

AUSTRALIA

Dr. John Kalish
Senior Research Scientist
Fisheries and Forestry Sciences Division
Bureau of Rural Sciences

Mr. Murray Johns
Director, International Relations - Fisheries,
Department of Agriculture, Fisheries and Forestry

CHINA

Mr. Liu Xiaobing
Deputy Director
Division of International Cooperation
Bureau of Fisheries, Ministry of Agriculture

EUROPEAN COMMUNITY

Dr. Alain Fonteneau
Chercheur
Institut de recherche pour le développement

Dr. Franco Andaloro
Research Scientist
National Marine Research Institute (ICRAM)

Dr. Michel Goujon
Scientific Counsellor

FRANCE

M. Renaud Pianet (Chairperson)
Chercheur Oceanographe
Institut de recherche pour le développement

Dr. Olivier Maury
Fishery Biologist
Institut de recherche pour le développement

M. François René
Délégué régional
IFREMER, Délégation de la Réunion

INDIA

Dr. V.S. Somvanshi
Director-General, Fishery Survey of India
Ministry of Agriculture

JAPAN

Dr Yasuhiko Shimadzu
Director General,
National Research Institute of Far Seas Fisheries,
Fisheries Agency

Dr. Ziro Suzuki
Director, Pelagic Fish Resources Division,
National Research Institute of Far Seas Fisheries,
Fisheries Agency

Dr. Sachiko Tsuji
Section Chief , Temperate Tuna Section,
National Research Institute of Far Seas Fisheries,
Fisheries Agency

Dr. Tsutomu Nishida
Senior Researcher, Temperate Tuna Section,
National Research Institute of Far Seas Fisheries,
Fisheries Agency

Mr. Masayuki Komatsu
Director for International Negotiations,
International Affairs Division,
Fisheries Policy Planning Department,
Fisheries Agency

Mr. Kengo Tanaka
Deputy Director, International Affairs Division,
Fisheries Policy Planning Department,
Fisheries Agency

Mr Hisashi Endo
Deputy Director, International Affairs Division,
Fisheries Policy Planning Department,
Fisheries Agency

Mr Masatake Kato
Deputy Director, International Affairs Division,
Resources Development Department,
Fisheries Agency

Mr Morio Kaneko
Far Seas Fisheries Division,
Resources Development Department,
Fisheries Agency

Mr Takato Maki
International Affairs Division,
Fisheries Policy Planning Department,
Fisheries Agency

Mr. Tsutomu Watanabe
Managing Director,
Federation of Japan Tuna Fisheries Co-operative Associations

Ms. Eiko Ozaki
Deputy Manager, International Division,
Federation of Japan Tuna Fisheries Co-operative Associations

Mr. Ryuichi Tanabe
President,
Japan Far Seas Purse Seine Fishing Association

Mr Takashi Nagura
Director, Planning and Coordination Division,
Overseas Fishery Cooperation Foundation

Mr Toshihiro Araya
Planning and Coordination Division
Overseas Fishery Cooperation Foundation

Mr Yousuke Ochi
Research Officer, Number 1 Research Division,
Japan Marine Fishery Resources Research Center

Mr Sentaro Tsuru
Research Officer, Number 2 Research Division,
Japan Marine Fishery Resources Research Center

KOREA

Mr Seon-Jae Hwang
Fisheries Scientist
Distant Water Fisheries Resources Division
National Fisheries Research & Development Institute

MADAGASCAR

M Gabriel Razafitseheno
Directeur
Ministère de la Pêche et des Ressources Halieutiques

MALAYSIA

Mr. Raja Bidin Raja Hassan
Research Officer
Information and Training Branch
SEAFDEC/MFRDMD

MAURITIUS

Mr. Devanand Norungee
Scientific Officer
Albion Fisheries Research Centre

SEYCHELLES

Mr. Philippe Michaud
Managing Director
Seychelles Fishing Authority

Mme. Rose-Marie Bargain
Industrial Fisheries Research Manager,
Seychelles Fishing Authority

SRI LANKA

Mr. H.V.C. Fernando
Deputy Director
Department of Fisheries & Aquatic Resources

SUDAN

Prof. Osman Mohamed Saeed
Deputy Director General
Animal Resources Research Corporation
Ministry of Animal Resources

THAILAND

Mr. Somsak Chullasorn
Senior Marine Fisheries Advisor
Kasetsart University Campus
Department of Fisheries

Mr. Dhammasak Poreeyanond
Director
Oceanic Fisheries Division, Department of Fisheries,
Ministry of Agriculture and Cooperatives

Dr Wimol Jantrarotai
Director
Foreign Fisheries Affairs Division
Department of Fisheries

UNITED KINGDOM

Dr. Geoffrey Kirkwood
Senior Lecturer
T. H. Huxley School of Environment, Earth Science and Engineering
Imperial College of Science, Technology and Medicine

OBSERVERS

Members of FAO or other UN Agencies

COMORES

M. Ahmed Said Soilihi
Directeur General de la Pêche
Ministère de la Production et de
L'Environnement

M. Mohamed Ben Ousseni
Directeur de Cabinet
Ministère de la Production et de
L'Environnement

Mr. Kamardine Boinali
Chef de Service Regional de Peche
Ministère du Développement Rural de
L'Environnement et de la Pêche

MOZAMBIQUE

Mr Manuel Elias Mazibe
Director
Fisheries Research Institute

SOUTH AFRICA

Mr Sarel Van Zyl
First Secretary
South African Embassy, Japan

TANZANIA

Mr. Sadock P. N. Kimaro
Assistant Director of Fisheries
Fisheries Division
Ministry of Natural Resources and Tourism

UNITED ARAB EMIRATES

Mr. Abdulrazzaq Anwahi
Director of Fisheries Department
Ministry of Agriculture & Fisheries

International Organizations

ICCAT

Dr. Peter M. Miyake
Assistant Executive Secretary
International Commission for the Conservation
of Atlantic Tunas

SPC

Dr. John Hampton
Principal Fisheries Scientist
Secretariat of the Pacific Community

FAO

Dr. Jacek Majkowski
Fishery Resources Officer
FAO

SECRETARIAT

Mr. David Ardill
Secretary
Indian Ocean Tuna Commission

Mr Alejandro Anganuzzi
Deputy Secretary
Indian Ocean Tuna Commission

M. Miguel Herrera
Data Manager
Indian Ocean Tuna Commission

Mrs Sylvana Jones
Administrative Assistant
Indian Ocean Tuna Commission

APPENDIX III. LIST OF DOCUMENTS

IOTC/99/SC/01	Provisional agenda
IOTC/99/SC/02	Progress Report of the Secretariat
IOTC/99/SC/03	Data for the Calculation of Contributions
IOTC/99/SC/04	Report on the Consultancy to Indonesia
IOTC/99/SC/05	Report of the Working Party on Data Collection and Statistics
IOTC/99/SC/06	Port Sampling in the Indian Ocean
IOTC/99/SC/07	Rapport du Groupe de Travail sur les Thons Tropicaux
IOTC/99/SC/08	Présentation du projet de recherche de l'Union Européenne <<Efficacité des Senneurs Thoniers et Efforts Réels (ESTHER)
IOTC/99/SC/09	Experimental Fishing Program (EFP) for Southern Bluefin Tuna
IOTC/99/SC/10	THETIS, a new research program on tuna populations proposed by IRD in the Atlantic and Indian oceans
IOTC/99/SC/11	Rapport de synthèse sur le Symposium objets flottants
IOTC/99/SC/12	Tuna Fisheries in United Arab Emirates
IOTC/99/SC/13	Report of the Working Party on Status and Trends of Fisheries
IOTC/99/SC/14	List of longline vessels believed to be engaged in unregulated an unreported activities in ICCAT convention areas

APPENDIX IV. FIGURES FROM THE REPORT OF THE WPTT

Figure 1. Catches of skipjack tuna in the Indian Ocean by all gears, in thousands of tonnes.

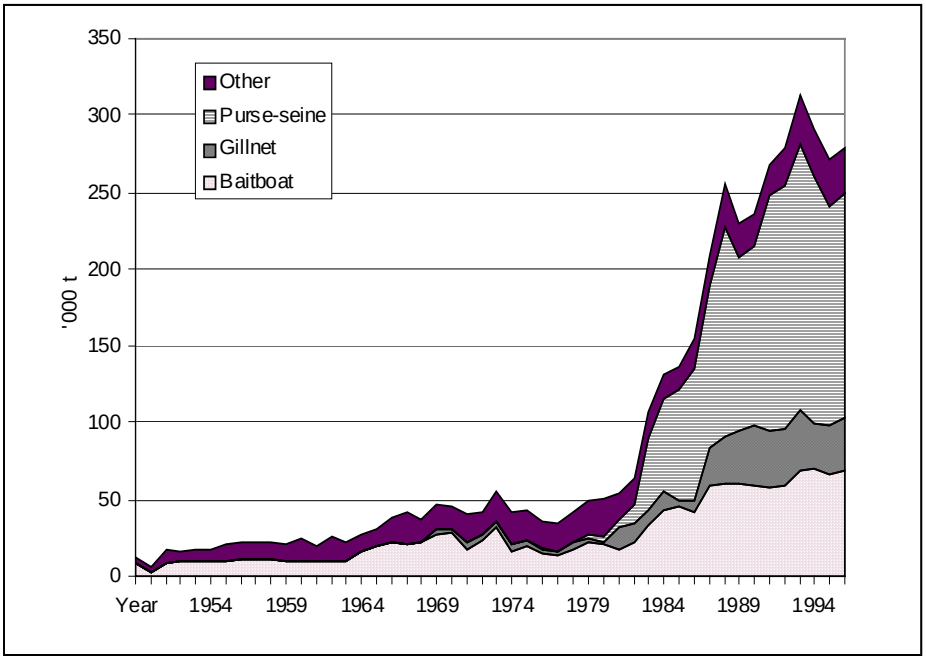


Figure 2 Catches of bigeye tuna in the Indian Ocean in thousands of tonnes, by gear.

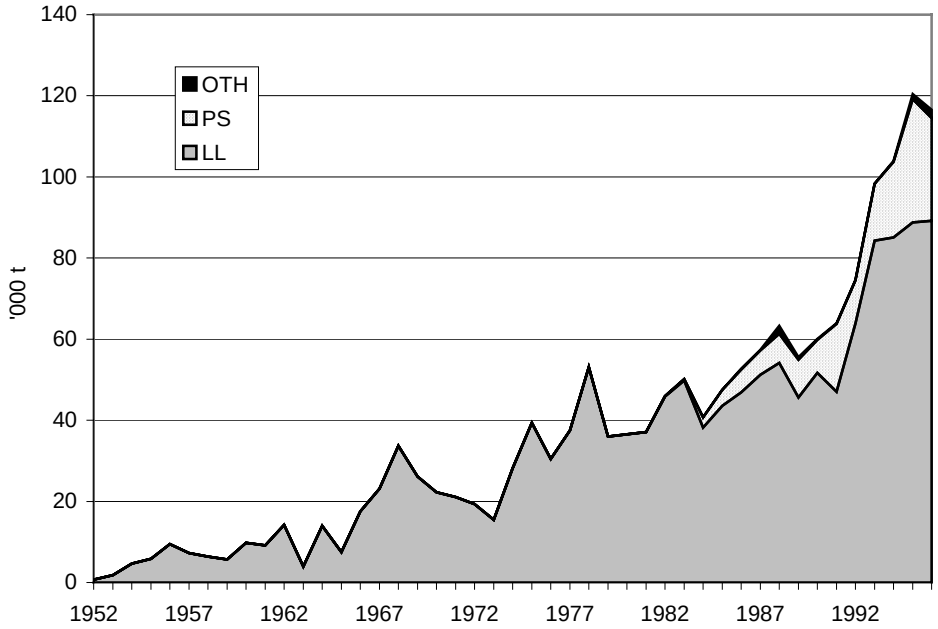


Figure 3. Trends in CPUE from the Japanese longline fleet. Darker ovals indicate the trend after reducing the post-1976 values by the amount that the average value for 1977-79 exceeded the average for 1974-76.

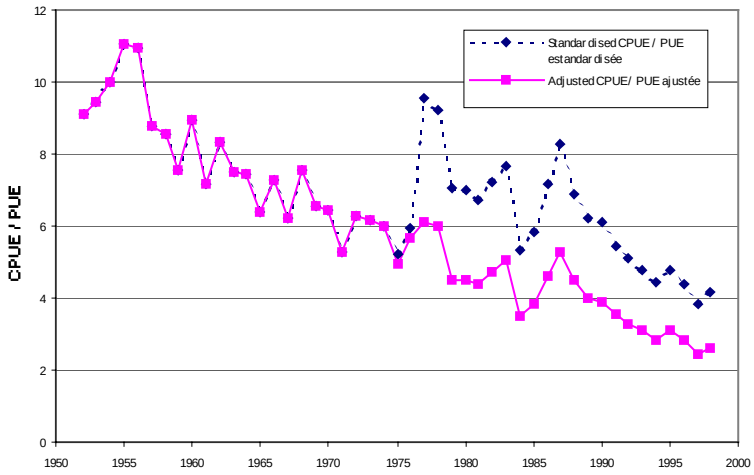
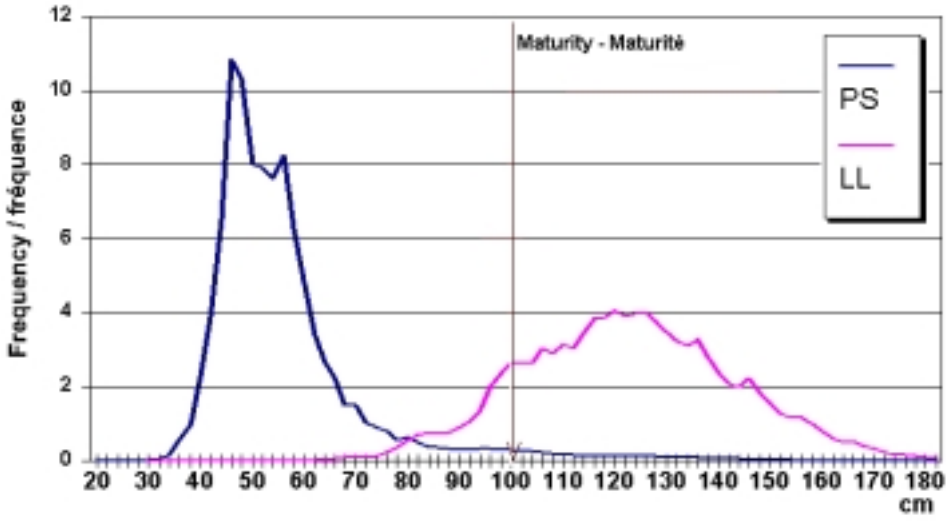


Figure 4. Size distribution of the catch of bigeye tuna in the Indian Ocean.



APPENDIX V. RESEARCH RECOMMENDATIONS FROM THE WORKING PARTY ON TROPICAL TUNAS

General

1. Developments in fishing practice and gear technology need to be fully documented and their effects on fishing power need to be assessed for all major fleets.
2. Size-frequency data from the Korean longline fishery during 1974-90, if they exist, should be made available to IOTC.
3. Catch, effort and size-frequency data from the longline fishery of Taiwan Province of China in recent years, if they exist, should be made available to IOTC.
4. Catch, effort and size-frequency data from the Indonesian longline fishery in recent years, if they exist, should be made available to IOTC.

Stock Assessment

1. In order to facilitate the calculation of indices of apparent biomass, the IOTC Secretariat should approach Japan requesting that the catch-and-effort data for the Japanese longline fleet be provided, aggregated by the number of hooks between floats. These data, together with the already available size data, will then be provided through the IOTC to scientists willing to undertake the calculation of the required indices (in particular, age-specific indices). Scientists undertaking this work should make their results available through the IOTC website.
2. Scientists should include environmental data in the calculation of indices of apparent biomass.
3. The IOTC Secretariat is to coordinate further work with interested scientists to facilitate the calculation and provision of the necessary catch-at-age data sets required for stock assessment purposes. Once calculated, these data sets should be posted on the IOTC website.
4. The IOTC Secretariat is to list recommended biological parameters to be used for stock assessment purposes on the IOTC website. A list of recommended methods, models and programs (drawing on the work of other tuna commissions such as ICCAT and IATTC) should also be made available through the IOTC website.
5. The IOTC Secretariat will assist in the dissemination of environmental data useful for stock assessment purposes. The Secretariat will provide through its Web site a list of contacts and Internet addresses of primary sources for this type of data. Scientists are invited to send to the Secretariat information about such sources, together with a short summary of the data available from the sites.
6. Scientists from the various organisations with an interest in undertaking stock assessments on the tropical tunas in the Indian Ocean are encouraged to make use of the data and methods which will be posted on the IOTC website. Scientists undertaking such work are also encouraged to make their results available through the IOTC website and seek comments back on their work. In this manner, much of the preliminary work required to undertake stock assessments could be undertaken before the annual meeting of the WPTT.
7. Scientists are encouraged to explore and develop the use of new methods and models applicable to the assessment of tropical tunas in the Indian Ocean. Such models should explicitly incorporate uncertainty in the data and model structure and include consideration of spatial and environmental structure and interactions between species.
8. Individual scientists are encouraged to assist the IOTC Secretariat to achieve each of the above recommendations.

Bigeye Tuna

1. Countries and fisheries scientists should support the Australian CSIRO initiative to investigate genetic stock structure of Indian Ocean bigeye tuna by supplying appropriate tissue samples.
2. Comparative studies of bigeye tuna fisheries in the Indian Ocean and those in other oceans may shed light on developments within the Indian Ocean and are therefore encouraged.
3. Catch and effort data from Mauritian purse seiners (which are believed to have concentrated on FAD fishing with deep nets since the beginning of their operations) should be analysed to provide comparative information on the changing catch composition of the EU purse seine fleet, which has engaged more recently on such fishing.
4. A major Indian-Ocean-wide tagging experiment is required in order to address the stock structure of bigeye tuna in the Indian Ocean and to estimate levels of mixing of tuna between the western and eastern parts of the ocean.
5. Tagging experiments and otolith studies are also thought to be the best ways to estimate bigeye tuna growth rates.
6. Many basic biological parameters are poorly known and further study is required in order to refine estimates of:
    - Growth rates, particularly of large fish
    - Length-weight relationships
    - Natural mortality rates
    - Age (and/or size) at first maturity
7. Some data relating to biological parameters are available with national or other agencies (e.g. maturity data from BIOT and gonad index data from the Japanese longline fishery). Any such data not already submitted to the IOTC should be submitted as soon as possible.
8. Port sampling of bigeye catches will be necessary in order to obtain the size-frequency data required for stock assessment. In order to determine the optimum disposition of sampling sites, it is recommended that heterogeneity analysis be carried out. In considering the adoption of statistical units, it would be appropriate to adopt ecologically meaningful sub-areas (e.g. based on Longhurst's areas).
9. VPA by size, rather than age, may be useful, especially if it reduces assumptions about growth parameters and addresses the problem of missing size compositions.
10. It is necessary to obtain data on the sex ratio by size in the catch. In the future, this information could be used to carry out stock assessments by sex.

Yellowfin Tuna

1. Countries and fisheries scientists from the region should support the Japanese NRIFSF initiative to investigate the stock structure of Indian Ocean yellowfin tuna by supplying appropriate tissue samples.
2. Tagging is necessary to investigate stock structure, migrations, fishery interactions and growth and mortality parameters.

Skipjack Tuna

1. The stock structure of Indian Ocean skipjack tuna should be investigated as soon as possible.
2. Tagging is necessary to investigate stock structure, migrations, fishery interactions and growth and mortality parameters.

3. The cause(s) of the recent decline in skipjack catches on FADs by purse seiners should be investigated.
4. The possibility of interactions between fisheries for skipjack tuna and, in particular, between the western Indian Ocean purse-seine fishery and the Maldivian artisanal fishery should be investigated.

APPENDIX VI. REPORT OF THE AD HOC WORKING GROUP ON TAGGING

A large-scale tagging experiment on tuna in the Indian Ocean has, for many years, been considered to be crucial for reliable stock assessment and sound fishery management. The overall goal of such a tagging project would be to generate data that would provide information on a variety of population parameters underpinning stock assessment. The WPT considered a range of issues related to the design, implementation and funding of a large-scale tagging project:

Target species

The WPT agreed that the main target species of the tagging project would be bigeye, skipjack, and yellowfin tunas and swordfish.

Objectives

The objectives of the project would be to provide information to support the estimation of a range of population parameters for these species, including rates of natural mortality, fishing mortality, growth rates and movement throughout the entire Indian Ocean. The intention would be to ultimately use the tagging data in an integrated model (i.e. simultaneously analysing tagging, catch, effort and size/age data) that would in turn provide estimates of current stock status, fishery interaction and other quantities of critical interest to the Commission in pursuing its resource conservation objectives.

Methodologies

For the tuna species, large-scale conventional tagging in the major fishing areas was judged to be the most appropriate “core” methodology to achieve the objectives. This would almost certainly involve the use of a chartered baitboat as the principal tagging platform. This might be supported by “opportunistic” tagging using research vessels, small-scale commercial vessels and artisanal fishing vessels, particularly in the coastal areas of Asian countries. Specialized experiments using both conventional and archival tag releases in the vicinity of FADs would be used to pursue complementary objectives. For swordfish, tagging opportunities would be restricted to longline caught fish. In this case, the use of archival tags (both standard and pop-up) was thought to be the most suitable approach.

Design considerations

At this point, it was not possible to consider a detailed experimental design for the project. However, IRD is in the process of developing a detailed, spatially-explicit, environmentally-driven simulation model of Indian Ocean tuna fisheries, which should provide the basis of a detailed experimental design study. The simulation model will be used to undertake hypothetical tagging experiments, with the simulated data so produced being used in an integrated assessment model, as noted above. Different release strategies under a variety of possible fishery conditions can be tested for their efficacy in improving the quality of stock assessments and related analyses.

Funding

On the basis of experience in other regions (the Atlantic and western Pacific Oceans), it was judged that a successful program would require total funding of the order of US$5–10 million over a period of 5–7 years (with most activity occurring in years 2 and 3). This is an approximate indicator only and a detailed budget is yet to be developed. While US$5–10 million might be considered a large amount of funding for a research project, it is a relatively small investment in relation to the total value of Indian Ocean tuna catches (~US$1.5 billion) and the potential benefits that would result in terms of understanding of the dynamics of the stocks. There are preliminary indications that the European Commission, possibly with the support of the Government of Japan, may be amenable to an approach seeking funding.

Plan of action

The following plan of action and approximate timetable was identified by the WPT:

- Immediately – seek "seed" funding of US$25,000-30,000 to undertake the necessary literature searches, feasibility visits, evaluation of potential tagging platforms, investigation of bait supplies, etc. to allow a detailed funding proposal and operational plan to be prepared. IRD will continue simulation model development and begin the experimental design study.
- Mid-2000 – submit a detailed project proposal, possibly to the European Commission and Japanese Government, for consideration.
- 2001-2002 – undertake phase 1 of the project, which would be an extended feasibility exercise aimed at demonstrating the suitability and feasibility of the tagging methodologies. The data generated during phase 1 would be used to fine-tune the experimental design for phase 2.
- 2003-2004 – undertake phase 2 of the project, which would be the period of intensive tag release.
- 2005-2007 – continued tag recovery and analysis and publication of results.

APPENDIX VII. GENERAL TERMS OF REFERENCE FOR SPECIES-RELATED WORKING PARTIES

1) Review new information on the biology and stock structure of species of the relevant species, their fisheries and environmental data.
2) Coordinate and promote collaborative research on the species and their fisheries.
3) Develop and identify agreed models and procedures for the assessment of stock status of each species.
4) Conduct stock assessments for each of each species or stock.
5) Provide technical advice on management options, the implications of management measures and other issues.
6) Identify research priorities, and specify data and information requirements that are necessary for the Working Party to meet its responsibilities.

APPENDIX VIII. TERMS OF REFERENCE FOR THE WORKING PARTY ON TAGGING

1. Review and identify the objectives and scope (e.g. which species and spatial scales) of any proposed tagging experiment.
2. Propose aims, designs and methods for pilot studies that might assist in the successful execution of the tagging programme.
3. Identify impediments to achieving the desired objectives and where possible identify measures for overcoming these impediments.
4. Determine the most appropriate design of a tagging experiment (e.g. temporal and spatial coverage, number of tags, types of tags) needed to achieve the identified objectives.
5. Review and identify the best means of implementing a tagging experiment (e.g. platform, logistic arrangements) and identify possible logistical difficulties (e.g. availability of boats, bait) and how these may be best overcome.
6. Determine the types and levels of publicity required to maximize the return of tags and assess the utility of supplementary tag seeding experiments for the estimation of reporting rates.
7. Determine the budget for a tagging experiment and identify possible funding sources.
8. Provide coordination to ensure the successful implementation for a tagging experiment, identify and coordinate on-going work and analyses required to achieve the program objective

APPENDIX VIII
RESOLUTION 99/01
ON THE MANAGEMENT OF FISHING CAPACITY AND ON THE REDUCTION OF THE CATCH OF JUVENILE BIGEYE TUNA BY VESSELS, INCLUDING FLAG OF CONVENIENCE VESSELS, FISHING FOR TROPICAL TUNAS IN THE IOTC AREA OF COMPETENCE

The Indian Ocean Tuna Commission (IOTC):

Noting that the FAO Code of Conduct for Responsible Fishing provides that States should take measures to prevent or eliminate excessive fishing capacity,

Concerned that the fleets fishing for tropical tunas in the IOTC area of competence continue to increase rapidly, and that current capacity may exceed the level of fishing effort appropriate for sustainable use of the high value tuna resources of the Indian Ocean,

Further concerned that, for example, the biomass of adult bigeye in the Indian Ocean has shown a continual and severe decrease, as reported by the Scientific Committee, as a result of increasing catches by both longliners and purse seiners,

Further concerned that currently about 70% by number of the total bigeye catch is taken by the purse-seine fleet, and consists mainly of juvenile fish, and that 80% of the catch in weight is taken by the longline fleet, and consists mainly of adult fish,

Recalling that in February 1999 the FAO Committee on Fisheries adopted the International Plan of Action for the Management of Fishing Capacity (in application of the Code of Conduct), calling for immediate action to reduce fishing capacity in major international fisheries,

Further recalling that the Rome Declaration on the Implementation of the Code, adopted by the FAO Ministerial Meeting on Fisheries in March 1999, underlines the important role of regional fishery management organizations in respect of the implementation of the Code of Conduct,

Noting that the Scientific Committee has considered that, on the basis of certain indicators, if the catches continue at high levels, the stock of bigeye tuna is likely to become overexploited and, taking account of the precautionary approach, there is a need for immediate management action,

Further noting that the Scientific Committee has recommended that the increase in catches of the stock of bigeye tuna by all gears should be halted immediately, and that the increase in catches of small bigeye tuna associated with floating objects should also be halted,

Recognizing Japan's initiative to implement the FAO Plan of Action by a reduction in the number of long-distance longline vessels by 20% (132 vessels), and the need for possible, concerted and appropriate actions by other States or fishing entities,

Considering that the Scientific Committee concluded that establishing area and seasonal closures of fishing grounds to fishing on floating objects would appear to be the best option to reduce the catches of juvenile bigeye tuna by purse seiners,

Recalling the Resolution of the Third Session of IOTC concerning registration and exchange of information on vessels, including flag of convenience vessels, fishing for tropical tunas in the IOTC area of competence,

Very concerned that illegal, unregulated and unreported (IUU) fishing activities by large-scale tuna vessels in the IOTC area of competence have continued to increase, severely diminishing the potential effectiveness of conservation and management measures adopted by IOTC and impeding adequate stock assessment by the Scientific Committee:

1. Undertakes to adopt concerted actions to limit the fishing capacity of the fleet of large-scale vessels fishing for tropical tunas in the IOTC area of competence, to ensure the long-term sustainable exploitation of tuna stocks. As a first step, at its Session in 2000 IOTC will

consider, on the basis of the scientific advice referred to in paragraph 3 below, the limitation of the capacity of the fleet of large-scale tuna vessels to the appropriate level.

2. Engages to adopt, at its Session in 2000, a season and area closure of the use of floating objects in the IOTC area of competence, on the basis of the scientific advice referred to in paragraph 3 below.

3. Asks the Scientific Committee to present, at the Session of IOTC in 2000, recommendations on:

   - The best estimate, on the basis of existing data and analyses, of the optimum fishing capacity of the fishing fleet which will permit the sustainable exploitation of tropical tunas.
   - Precise areas, periods and conditions for a moratorium on the use of floating objects that would bring about a reduction of the fishing mortality of juvenile bigeye. The Scientific Committee should present various options, with estimates of their likely effects on the catch rates of the three species of tropical tunas.

4. Urges Contracting Parties and non-contracting Parties cooperating with IOTC to fulfil their obligations concerning the transmission of the list of vessels fishing for tropical tunas according to the Resolution of the Third Session.

5. Regardless of the full application of this resolution, Contracting Parties will have due regard to the interests of all countries concerned, in conformity with the rights and obligations of those countries under international law and, in particular, to the rights and obligations of developing countries of the Indian Ocean rim with respect to their entry into the high seas fisheries in the IOTC area of competence

APPENDIX IX
RESOLUTION 99/02
CALLING FOR ACTIONS AGAINST FISHING ACTIVITIES BY LARGE SCALE FLAG OF CONVENIENCE LONGLINE VESSELS

The Indian Ocean Tuna Commission (IOTC),

Recalling that IOTC adopted at its 1998 meeting the Recommendation Concerning Registration and Exchange of Information on Vessels, including Flag of Convenience Vessels, Fishing for Tropical Tunas in the IOTC Area of Competence,

Concerned that fishing activities by large scale flag of convenience (FOC) tuna longline fishing vessels in the IOTC Areas have continued and increased, and that such activities diminish the effectiveness of IOTC conservation and management measures,

Recognizing that there is evidence to indicate that many owners of vessels engaged in such fishing activities have reflagged their vessels to avoid compliance with IOTC conservation and management measures,

Aware that most of these vessels are owned and operated by Taiwan Province of China (TPC) entities while almost all of their products are being exported to Japan,

Welcoming the work now underway in FAO to develop an international Plan of Action to combat illegal, unregulated and unreported (IUU) fishing including FOC,

Determined that further action must be taken to deter FOC fishing activities,

Resolves as follows:

1. The Contracting Parties and Non-Contracting Parties cooperating with the IOTC shall ensure that large-scale tuna longline vessels under their registry do not engage in IUU fishing activities (e.g. by means of denying such vessels a license to fish).

2. The Contracting Parties and Non-Contracting Parties cooperating with the IOTC shall refuse landing and transhipment by FOC vessels which are engaged in fishing activities diminishing the effectiveness of measures adopted by IOTC.

3. The Contracting Parties and Non-Contracting Parties cooperating with the IOTC shall take every possible action, consistent with their relevant laws,

- to urge their importers, transporters and other concerned business people to refrain from transacting in and transhipping tunas and tuna-like species caught by vessels carrying out FOC fishing activities
- to inform their general public of FOC fishing activities by tuna longline vessels which diminish the effectiveness of IOTC conservation and management measures and urge them not to purchase fish harvested by such vessels, and
- to urge their manufacturers and other concerned business people to prevent their vessels and equipment/devices from being used for FOC longline fishing operations.

4. The Commission urges all non-contracting parties, entities or fishing entities not referred to above to act in conformity with operative paragraphs 1, 2 and 3 of this Resolution.

5. The Commission encourages monitoring and exchange of information concerning FOC fishing activities including the port sampling activity conducted by the Secretariat,

6. The Commission urges States and fishing entities whose FOC fishing vessels are engaged in fishing activities diminishing the effectiveness of measures adopted by IOTC, to repatriate or scrap such vessels. The Commission also urges Japan, in cooperation with such states and fishing entities, to scrap Japan-built vessels engaged in FOC fishing activities.

7. The Commission instructs the Secretariat to prepare possible measures including trade restrictive measures to prevent or eliminate FOC fishing activities.

8. The legal joint venture operation of vessels by Contracting Parties should not be construed as FOC fishing as long as it does not diminish the effectiveness of measures adopted by IOTC.

9. Due consideration shall be given to the interests of coastal nations.

APPENDIX X
RESOLUTION NO 99/03
ON THE ELABORATION OF A CONTROL AND INSPECTION SCHEME FOR IOTC

The Indian Ocean Tuna Commission (IOTC):

Considering that the control and effective implementation of the management measures constitutes an essential element for the success of these measures;

Noting that IOTC does not have at present a control and inspection scheme adapted to the characteristics of tuna fisheries in the region;

Realizing that international law is evolving, especially as far as international control and inspection are concerned, and that IOTC must take the necessary steps to adapt itself to this evolution;

Considering that such a future control and inspection scheme should take into account the characteristics of the fisheries, the particularities of the different geographical zones within the IOTC area of competence, and the characteristics of the conservation and management measures to be adopted, with due regard to the cost effectiveness of the scheme;

Concerned that the activity of "flag of convenience" vessels will undermine every effort on stock conservation taken by IOTC Parties;

Recognizing that this is a complex task that should be started as soon as possible, to ensure that the system is in place by the time IOTC adopts management measures:

1. The Commission will engage in the elaboration of a control and inspection scheme containing all the necessary elements to ensure adequate control and enforcement of management measures for both Contracting and non-Contracting Parties.

2. For this purpose, the Commission establishes the following schedule of activities:

   - Prior to the IOTC Session in 2000, Contracting Parties will submit to the Secretariat their proposals and suggestions for such a scheme. The Secretariat will circulate these proposals to other Contracting Parties.
   - At the Session in 2000, a discussion will take place on the elements that could constitute the package of control measures.
   - If necessary, during 2001 an intersessional meeting will be held to advance in the definition of the scheme.
   - At the Session in 2001, the Commission will consider the adoption of the scheme.

APPENDIX XI
RESOLUTION 99/04
ON THE STATUS OF COOPERATING NON-CONTRACTING PARTIES

The Indian Ocean Tuna Commission (IOTC):

Noting the imperative international responsibility concerning the conservation of the resources of tunas and tuna-like species in the Indian Ocean for the needs of present and future generations;

Noting that this sustainability can be ensured only if all the Parties which fish for these species cooperate with the Commission, which is the competent international body for the conservation and management of these species within its area of competence;

Bearing in mind that the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks has underlined the importance of ensuring the conservation and optimum utilisation of highly migratory species through the action of regional fishery bodies such as the IOTC;

Recalling the resolution of the Third Session of the IOTC concerning the registration and exchange of information on vessels, including those flying flags of convenience, which fish for tropical tunas in its area of competence;

Recalling also the resolution of the Third Session of the IOTC on cooperation with non-contracting Parties;

Resolves, in conformity with the provisions of Article IX, paragraph 1, of the IOTC Agreement, that:

1. Any non-Contracting Party that voluntarily ensures that vessels flying its flag fish in a manner which is in conformity with the conservation measures adopted by IOTC be defined as a Non-Contracting Cooperating Party.

2. The Secretary of IOTC contact every year all Non-Contracting Parties known to be fishing for species which fall within the mandate of IOTC, in order to encourage them to become Contracting Parties of IOTC or to accede to the status of Cooperating Party. The Secretary shall attach to these communications copies of all relevant resolutions and recommendations adopted by IOTC.

3. Any non-contracting Party wishing to become a Cooperating Party will make a request to that effect to the Secretary. When submitting this request, and every year thereafter, the candidate Party will confirm to IOTC its firm commitment with respect to the conservation and management measures adopted by the Commission. It will undertake to transmit to IOTC all the data that Contracting Parties are obliged to submit to IOTC, as specified in the recommendations adopted by the Commission. Any request should be received by IOTC at least ninety (90) days before the annual Session of the Commission.

4. At its annual Sessions, the Commission will examine requests for the status of Cooperating Party and decide whether or not to grant a candidate Party the status of Cooperating Party. The Commission must also evaluate every year the activities of Cooperating Parties to determine whether they conform to the criteria required to maintain this status.

5. Non-Contracting Parties which continue to fish for tunas in the area of competence of IOTC and do not become Cooperating Parties will be informed that pursuing their fishing activities in contravention of the management measures of IOTC, including failure to respect the obligation to declare their catches, undermines the effect of these measures.

6. The Commission will, at its future Sessions, analyze the possibility of introducing concrete measures to inhibit the activities of vessels of non-Contracting, non-Cooperating Parties, including preventing landings and transhipments of catches of vessels of non-Contracting Parties fishing in a manner which is not in conformity with the conservation and management measures of IOTC, and measures which could be taken against non-Contracting and non-Cooperating Parties through a specific action plan.

APPENDIX XII
PROPOSAL FOR RESEARCH ON PREDATION BY MARINE MAMMALS AND SHARKS ON TUNAS CAUGHT BY THE LONGLINE FISHERY IN THE INDIAN OCEAN

Several Members of IOTC expressed their concern at the First and Second Sessions of the Scientific Committee about the damage caused by marine mammals and shark predation on longline-caught tunas. Losses to predation of between 20 and 30 % of the total longline catches were reported in some parts of the Indian Ocean. The Japanese fleet has also suffered from this predation for a long time and shares this concern.

For the purpose of collecting reliable and comprehensive information about this problem, improving catch statistics related to this situation, finding possible methods of preventing this predation and exploring any possible implications for stock assessment of tunas and the ecosystem approach, Japan proposes the following 5-year research plan, starting in 2000:

1. Well in advance of the next meeting of the Working Party on Tropical Tunas, Japan will provide to the IOTC Secretariat draft survey forms on predation of tunas caught by the longline fishery, based on forms used by Japan in the past. No later than the end of 2000, the Secretariat will distribute those forms to the member countries to initiate the survey. As soon as possible, the IOTC Secretariat will form a working group specific to this survey through correspondence, to facilitate the survey design and subsequent work of this project.
2. IOTC will review the status of the survey annually during 2001-2003.
3. The result of analyses based on the data collected through this survey will be reported by the working group to the Session of the Scientific Committee in 2004.

APPENDIX XIII
APPROVED BUDGET FOR 2000 AND INDICATIVE BUDGET FOR-2001

	2000		2001	
	w/m	US$	w/m	US$
Secretariat staff[1]	123	661,313	123	672,779
Consultants	2.5	35,000	3	45,000
Duty travel		75,000		75,000
Sampling		60,000		60,000
Tagging pilot study		25,000		
Meetings		50,000		50,000
Interpretation, translation & editing		80,000		80,000
Equipment		15,000		20,000
Operating expenses		40,000		40,000
Miscellaneous		20,000		20,000
SUB-TOTAL		1,056,313		1,062,779
Deductions (staff housing)		-24,000		-24,000
TOTAL		1,032,313		1,038,779
FAO Servicing Costs		46,454		46,745
GRAND TOTAL		1,078,767		1,085,525

SCALE OF CONTRIBUTIONS FOR 2000 (IN US$)

Member	Average catch 1995-1997	World Bank classification 1997	OECD status 1997	Total contribution for 2000
Australia	5,448	h	Y	79,420
China	103,027	l		37,609
European Community	221,959	h	Y	332,346
Eritrea	122	l		13,566
France	495	h	Y	73,634
India	92,843	l		35,229
Japan	53,595	h	Y	135,665
Korea, Republic of	16,194	h	Y	91,974
Madagascar	10,000	l		15,874
Malaysia	8,784	m		30,469
Mauritius	4,476	m		29,463
Pakistan	32,040	l		21,023
Seychelles	2,009	m		28,886
Sudan	-	l		6,346
Sri Lanka	54,486	m		41,147
Thailand	50,659	m		40,253
United Kingdom	-	h	Y	65,864
Grand Total	**656,138**			**1.078.767**

No. of parties:	**17**
No. of countries fishing:	**15**
Contribution by GNP/caput:	**0.4**
Contribution by catch:	**0.4**
OECD country factor:	**1**
Non-OECD country factor:	**0.2**

1997 World Bank Classification	
$9,365	**High income group**
$761-$9,365	**Middle income group**
$761	**Low income group**

[1] This corresponds to funding over one calendar year for one P-5, one P-4, two P-3, one G-6, one G-6, one G-5, one G-4, one G-3 and one G-1 post at UN rates for Seychelles in 2000 and 2001 respectively.