Report of the Joint Meeting of Tuna RFMOs

January 22 – 26, 2007

Kobe, Japan

The Government of Japan, with technical assistance provided by the Food and Agricultural Organization of the United Nations (FAO), organized and hosted the first Joint Meeting of Tuna RFMOs from January 22nd to 26th 2007 in Kobe, Japan. The meeting included participants from 54 Members and cooperating non-Members of 5 tuna RFMOs (IATTC: Inter-American Tropical Tuna Commission, ICCAT: International Commission for the Conservation of Atlantic Tunas, IOTC: Indian Ocean Tuna Commission, WCPFC: Western and Central Pacific Fisheries Commission, and CCSBT: Commission for the Conservation of Southern Bluefin Tuna), as well as representatives of the Secretariats of the 5 tuna RFMOs, one non-Member, 7 inter-governmental organizations and 7 non-governmental organizations. The list of participants is attached as Appendix 1.

The list of documents discussed in the Joint Meeting and the adopted agenda are attached as Appendix 2 and 3, respectively.

Mr. Toshiro Shirasu, Director-General of Fisheries Agency of Japan, opened the Joint Meeting. The opening statement of Mr. Shirasu is attached as Appendix 4. Mr. Masanori Miyahara (Japan) was elected as the Chairperson.

An open-ended drafting committee to develop the Course of Actions for RFMOs from the Kobe meeting of joint tuna RFMOs was created.

Dr. Sachiko Tsuji (FAO) made presentations on the status of tuna stocks and data availability of tuna resources. A summary of stock status of tuna resources and the explanatory document for data availability are attached as Appendix 5 and 6. It was noted with concern that most commercially important tuna stocks in the world are fully or over-exploited.

Mr. Yuichiro Harada (OPRT) and Mr. Lahsen Ababouch (FAO) made presentations on the status of the sashimi and canned tuna product markets, respectively. The presentations are attached as Appendix 7 and 8. It was noted that the demand for both sashimi and canned tuna is continuously increasing in the world.

Dr. Robin Allen (IATTC), Dr. Bill Hogarth, Mr. Driss Meski, Dr. Jerry Scott and Dr. Victor Restrepo (ICCAT), Mr. John Spencer and Mr. Alejandro Anganuzzi (IOTC), Mr. Andrew

Wright (WCPFC), and Mr. Neil Hermes (CCSBT) made presentations on the organization of, conservation and management measures taken by, and challenges of their respective tuna RFMOs. The challenges commonly faced by those RFMOs include establishment of effective and comprehensive stock rebuilding programs, collection of reliable data for stock assessment, restriction of fishing capacity/fishing effort, implementation of effective MCS (monitoring, control and surveillance) measures, striking a balance between the needs of developed and developing states, and effective cooperation among the tuna RFMOs. Their presentations are attached as Appendix 9, 10, 11, 12, and 13.

Mr. John Spencer (European Community) acted as a facilitator on the agenda of "Coordination of Measures of RFMOs". The issues discussed under this agenda included IUU fishing, trade and catch tracking programs, transshipments and data collection and reporting. Participants underlined the need for a stronger cooperation and coordination among tuna RFMOs on all of those issues. Particularly, unification of lists of authorized as well as IUU vessels, data sharing among tuna RFMOs, and establishment of harmonized regulation for transhipment including a global observer scheme for carrier vessels could be the first area of coordination, following some technical discussions.

Mr. Glenn Hurry (Australia) acted as a facilitator on the agenda of "Addressing Fishing Capacity, Fishing Effort and Compliance". It was agreed that in general global fishing capacity for tunas is too high and should not increase, and be reduced as appropriate, while recognizing the aspiration of developing states, particularly small island developing states and territories, for the development of their fisheries industries. The need for tuna RFMOs to set sustainable catch and effort limits and address issues of allocation was also discussed in conjunction with overcapacity. It was also recognized that an improved, comprehensive and integrated MCS package of measures needs to be developed. The conference noted the importance of the outcome of the St John conference and the 2006 FAO workshop on capacity to the Joint Meeting.

Mr. David Balton (USA) acted as a facilitator on the agenda of "Responsible Actions to Address the Concerns raised by the International Community". It was agreed that the five tuna RFMOs should have their performance reviewed in accordance with a common methodology, based on common criteria to the extent possible. Participants also agreed on the need to implement the ecosystem-based approach and precautionary approach and urgent need to develop and implement measures to minimize the by-catch of other ocean species in tuna fisheries (particularly sea turtles, seabirds and sharks) as well as devising ways to increase assistance to developing countries.

Based on the discussions above, the Drafting Committee developed a draft Course of Actions for RFMOs from the Kobe meeting of joint tuna RFMOs, which describes (I) key areas and challenges, (II) technical work to cooperate across RFMOs to address the challenges, and (III) follow-up actions. The Joint Meeting agreed upon the Course of Actions by consensus as attached as Appendix 14. The participants confirmed that their willingness to implement the Course of Actions through their participation in tuna RFMOs.

In relation to paragraphs 3 and 13 in Section I of the Course of Actions, the meeting noted the special requirements of developing coastal states, particularly small island developing states and territories, as shown in Appendix 15.

The United States of America offered to host the technical working group (July 2007 in conjunction with the ICCAT intersessional meetings) and an ad-hoc Tuna RFMO Chairs' meeting (probably January or February 2008) mentioned in Section II and III respectively of the Course of Actions. The European Community offered to host the second Joint Meeting of Tuna RFMOs in 2009. The Joint Meeting welcomed the both offers.

Mr. Miyahara declared the close of the first Joint Meeting of tuna RFMOs.

Appendix 1

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Joint Meeting of Tuna RFMOs
22th-26th Jan. 2007
Kobe, Japan

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Appendix 2

TunaRFMOs2007/0

Joint Meeting of Tuna RFMOs
January 2007, Kobe JAPAN

List of Documents

Discussion Paper

TunaRFMOs2007/1	Draft Agenda
TunaRFMOs2007/2	Draft Annotated Agenda
TunaRFMOs2007/3	Draft Schedule
TunaRFMOs2007/4	Presentation on Stocks
TunaRFMOs2007/5	Presentation on Data Availability
TunaRFMOs2007/6	Presentation on Sashimi Market
TunaRFMOs2007/7	Presentation on Cannery Market
TunaRFMOs2007/8-1, 2, 3, 4	Reports from IATTC
TunaRFMOs2007/9-1, 2	Reports from ICCAT
TunaRFMOs2007/10	Reports from IOTC
TunaRFMOs2007/11	Reports from WCPFC
TunaRFMOs2007/12	Reports from CCSBT
TunaRFMOs2007/13	Document on Coordination of Measures
TunaRFMOs2007/14-1, 2	Document on Fishing Capacity
TunaRFMOs2007/15	Draft RFMO Performance Review
TunaRFMOs2007/16	Course of Actions

Information Paper

TunaRFMOs2007/info1	Explanatory Note by Japan
TunaRFMOs2007/info2*	Report of the Methodological Workshop on the Management of Tuna Fishing Capacity
TunaRFMOs2007/info3*	UNFSA Review Report
TunaRFMOs2007/info4*	UNGA Resolution on Fisheries

* available at secretariat on request

Appendix 3

TunaRFMOs2007/1

Agenda

Joint Meeting of Tuna RFMOs
Annotated Agenda and Time Schedule
January 22-25, 2007, Kobe, Japan

1. Opening
1.1 Opening Statement
1.2 Election of Chair
1.3 Establishment of Drafting Group
1.4 Adoption of Agenda
1.5 Arrangement of the Meeting

2. Review of Current Situation and Exchange of Information
2.1 Status of Stocks and Markets
  2.1.1 Stocks and Data Availability
  2.1.2 Markets
    2.1.2.1 Sashimi
    2.1.2.2 Cannery
2.2 Reports from RFMOs
  2.2.1 Current Conservation and Management Measures
  2.2.2 Challenges each RFMO is facing

3. Specific Actions to Improve Functions of each RFMO, including Coordination and Collaboration among RFMOs
3.1 Coordination of Measures
3.2 Addressing Fishing Capacity, Fishing Effort and Compliance
3.3 Responsible Actions to Address the Concerns raised by the International Community
3.4 Future Process and Other Issues
3.5 General Discussions

4. Adoption of Course of Actions

5. Closing
5.1 Adoption of the Report of the Meeting
5.2 Closing

Appendix 4

Joint Meeting of Tuna RFMOs

Opening Statement

by Toshiro Shirasu, Director-General of Fisheries Agency of Japan

January 22nd, 2007

Delegates, Colleagues, Ladies and Gentlemen, My name is Toshiro Shirasu, Director-General of Fisheries Agency of Japan.

I would welcome everybody for traveling all the way to Kobe. On behalf of the host country, let me make a brief welcome remarks at the opening of the Joint Meeting of Tuna RFMOs.

As you are aware, this Joint Meeting is the first attempt for the Members of all the five tuna regional fisheries management organizations (RFMOs) to meet on one occasion to discuss common issues. Japan proposed this Meeting at the FAO COFI two years ago and received a broad support. Thanks to the tremendous cooperation and contributions dedicated since then by FAO and other international institutes as well as many participants here, we could finally open the Meeting today. Let me express our sincere appreciation to all of you who helped us organizing the Meeting.

As one of the major fishing and market countries for tunas, Japan participates in this Meeting with a strong sense of urgency. As we explained in our Explanatory Note which was distributed already, we have a grave concern over the future of tuna resources. Most of tuna species in the world has already been fully or over exploited, while the number of tuna fishing vessels in the world is ever increasing. We are facing daunting tasks to establish conservation and management measures and, thereby, to achieve sustainable use of tuna resources through RFMOs. This includes a controversial issue of how to balance between the interests of historical fishers and developing opportunities of new fishers. In addition, vessels move globally from one ocean to another and from one resource to another, while fishing activities are managed through respective RFMO, which is “regional” by definition. Furthermore, IUU fishing vessels have yet to be eliminated, despite enormous international efforts to combat with them to date. Those are common problems among all the tuna RFMOs, and better and stronger cooperation and coordination among them is indispensable for effective implementation of the conservation and management measures taken by each RFMOs. Therefore, we strongly hope that the process of cooperation and coordination among RFMOs is initiated at this Meeting.

During the past two years since FAO COFI meeting, we heard quite a number of news

regarding tunas such as catch reduction and/or restriction of tunas as a result of declines of the resources. Japanese fishers are concerned whether they can continue their tuna fishing operations in the future and Japanese consumers are concerned whether they can continue to enjoy delicious tunas. Therefore, it is very important for this Meeting to be good news regarding the future of tuna resources.

In our firm belief, the goal all the participants must seek for at this Meeting is to demonstrate that sustainable tuna fisheries are achievable, by committing themselves to the long-term sustainable use of tuna resources from a global point of view beyond the limits of conventional management through RFMOs. It is not an exaggeration to say that all of the top fisheries negotiators and managers in the world are here today. I cannot imagine any better group than this to discuss the future of global tuna resources and the necessary measures for their conservation and management. Like other participants, Japan is also prepared to make utmost contribution to positive outcome of the discussion, as a responsible fishing as well as a market country.

Another element we must not forget during this week is the follow-up actions after this Meeting. The real success of this meeting depends on how each RFMO strives to establish effective conservation and management measures toward the goal we would agree at the end of this Meeting. All the participating Members must act sincerely in accordance with its commitment to be made here this week. In that sense, I urge you to discuss about the follow-up process of Course of Actions as well.

In closing, I do hope you enjoy the stay in Kobe, although I am fully aware that your agenda is more than full. Kobe is one of the most sophisticated ports in Japan and famous for its beautiful night view. Also, I encourage you to try some Japanese food such as Kobe Beef since the promotion of Japanese food export is one of the policy pillars of the Ministry of Agriculture, Forestry and Fisheries. Kobe experienced a devastating earthquake just 12 years ago. Supported by the assistance from all over the world, the city has been reconstructed and you may not notice the traces now. But reconstruction has not been completed yet. The world witnessed many severe natural disasters recently such as Tsunami in Sumatra or Hurricane Katrina, and I sincerely wish those areas affected by disasters including Kobe to revive as swiftly as possible.

With a cordial hope that it would be a fruitful week for all of you, I close my opening remarks. Thank you very much.

Appendix 5

TUNA and TUNA-LIKE SPECIES:
Global Status of Fishery Resources

Extraction by the Secretariat

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EXECUTIVE SUMMARY

This paper reviews the state of fishery resources of tuna and tuna-like species on the global scale, concentrating on the commercially most important species, i.e., so-called principal market tuna species. They can classified into tropical tunas (skipjack tuna, yellowfin tuna and bigeye tuna) and temperate tunas (albacore and bluefin tunas (Atlantic, Pacific and southern)).

For tuna and tuna-like species, the paper outlines:
- a basic taxonomic and other biological information,
- the development and expansion of fisheries,
- trends of catches,
- institutional frameworks for regional cooperation in fisheries research particularly the stock assessment,
- procedures and input information for the stock assessment and
- the status of stocks.

It also discusses:
- potential improvements in the knowledge of the status of stocks and
- the outlook for this status and catches in the future.

Global annual catches of all tuna and tuna-like species tended to continuously increase with some fluctuations, reaching their maximum of about 9.5 million tonnes in 2003. Catches of the principal market tunas increased relatively steadily from less than 0.2 million tonnes in the early 1950s to the peak of 4.3 million tonnes in 2003, declining slightly in 2004. Atlantic, Pacific and southern bluefin contribute relatively little in terms of weight to the total catches of principal market tunas, but their individual value is high due to their use for sashimi. The catch of these species peaked at about 150 000 tonnes in 1961, following a steep decline in the late 1960s due to declines of catches of southern bluefin. In 2004, the catch of the bluefin species was 79 000 tonnes.

In the early 1950s, most catch (about 80 %) was taken in the Pacific. Between 1970 and 1978, the catches of principal market tunas increased significantly as a result of the expansion of fisheries in the eastern Atlantic and the development of new offshore fishing grounds in the eastern Pacific. Between 1978 and 1984, many vessels moved to the western and central Pacific and the western Indian Ocean, developing new fisheries there. In the mid 1980s, catches of principal tunas increased to 2.4 million tonnes. By 1994, they increased to 3.4 million tonnes with the better oceanographic conditions after the transfer of vessels. The development of FAD fishing contributed also to these increases.

The global annual catches of skipjack and yellowfin tended to increase over the entire period of its exploitation, reaching their maximums of about 2.2 and 1.4 million tonnes in 2003, respectively. The global annual catch of bigeye also tended to continuously increase to its maximum of 493 000 tonnes in 2000, declining slightly from that level in subsequent years. The global catch of albacore increased from 1950 to the late 1960s, fluctuated without a clear trend since then with catches of about 200 000 tonnes in 2004.

Most tropical principal market tunas have reacted well to exploitation due to their very high fecundity, wide geographical distribution, opportunistic behaviour and other populations dynamics (like relatively short live span) that make them highly productive. Another factor in their exploitation is that skipjack and yellowfin are used mostly for canning, reaching lower prices than those of the species used for sashimi like bluefins and bigeye. Generally, with proper fisheries management, the tropical species are capable of sustaining high yields. The possibilities of overexploitation and stock depletion should not be underestimated, however. Generally, stocks of temperate species are less productive and may be more susceptible to overexploitation. The Albacore used mostly for canning reaches much lower prices than bluefin, but higher than skipjack and yellowfin.

The following classification of the status of stocks is adopted in this paper.

- ***N*** = ***Not known*** or significantly uncertain.
- ***M*** = ***Moderately*** exploited (some limited potential for *sustainable* increases in catches).
- ***F*** = ***about Fully*** exploited (fishing at about an optimal yield with no expected room for further *sustainable* increases in catches).
- ***O*** = ***Overexploited*** (fishing above a level which is *sustainable* in a long term (a risk of stock depletion/collapse) with no potential room for further sustainable increases in catches),
- ***D*** = ***Depleted*** (catches well below historical maximum levels irrespective of fishing effort exerted).

In this classification, most substantially overexploited stocks are distinguished by classifying them as depleted.

There are still 4 or 5 out of 23 stocks of the principal market tunas that are moderately exploited. These stocks are (i) albacore in the South Atlantic and the South Pacific (2 stocks) and (ii) skipjack in the Pacific (2 stocks) and possibly, in the Indian Ocean (also possibly about fully exploited).

Most stocks of principal market tunas are about fully exploited (8 to 10 out of 23 stocks). These stocks are (i) albacore in the Indian Ocean and the North Pacific (2 stocks), (ii) bigeye in the Atlantic and the Indian Ocean (2 stocks), (iii) Pacific bluefin, (iv) yellowfin in all the oceans (4 stocks) possibly with the exception of that in the western and central Pacific (also possibly overexploited) and (v) possibly, skipjack in the Indian Ocean (also possibly moderately exploited).

A significant percentage of stocks is overexploited or depleted (5 to 6 out of 23 stocks). Among these stocks, 2 are classified as depleted. The latter stocks are (i) Atlantic bluefin in the west Atlantic and (ii) southern bluefin. The stocks classified as overexploited are (i) albacore in the North Atlantic, (ii) Atlantic bluefin in the eastern Atlantic and the Mediterranean Sea, (iii) bigeye in the Pacific (possibly 2 stocks) and possibly, (iv) yellowfin in the western and central Pacific (also possibly fully exploited).

Among the principal market species, the status of 3 out of 23 stocks is unknown. They are albacore in the Mediterranean Sea and skipjack in the Atlantic (2 stocks).

If tuna fisheries continue to be profitable, the intensity of fishing is likely to even increase due to fishing overcapacity unless it will be effectively restrained by fisheries management measures. Such an intensification of fishing would result in a significant deterioration of the status of stocks of tuna and tuna-like species. Even without this intensification, the status of some stocks that are being overexploited is likely to deteriorate unless their exploitation is reduced. Such a deterioration of the status of tuna and tuna-like species might eventually lead to a reduction in their catches.

The catches of the principal market tunas could be significantly increased in a sustainable way by increasing catches of skipjack in the Pacific (particularly in the western and central Pacific regardless that their catches are greatest) and possibly, in the Indian Ocean. However, that would have to be done without increasing catches of some other tuna species like bigeye and yellowfin, which are caught presently together with skipjack. Increases in catches of bigeye and yellowfin are not desired because they are about fully or over-exploited. Because of that, a fishing techniques would have to be developed that would allow catching skipjack selectively without the other tuna species.

Albacore catches in the South Atlantic and the South Pacific could be also increased in a sustainable way. However, the temperate species of albacore is not very productive. Catches of their stocks do not presently contribute very much to the global catches of the principal market tunas.

The stocks of principal market tunas other than those mentioned above are about fully, overexploited, depleted or their status is unknown. Therefore, their catches cannot be increased in a sustainable way, at least, before the recovery of the overexploited and depleted stocks and determining the status of the stocks classified as Unknown. In fact, catches from the overexploited and depleted stocks may

decrease, at least, in a short term, if additional management measures are introduced to allow their recovery from overexploitation. Even without such measures, catches of the overexploited and depleted stocks may decrease in a long term if they will continue to be overexploited. Similarly, catches of the about fully exploited stocks may eventually decrease, if they will be overexploited.

Table 2 - Catches from and state of stocks of principal market tuna species by stock.

Species	**Stock/area**	**Catch (thousands of tonnes)**					**State of exploitation**
		2000	**2001**	**2002**	**2003**	**2004**	
Albacore *(T. alalunga)*	Atlantic: Med. Sea	5	4	5	7	4	N
	Atlantic: North	34	25	23	26	25	O
	Atlantic: South	29	35	32	28	23	M
	Indian O.	38	41	33	25	23	F
	Pacific: North	37	48	47	66	69	F
	Pacific: South	40	53	63	62	56	M
	Total	**183**	**206**	**203**	**214**	**200**	
Atlantic bluefin tuna *(T. thynnus)*	Atlantic: east. & Med. Sea	34	35	35	32	32	O
	Atlantic: west	3	3	3	2	2	D
	Total	**37**	**38**	**38**	**34**	**34**	
Bigeye tuna *(T. obesus)*	Atlantic	103	96	76	83	76	F
	Indian O.	128	115	135	124	126	F
	Pacific: eastern	142	130	132	114	108	O
	Pacific: west. & cent.	120	117	134	122	129	O
	Total	**493**	**458**	**477**	**443**	**493**	
Pacific bluefin tuna *(T. orientalis)*	Pacific	**33**	**19**	**20**	**20**	**31**	F
Skipjack tuna *(K. pelamis)*	Atlantic: east	111	118	93	124	133	N
	Atlantic: west	29	31	22	24	27	N
	Indian O.	422	426	489	474	457	M-F
	Pacific: eastern	282	416	439	406	288	M
	Pacific: west. & cent.	1237	1136	1284	1295	1370	M
	Total	**2081**	**2127**	**2327**	**2323**	**2081**	
Southern bluefin tuna *(T. maccoyii)*	Southern Oceans	**15**	**16**	**15**	**14**	**13**	D
Yellowfin tuna *(T. albacares)*	Atlantic	134	160	139	125	120	F
	Indian O.	330	310	332	437	494	F
	Pacific: eastern	282	416	439	406	288	F
	Pacific: west. & cent.	433	427	419	447	413	F-O
	Total	**1179**	**1313**	**1329**	**1415**	**1179**	
Total		**4021**	**4177**	**4409**	**4463**	**4031**	

Appendix 6

TunaRFMOs2007/5

Overview of existing data collection and monitoring mechanisms for tuna stock and fishery management

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Introduction:

The United Nations Fish Stocks Agreement for conservation and management of straddling fish stocks and highly migratory fish stocks[1] (UNFSA) identifies in its Annex 1 the standard data requirement for stocks and fishery management. It also determines that flag State is responsible for the data collection and fishery monitoring with verification and that data collected should be compiled and disseminated through appropriate sub-regional or regional fisheries management organizations or arrangement (RFMOs). Many data collection systems and fishery monitoring mechanisms have been implemented by flag States during the last decade through a coordination by RFMOs. This document briefly reviews major data collection and fishery monitoring mechanisms currently used or considered to implement among tuna RFMOs and considers possible areas of improvement with a special attention toward capacity control and preventing, deterring and eliminating Illegal, Unreported and Unregulated (IUU) fishing. This document only focuses on systems and tools available and will not discuss on quality of data that have been actually collected and accumulated.

The views expressed in this paper are those of the author and do not necessarily reflect the views of FAO or any of its Members. Also, this document only discuss about a general concept without paying attention to possible legal impediments and confidentiality issues.

Coverage of tuna stocks and fisheries by RFMOs:

All tuna species are highly migrated species and five RFMOs were established specifically for conservation and management of tuna and tuna-like species which include;

- Inter-American Tropical Tuna Commission (IATTC),
- International Conservation for the Conservation of Atlantic Tunas (ICCAT),
- Commission for the Conservation of Southern Bluefin Tuna (CCSBT),
- Indian Ocean Tuna Commission (IOTC), and
- Western and Central Pacific Fisheries Commission (WCPFC).

[1] The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks

While ICCAT, IATTC, IOTC and WCPFC have its own defined area of jurisdiction and aim for conservation and management of tuna and tuna-like species within the area, CCSBT was established for conservation and management of southern bluefin tuna world-wide without specification of jurisdiction area. In combination, all tuna stocks in the world are in principle covered by RFMOs management framework, with some overlaps of jurisdiction areas and species among RFMOs.

According to FAO Statistics of capture fisheries[2], catches of commercially important tunas species, i.e. yellowfin tuna, bigeye tuna, skipjack tuna, albacore, northern bluefin tuna, Pacific bluefin tuna, and southern bluefin tuna, taken by Members and cooperating non-Members of those five tuna RFMOs accounted for 91 % of global tuna catches[3]. This figure indicates a proportion of catch monitored and controlled by management framework by RFMOs, when assuming that all States monitor and report its own tuna catches with a consistent coverage and accuracy regardless its participation to RFMOs. Four States that reported substantial amount of tunas catch (>= 5,000MT per year) for the recent five years still have not participated to relevant tuna RFMOs. Many of small developing States, even those participating to RFMOs, struggle to sustain adequate level of management, control and surveillance (MCS) for domestic and foreign fleet operations. Lack of MCS capacity often allows illegal fishing to go unchecked. Then, actual proportion of catch under RFMOs management control is expected to be substantially lower. In the other words, the extent of IUU catch should be much higher, although it is virtually impossible to globally quantify the magnitude of IUU catches by its nature[4].

Data on fishing vessels :

The 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) enumerated guideline to State in order to combat IUU. As flag State responsibility, flag States should ensure that their flag vessels do not engage in, or support IUU fishing. To this end, flag States should have a system of vessel registration, irrespective of whether its operations in zones of national jurisdiction, exclusive economic zones (EEZ) of other countries, or on the high seas, a system to maintain record of fishing vessels, and an authorization to fish including specification together with conditions and obligations of authorization.

The information concerning fisheries legislation contained in FAO's Fishlex data base indicates that the requirement for registration and or license to fish is now widely included in national legislation. However, in many cases, small vessels and/or vessels only operating within the territorial waters are exempt from a requirement to register. Also it was noted that even such legislation is in place, there was little evidence of actual detailed records in number of cases.

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[2] FAO Yearbook 2004, Fishery statistics – capture production, vol. 98/1.

[3] These figures were based on average of 2000 to 2004.

[4] Recently, CCSBT identified possibility of substantial level of under-reporting of catch over the past 10 to 20 years. Report of the Eleventh Meeting of the Scientific Committee of CCSBT, Attachment 4. Report on biology, stock status and management of southern blufin tunac: 2006.

Information concerning the names of vessels, names of owners and technical details of fishing vessels are generally, but not always, gathered by the flag Sate through a process of registration or permission to fish. In many cases, such data may be held by maritime authorities for all types of vessels and also by fisheries authorities for fishing vessels. Many States maintained statistical records of fishing vessels in a suitable format for electric transfer. In particular at least 62 flag States have supplied data to various RFMOs.

IPOA-IUU suggests various ways of institutional strengthening of RFMOs to combat IUU which include a development and maintenance of records of vessels fishing in their jurisdiction area, including both those authorized to fish and those engaged in or supporting IUU fishing. Tuna RFMOs establish and maintains list of authorized vessels to fish as well as negative list. Authorized fishing vessel lists contain close to 11,000 records (IATTC-3,521; ICCAT-3,404; CCSBT-2,117; IOTC-1,945)[5] from 57 States. However, due to a large duplication of records of vessels especially from distant water fishing nation who operate across jurisdiction areas of multiple RFMOs, total number of vessels authorized to engage tuna fishing will be around the level of 8,000. Those lists are readily available to public through their respective web-sites.

Linking among all positive lists would extend its impact substantially since tuna fishing fleets are generally highly mobile, and especially so those that re-flag and/or those that transship illegally at sea. However, linkage of vessel records is not as easy as expected due to lack of unique identifier that does not change according to changes of ownership, flag, vessel name and authorization status. Although Lloyds Register of Shipping (LR) provides such identifier for vessels over 100 GT, LR is not incorporated in any of authorized lists of tuna RFMOs.

One of the impacts of positive/negative vessel list is to identify vessels suspect for engaging and/or supporting IUU fishing especially at a time of MCS at sea and port state control. For effective use of information, it is important to update lists as frequently as possible to reflect a real time situation. It should be noted that vessel can change its name, flag and appearance within a shockingly short period.

Ministerial Meeting on Fisheries held in March 2005 called for in its Declaration[6] the development of comprehensive record within FAO for fishing vessels and support vessels including refrigerated transport vessels and supply vessels, as they are often involved in transshipments from IUU vessels. In response, FAO has prepared a feasibility study, which reviewed existing information systems at national, regional, and global levels and examined legal and practical considerations involved in creating a global record. It confirmed that there is no complete record of the number of fishing vessels in the world and that there is also no complete, single source of information from which it would be possible to trace individual vessels and ownership. Also, there is no single source of information on the particulars of merchant ships, of all sizes, and their ownership.

After thorough analysis of relevant factors, FAO's feasibility study concluded that:

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[5] Situation at the time of April, 2006.

[6] 2005 Rome Declaration on Illegal, Unreported and Unregulated Fishing

- The development of such a record is technical feasible;
- Flag States and economic entities would have to provide detailed information regarding vessels and their ownership in a complete and accurate manner as requested by FAO to ensure a useful system;
- A unique vessel identifier system would need to be introduced so any vessel could be identified permanently, irrespective of change of vessel name, ownership or flag;[7]
- A phased approach for inclusion in the system would be desirable; and
- The costs of development and maintenance would be significant.

Data on fishing activities:

UNFSA Annex 1 requests for flag States to collect data on fishing activities according to the operational characteristics of each fishing method (e.g., each individual tow for trawl, each set for long-line and purse-seine, each school fished for pole-and-line and each day fished for troll) in sufficient detail to facilitate effective stock assessment. For combating IUU, full compliance with the term of conditions is needed but requirement should include complete, accurate and timely reporting of operations.

Such information is generally collected through mandatory logbook, in the case of tuna fisheries. Data collected includes vessel activity, time and location of individual operation and quantity and composition of catch including by-catch and discards. Some RFMOs and States implement electric logbook and/or daily reporting of logbook information through satellite communication to ensure timely monitoring. At the same time, States or, as appropriate, RFMOs are requested to establish mechanism for verifying fishery data, such as position verification through vessel monitoring systems, scientific observer programmes to monitor catch, effort, catch composition and other details of fishing operations, vessel trips, landing and transshipment report, and port sampling.

Vessel Monitoring Systems (VMS) are often used to evaluate vessel location. FAO recently convened an Expert Consultation on VMS, Vessel Detection Systems and Other Technologies, gathering legal, technical, and operational experts[8]. Tampering with vessel's VMS data, especially sophisticated tampering such as false position reporting remained a major concern. The Consultation noted that VMS had often been used independently and not always well integrated into other existing data including vessel registration, fishery management data on catches, efforts, gear, license, and other maritime information. Functional analysis and wider system integration are needed for full utilization of potential of VMS. Data sharing among States, RFMOs and appropriate

[7] The need for a unique vessel identifier system was also called for by the 2002 FAO Expert Consultation to Review Port State Measure to Combat IUU Fishing. Rome, Nov. 2002.

[8] Report of the Expert Consultation on the Use of Monitoring System and Satellites for Fisheries Monitoring, Control and Surveillance. FAO Fisheries Report. No. 815. Rome, FAO. 2006 68p.

regional and international authorities was seen as essential and the need for harmonized data formats, data compatibility and quality was stressed.

Recent analyses of VMS records indicated high possibility to separate VMS records during period engaging fishing activities out from cruising by applying appropriate filter, which provide direct measures of efforts in terms of operation time and actual fishing areas which are extremely useful input to scientific process.

Tuna RFMOs adopt on-board scientific observers mainly for collecting detailed information on fishing operations, gears and catches, especially of incidental takes or deaths of species whose stock status and impacts of fishing activities are of serious concerns, such as sea birds and sea turtle. Data collected by observers also can provide additional information needed for stock assessment of targeted and non-targeted species, as well as assist for evaluation of log-book and other reported data regarding their accuracy, reliability and representativeness, for considering alternative monitoring and management options with improved understandings on fishing practice, and for considering for assessing an impact of fishing activities on harvested marine environments. Observer data seems not to be utilized in the full extent in scientific process except those for assessing a level of incidental takes and deaths of sensitive species.

The existence of observer often changes behaviors of fishers. Because of that, on-board observers can be effective to discourage relevant vessel to engage IUU activities but may have a limited value for MCS regarding to IUU fishing.

Data on fishing activities is a basic input of scientific analysis required for responsible management of stocks and fisheries. Currently, raw detailed data obtained from any of tools described here are not necessary readily accessible to relevant scientists. However, a level of accuracy and reliability of scientific analysis as well as a range of things that science can assess may largely depend on availability of data and procedures to enable more extensive use of data for scientific analysis should be considered.

Also, it should be noted that many of information collected, especially on non-targeted species may be extremely valuable for other RFMOs, especially those who have competence for non-tuna species in the same geographical areas. Along this line, the UN General Assembly[9] recommended FAO to establish a global capture statistics database to provide information for the stocks to which the Agreement applies, as well as to high seas discrete stocks on the basis of where the catch was taken. However, in order to establish a global database with details of fisheries, including catch location, efforts, by-catch and discards, FAO believes it best to be achieved thorough a harmonized dissemination of data already compiled and maintained by RFBs. FAO is ready to host such a database subject to provision of an appropriate level of additional resource allocation and a commitment of collaborations from both Member States and RFMOs.

Port State measure:

[9] A/CONF/.210/2006/15, Annex and A/61/L.38

IUU fishers seek to make maximum short-term financial gains from their illicit activities at the expense of longer-term social, economic and biological objectives. Especially, they take an advantage by avoiding constraints that good fishers have to abide in terms of operation costs including levis, catch and operational restriction, and safety requirements. In order to discourage IUU activities, measures to ensure that financial loss at the time of detection is far greater than risk to be detected. Port States measures would be one possibility to exercise such impacts.

IPOA-IUU identifies that port States have an important supportive role in assisting flag States to fulfill their obligation. Measures adopted by port States should be fair, transparent and non-discriminatory and be framed in accordance with international low. These measures could involve; requesting information on details of their fishing trip and quantities of fish on board together with a copy of authorization before allowing a vessel port access, collecting information on vessels, gears, masters and fishing masters, origin, species, form and quantity of catch on board, total landed and transshipped catch and other information required by relevant RFMOs or other international agreement at the time of inspection, and transmitting those information to the flag State and, where appropriate, to relevant RFMOs. When there is clear evidence that a vessel granted entry to a port has engaged in or supported of IUU fishing, IPOA-IUU indicates that port States can refuse the landing or transshipment of catch and report suspected IUU fishing activity to the flag State and relevant RFMOs.

North East Atlantic Fisheries Commission is considering to impose additional responsibilities upon flag States to verify and authenticate the information provided by their fishing vessels prior to landing[10]. Coordination among port States could be intensified impacts against IUU by developing network of compatible measures. Products harvested by IUU fishing are often landed by reefers and/or authorized vessels after being transshipped at sea and harvesting and landings in the areas of different RFMOs jurisdiction are not rare. Close collaboration and data sharing about vessels and vessel activities including catch monitoring between MCS authorities of flag States and port States would be important.

Tracking harvested products:

The activities that make up IUU fishing can involve complex webs of actions and entities and are not limited to the illegal harvesting of fish. It also involves the shipment, processing, landing, sale and distribution of those products. Catch can be divided among numerous processors, brokers or importers and multiple marketers and distribution points can be involved with transport by air, sea or overland. To monitor and control IUU, tracking and controlling harvested fish is another important component.

IPOA-IUU suggests developing internationally agreed market-related measures, consistent with the principles, rights and obligations of the World Trade Organization, in order to prevent the importation of fish that has been identified to be harvested through

[10] Performance Review Panel's Report of the North East Atlantic Fisheries Commission, Vol. 1, Main Report p.42.

IUU fishing. Tuna RFMOs developed and adopted trade documentation scheme along this line, which is considered to further extend to cover transfer/landing within harvesting State.

Traceability including eco-labeling is one of many trade and market related measures being used in the combat against IUU. Traceability systems are designed for various purposes, including food safety and security, public health, or discriminating certain products. In recent days, consumers who are concerned with long-term sustainability and responsible management of fisheries wish to exercise their influence by selecting products to purchase and some retailers have taken actions to support this movement.

Some State recently implemented system to tag individual fish with identification of harvesting vessels and serial number at the time of capture. If the tag and related information will stay with fish throughout whole distribution and processing process and be provided to consumer, this may offer innovative case to improve traceability and transparency of fishery products.

Summary Conclusion:

- The combat against IUU needs global implementation of comprehensive package of measures, irrespective to role of States, type of fisheries and species involved. IPOA-IUU, while voluntary, enumerated guidance to States in their various roles as flag, coastal, port or market States, or RFMO members and required each State to self assess its own laws, policies, and practices.

- Global compilation of vessel records with unique identifiers will assist to evaluate records in established positive and negative vessel lists as well as to make a linkage among them, already, and enhance usefulness and effectiveness of measures to combat IUU.

- Currently available data collection and monitoring mechanisms allow flag States to collect adequately detailed information on behaviors and fishing activities of vessels flying their flag, if implemented properly at reasonable coverage. States are encouraged to analyze those detailed data intensively and in an incorporative way for both scientific and MCS aspects.

- All existing monitoring mechanisms provide a good basis to monitor all fishing activities and catch and to identify IUU and implement effective measures by flag States, coastal States, port States and market States. The impacts of measures depend on timely reporting of accurate data, prompt compilation of reported data, transparency and accessibility of data to those engaging MCS in relevant States, and consistency of measures taken across RFMOs and other management arrangements including non-tuna management organizations and arrangements.

Sashimi Tuna Market & Its Impact to Tuna

Organization for the Promotion of Responsible Tuna Fisheries

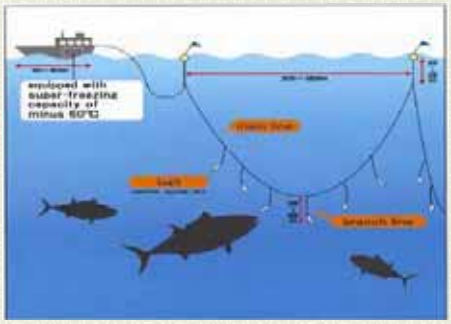
OPRT

Tuna is…

consumed as sashimi

as well as an ingredient in sushi.

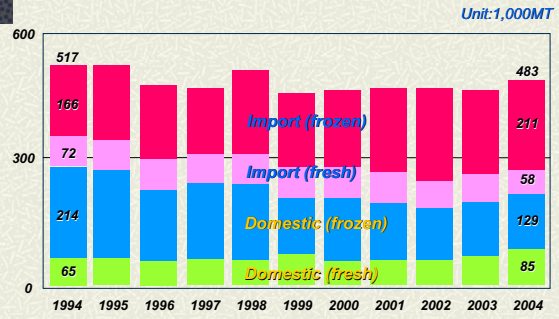
Large Scale Tuna Longline Fishing Vessel (LSTLFV), and its Fishing Gear



Change of sashimi market

- Shrink of Japanese Market:
- Globalization of sashimi Market:
  from single market to international market.

Sashimi tuna supplied to Japan



Scale of Japan's sashimi market.

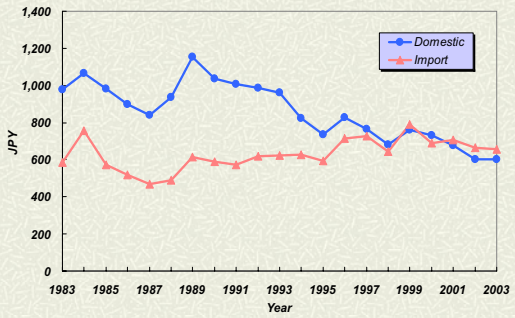
1995 about 1,900,000 tons

- Japan(For cannery) 120,000 tons
- Japan (for sashimi) 710,000 tons (37%)
- Other Nations 1,200,000 tons

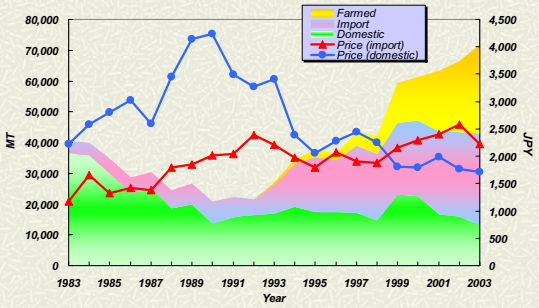
2002 about 2,250,000 tons

- Japan(For cannery) 80,000 tons
- Japan (for sashimi) 570,000 tons (25%)
- Other Nations 1,600,000 tons

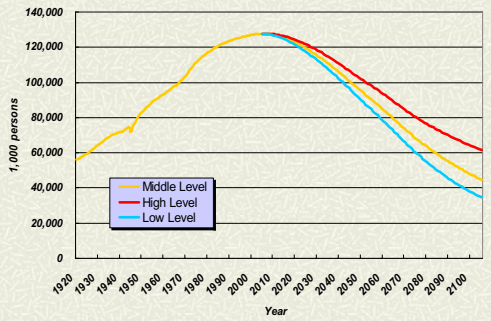
Price of sashimi tuna in Japan



Decline of sashimi tuna price.

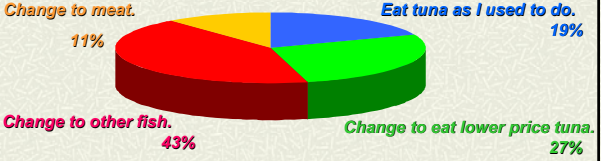


Trend of Japanese population

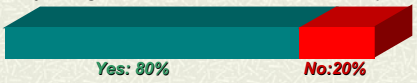


Consumer's Opinion

- What would you do if the price of tuna be risen?

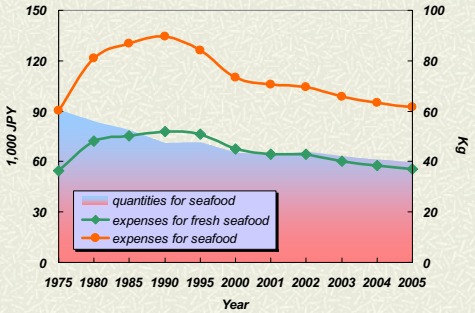


- Do you agree with RFMO's decision of quota reduction?



By NIKKEI on Dec. 04, 2006

Consumption of sashimi tuna per household.



By Ministry of Internal Affairs and Communications

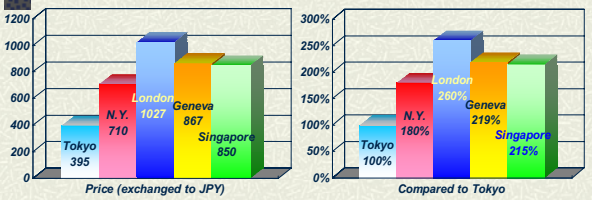
Other sashimi tuna markets.

Unit: MT

United States:	30,000 ~ 50,000
European Union:	4,000 ~ 8,000
Korea:	15,000 ~ 20,000
Chinese Taipei:	5,000 ~ 8,000
P.R.China:	4,000 ~ 6,000
Total:	58,000 ~ 92,000

Comparison of retail price of sashimi tuna.

(as of Nov. 2005)



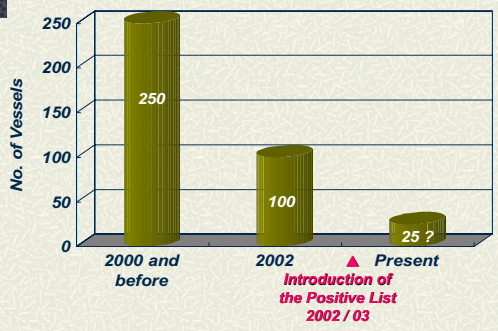
unit	Price (exchanged to JPY)					Compared to Tokyo (Tokyo:100)				
	Tokyo	New York	London	Geneva	Singapore	Tokyo	New York	London	Geneva	Singapore
100grams	395	710	1027	867	850	100	180	260	219	215

By the Ministry of Agriculture, Forestry and Fisheries of Japan

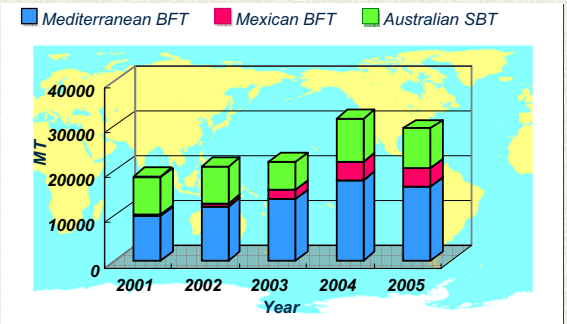
Sashimi market: its impact to tuna fisheries management.

1. IUU Fisheries;
2. Tuna farming fisheries;
3. Over fishing capacity.

Elimination of IUU LSTLFV.



Import of farmed tuna.



By Ministry of Finance Japan

FAO International Plan of Action for the Management of Fishing Capacity (Adopted in 1999)

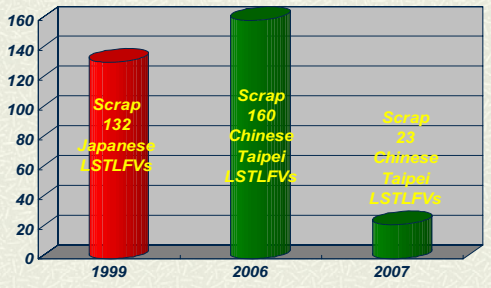
The required reduction would vary from fishery to fishery;

e.g.a. 20 to 30 % reduction was mentioned for large-scale tuna long line fleet.

Commitment by large scale longline fisher.

- Joint Declaration – World Tuna Longline Fishery Conference, 2003
  "To take effective measures respectively and jointly to restrict tuna longline fishing capacity on a global and sustainable basis."
- Yokohama Declaration, 2005
  "… new fishing capacity should be accompanied with removal of equivalent fishing capacity consistent with the FAO IPOA on Management of Fishing Capacity and the recommendations or rules of relevant RFMOs…"

Reduction of LSTLFV.

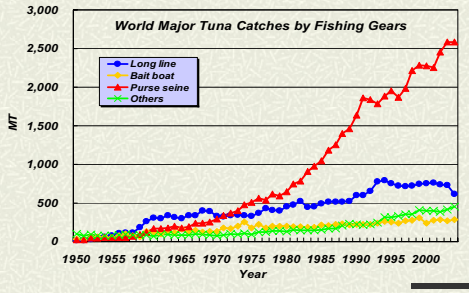


Number of OPRT registered vessels.

Members	Nov. 2001	Mar. 2002	Mar. 2003	Mar. 2004	Mar. 2005	Mar. 2006
Japan	495	490	495	473	434	381
Chinese Taipei	562	562	599	597	600	526
Korea		183	176	174	172	172
Philippines		6	17	17	18	26
Indonesia			14	14	14	14
P. R. China				105	113	113
Ecuador				5	5	4
Vanuatu / Seychelles				69	69	69
Total	1,057	1,241	1,301	1,454	1,425	1,305

Over fishing capacity should be…

addressed by all fisheries:
Longline, Purse seine, Farming.



For ensuring effective management…

- Management measures should cover all sectors:
  - Producers;
  - Traders;
  - Distributors;
  - Consumers.

Thank you for your attention!

Organization for the Promotion of Responsible Tuna Fisheries
OPRT

Appendix 8

Global production and marketing of canned tuna

Lahsen Ababouch and **Camillo Catarci**

Fish Utilization and Marketing Service, FIIU
Fish Products and Industry Division, FII
Fisheries and Aquaculture Department
Food and Agriculture Organization for the United Nations
00100 Via delle Terme di Caracalla. Rome. Italy

1- Introduction

Since its discovery by the Frenchman Nicholas Appert at the beginning of the nineteen century, the method of preserving food by heat and hermetical packaging has become a fairly well established process and industry. For many decades, this preservation method, sometimes referred to as "appertization" but mostly known as canning, was based on a trial and error approach until scientific developments enabled the emergence of its technological foundations and the subsequent development of the food canning industry.

Fish in general and tuna in particular have been canned for many centuries. Early reports dating back to the fifteen century indicate that Spanish people in Seville were already preserving tuna using boiling seawater and hermetical packaging. During the eighteenth and the nineteenth centuries, Italians from the region of Genoa had already developed a tuna canning operation with processing and distribution channels spreading over to Sardinia, Tunisia, Spain and Portugal. But, it is in California around 1903 that the modern tuna canning industry was initiated when Californian canneries faced a decline in supply of sardines and started substituting albacore tuna for canning.

Nowadays, consumers enjoy billions of fish cans worldwide, representing over 12.2 million tons or 24% of the fish processed for human consumption including over 3 million tons of tuna (live weight equivalent LWE) used for canning.

The extension of tuna fishing to tropical and subtropical fishing grounds, initiated in the 1960s and accelerated during the 1970s and 1980s, coupled with the extension of the EEZ limit to 200 miles, the progressive dismantling of tariffs and quotas under GATT and WTO and the development of special tariff and quota regimes under various regional or bilateral trade agreements has had an important impact on the organization and the structure of the tuna canning industry and on the canned tuna markets. Canning plants were moved from the countries of consumption (EU, USA and Japan) close to tuna fishing grounds, to countries with low corporate taxes and/or to countries with very attractive labor costs.

Also, the increase in tuna production and subsequent decrease in price in the 1970s, attracted new players to invest in tuna canning, especially from Latin America and South East Asia.

Consequently, the globalization of the tuna production and processing industry has had an important impact on the tuna canning industry in terms of investment, technology, product developments, marketing and market access requirements. This paper outlines the major developments that have occurred in the canned tuna markets and the future prospects of this industry.

2- The global canning industry

2-1 Technology

The three main tuna species that are canned are Skipjack (*Katsuwonus pelamis*), Yellowfin (*Thunnus albacores*) and Albacore tuna (*Thunnus alalunga*). Canned Skipjack and Yellowfin tuna are called *light meat tuna* because of the light pink color of the tuna flesh whereas canned albacore tuna is called *white meat tuna* because of the white flesh color.

Canneries are generally supplied with frozen whole tunas from fishing vessels or reefer carriers, sometimes with pre-cooked frozen tuna loins and rarely with fresh whole tunas.

The tuna canning process involves several steps (figure 1). Once the captured fish is loaded on-board, it is frozen in brine and stored in tanks filled with refrigerated brine. During the storage, the fish will absorb salt and care should be exercised to ensure it does not exceed 1% of salt in the aqueous phase of the muscle.

Once the vessel reaches port, the tuna are unloaded from the fishing vessels or reefer carriers and graded by size and quality to ensure uniform thawing and cooking throughout the products. Certain controls such as histamine and salt levels are sometimes carried out before unloading and transportation to canneries.

In the cannery, frozen tunas are thawed in cool water or in tanks equipped with water sprays, following which they are gilled, gutted and headed using mechanical stainless steel saws.

After butchering, the tunas are sorted by size and loaded onto trays that are in turn stacked on wheeled shelf racks and taken to the cooker. In addition to facilitating the subsequent dressing operations, cooking drains water and gases from the flesh. If not removed, the water and gases will swell or burst the cans during sterilization. Up to 30-percent weight loss occurs during the cooking phase, which takes generally from 45 minutes to three hours, depending on the size and species of tuna.

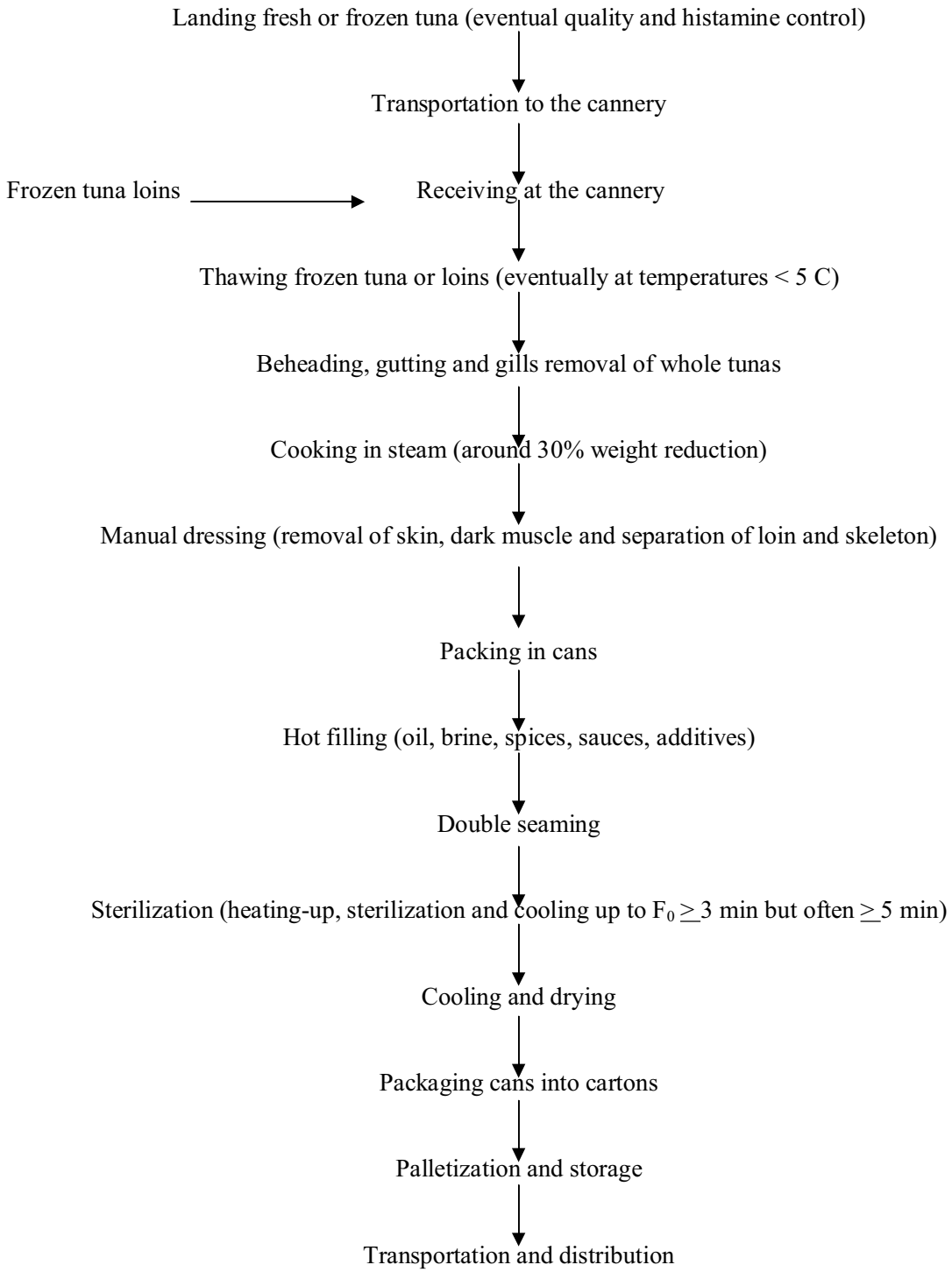
After cooking and cooling, the tunas are put on conveyor belts that carry the fish to the dressing tables where workers, equipped with knives, remove manually the skin and dark meat from the fish and separate the tuna loins from the skeleton. The dark meat scraped from the loins may be used to prepare pet food. The waste from tuna dressing is combined with waste from gutting and used to produce fish oil and fish meal in a separate plant.

Fish loins or chunks are packed into cans and hot filled with oil, brine, spring water or sauce. Various flavoring and seasoning additives, including salt, vegetable broth, lemon, monosodium glutamate, vinegar, hydrolyzed proteins or spices can also be added. The packed cans are then hermetically sealed, using a double seaming process, and washed. The double seaming operation is highly automated and some machines can seal up to 300 cans per minute or more for standard can formats.

After the cans are sealed and washed, they are placed in a retort where they are sterilized using a time-temperature combination that will achieve a commercially sterile product. The sterilization process is also automated and involves a heating, a sterilization and a cooling step. The cumulative sterilizing effects of these 3 steps should add up to an $F_0 \geq$ than 3.6 minutes but often $\geq$ 5-7 minutes. F_0 is defined as the equivalent process time of a sterilization process at 121.1° C with a Z factor of 10° C. Z is defined as the increase in temperature necessary to reduce a thermal process duration by 90%.

After the sterile cans are cooled and dried, they are labeled and packed into cardboard cartons and onto pallets for storage and distribution. Cartons generally contain either 24 or 48 cans of tuna for home/picnic consumption or 6 large cans of tuna for the catering sector.

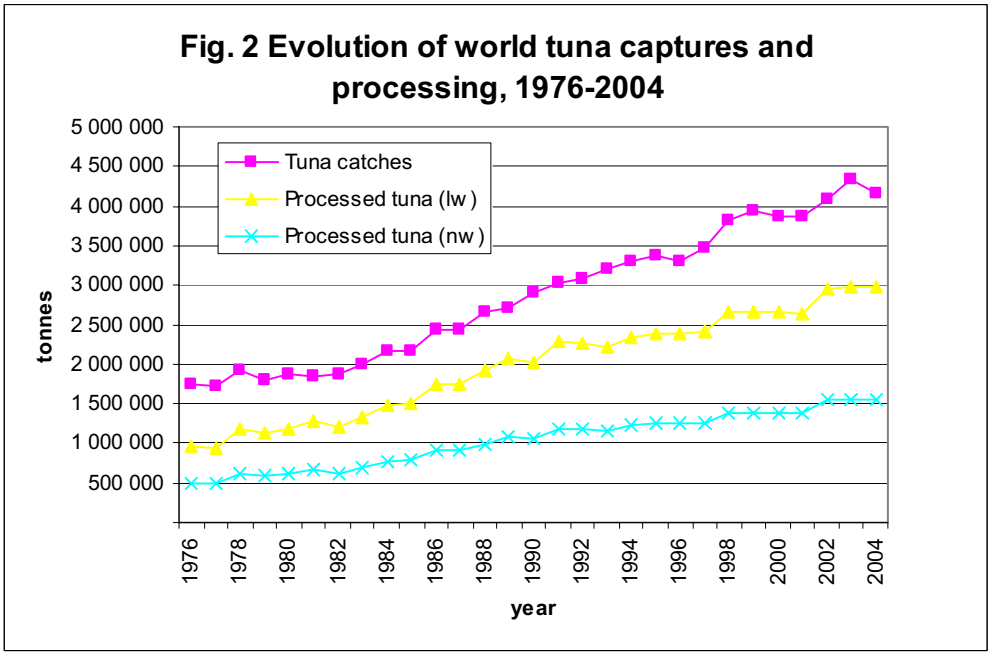
Figure 1. Example of a flow chart for the production of canned tuna



During the last 10 years, canneries of the developed world, in particular European and American ones, have been increasingly supplied with frozen tuna loins in order to reduce labor costs in tuna fish canning. It is estimated that around 100,000 to 120,000 tons of frozen tuna loins are used yearly for tuna canning. The preparation of frozen tuna loins involves similar preliminary steps as described above. The frozen tuna is thawed, before being beheaded, gilled and gutted and cooked. Then, the side fish muscles (loins) are removed before being frozen and packed for frozen transportation to canneries. In the tuna canneries, the loins are cut into pieces for solid packs or chunks and packed into the cans. The rest of the process is similar to that of the whole frozen tuna.

2.2 Canned tuna production

Worldwide data show that tuna capture has increased from 400,000 tons in 1950 to 2 million tons in 1980 and to more than 4.3 million tons nowadays, of which a major proportion, equivalent to 70% in LWE, is processed into canned fish (figure 2). LWE of canned or precooked loin tuna is obtained by multiplying the net weight of the product by a conversion factor of 1.92.



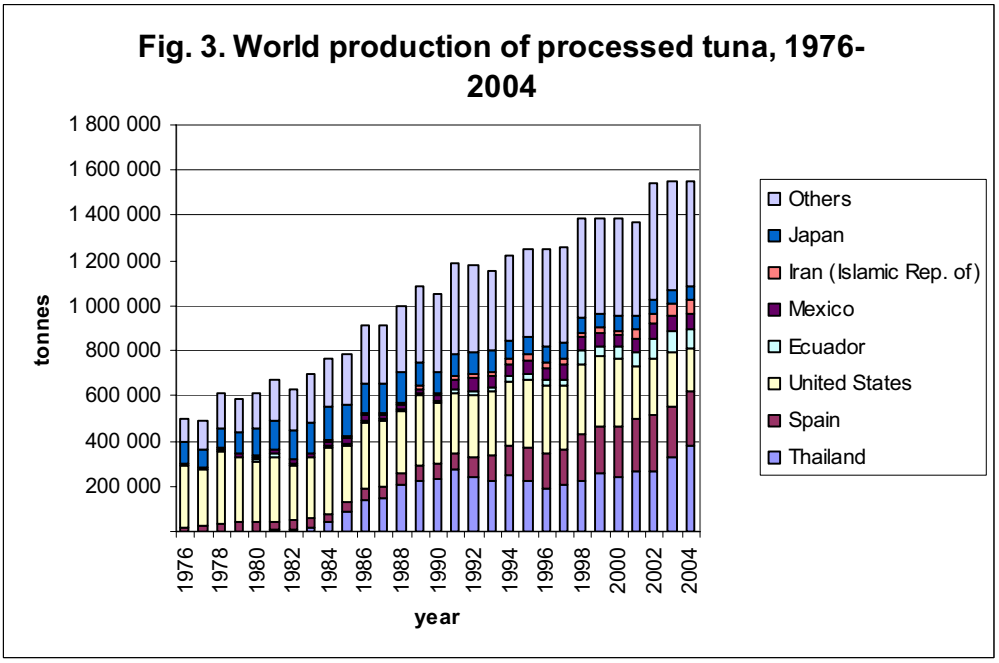
Traditional canned tuna products are marketed as solid packs, chunks or flakes. They have been conditioned in tins or rarely in glass jars, either in standard formats (e.g. 170 g net weight in the USA) or other varying format sizes in Europe (80g, 120g, 160g, 200g, 240g, 500 g, 1kg or 2 kg). Canned tuna for the catering sector is conditioned in 2 or 5 Kg tins. Traditional canned tuna is packed either in brine *("au naturel")* or in oil (soy, rapeseed, sunflower, olive oil).

In addition to these traditional canned tuna products, several value added products have been developed worldwide over the last 30 years to adapt to consumer lifestyle change, requirements and preferences. High value canned tuna products comprise canned tuna packed in extra virgin olive oil, tuna salads, tuna paté, tuna in sauce, with herbs or spices, and specialty canned tuna covering products corresponding to specific tuna based recipes, especially from Italy and Spain. The packing size is varied: 85, 100, 200 or 300 g for home consumption or 1 to 2 kg for catering.

More recently, flexible pouching has gained market recognition for tuna products. Several high value ready to eat canned tuna products packed in flexible pouches have been developed. These include canned tuna salads, tuna dices, smoked tuna fillets, spiced tuna, mayonnaise tuna, tuna in " sweet – sour" sauce or whole canned tuna steaks, all packed in flexible pouches. The market for these products has developed mainly in the USA and to some extent in the European Union countries, especially northern European countries. For example, the demand for new high value tuna products packed in flexible pouches has increased by 120% in the USA during the period 2002 – 2003.

2.3 Major producers of canned tuna

Figure 3 shows the evolution of canned tuna production worldwide. USA, which used to be the main producer has been overtaken by Thailand and Spain. These three countries, in addition to Japan represent the major canned tuna producers. Over the years the situation has evolved significantly to adapt to the expansion of tuna fishing into new grounds and tropical and inter-tropical waters.



As early as the 1960s, the tuna canning industry sector reacted to the expansion of the tuna fishing industry from traditional fishing grounds towards the inter-tropical tuna zones by delocalizing tuna canning plants from the consumers countries (USA, Europe and Japan) into overseas countries to benefit from low labor costs and/or low corporate taxes, the proximity of the fishing grounds. A first wave of canning plants' delocalization was undertaken in the 1960s, initiated by the major developed countries firms. Thus, French tuna firms opened canneries in West Africa (Senegal and Cote d'Ivoire), Californian based companies moved canning operations to Puerto Rico and American Samoa Islands.

Starting in the 1970s, further expansion of tuna fishing leads to an increase in tuna supply and a natural subsequent decrease in raw material cost. This context, coupled to a sustained growth in demand, was favorable to the entry of new companies and countries in the canning industry, especially from Latin America, Africa and South East Asia. In South America, the modern tuna fishing fleet of Mexico favored the development of a canning industry destined for the domestic

market as a reaction to the dispute with the USA over tuna resources in the Eastern Central Pacific Ocean, which does not enable export of Mexican canned tuna to the USA.

But it is in South East Asia that tuna canning will experience the most sustained development. This is favored by the conjunction of investors' interest in canning operations in low cost labor countries and the interest in hard currency earnings by exporting countries such as Thailand, Indonesia and the Philippines.

In parallel, an increase of tuna fishing by countries such as Venezuela and Ecuador attracted foreign investment, especially from Spain and USA, which invested in canning operations in these countries starting in the 1980s.

Finally, a second wave of investment in tuna canning took place in Africa in the early 1990s as a result of the development of tuna fishing by Europe in the West Indian Ocean and by Ghana in the Eastern Central Atlantic. French, American and Japanese interests invested to build canning operations in Mauritius, Seychelles and Ghana as early as the 1980s. In terms of industry structure, the multiplication of countries where canning operations have been installed was paralleled by a concentration of canneries in the hands of few multinational companies from Europe, the USA, South East Asia and Japan.

In terms of geographic origin, there has been since the 1970s a decline of the traditional canned tuna production poles in the North, and the emergence of new production poles in South East Asia, Africa and Latin America.

In 1976, USA produced 53% of world canned tuna, Japan 18% and EU countries (France, Italy, Spain and Portugal) 18%. These percentages have fallen in 2003 to 15% for the USA, 4% for Japan and increased to 23% for the EU. At the same time, the production of canned tuna by new players has increased from 5 to 12% for ACP countries, from 1 to 23% for South East Asian countries and from 3 to 9% for Latin American countries which benefited from the generalized preferential system (GPS Plus, see table 3). Together, these three new poles of production of canned tuna handle around 48% of tuna canning.

It is worth noting that the 6 main production poles of canned tuna are either consumption centers (USA, EU and Japan) or countries exporting to the USA, Japan and EU (South East Asia, ACP countries and GPS- drugs countries). The rest of the countries comprise mainly Mexico and Iran, both countries representing 83% of the canning centers outside of the important 6 poles. Both Iran and Mexico produce canned tuna mainly for domestic markets. Other small scale producers of canned tuna for domestic markets are Tunisia and Morocco.

Despite the expansion of tuna canning plants to different regions and countries, the industry is highly integrated and dominated by few multinational companies (Table 1). These companies have invested in production in various developing and few European countries, where canneries produce most the canned tuna brands and products.

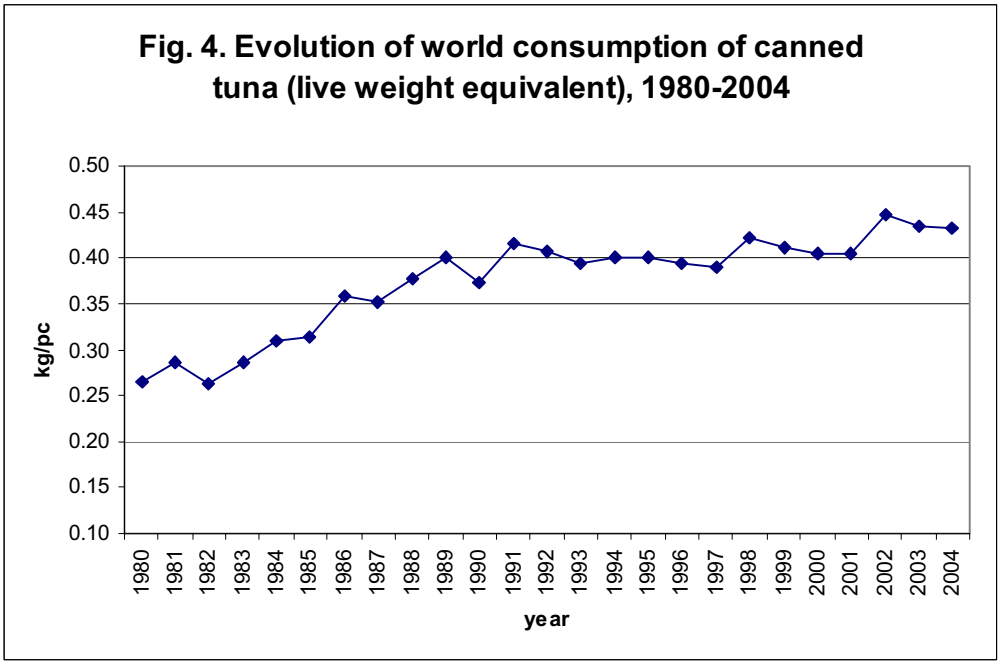
Table 1. Main producers of canned tuna at a global level (sources: industry contacts)

Company	Ownership	Headquarters	Plants	Markets
Bolton Alimentari	Bolton Group (Dutch-Italian corporation)	France (Saupiquet) and Italy (Rio Mare)	France, Italy and Côte d'Ivoire (the Ivorian plant has temporarily ceased operations due to political turmoil)	Mainly France and Italy market, also important in Germany, Belgium, Austria, Slovenia, Croatia and Saudi Arabia.
Bumble Bee	Centre Partners Management Ltd. joint ownership with Connor Bros Income Fund	United States of America	California, Puerto Rico, Fiji, Trinidad, Ecuador, Thailand	24% of the US market; also important in Canada
Calvo, Grupo	Calvo	Spain	Spain, Venezuela, El Salvador, Brazil, Morocco	Spain, Italy, other EU countries
Chicken of the Sea	Thai Union Inc.	United States of America	American Samoa	17% of the US market
Isabel Garavilla	Isabel	Spain	Spain, Ecuador, Morocco	Spain, EU
Jealsa-Rianxeira	Jealsa	Spain	Spain, Guatemala, Chile	France, Spain, Italy, other EU countries
Lehman Brothers		United States	Seychelles, Ghana and France	UK and Ireland with John West, Australia avec Greenseas; France with Petit Navire and Italy with Mareblú
Salica - Albacora	Albacora	Spain	Spain, Ecuador	Spain, EU
Seafood Hub (Thon des Mascareignes)	Ireland Blyth Ltd.	Ireland and Mauritius	Mauritius	UK and Ireland, France, USA.
Starkist	Del Monte	United States of America	American Samoa, Ecuador and Papua New Guinea	40% of the US market
Thai Union Group		Thailand	Thailand	US with Chicken of the Sea, other countries with supermarket brands and own labels

3- Global trade of canned tuna

3-1. Consumption

Canned tuna has always enjoyed worldwide consumption because of its gustative and nutritional attributes, convenience and affordable price. During the period 1980 – 2004, world consumption of canned tuna has increased by almost 85%, from 0.26 kg/caput/year to almost 0.5 kg/caput/year (Figure 4).

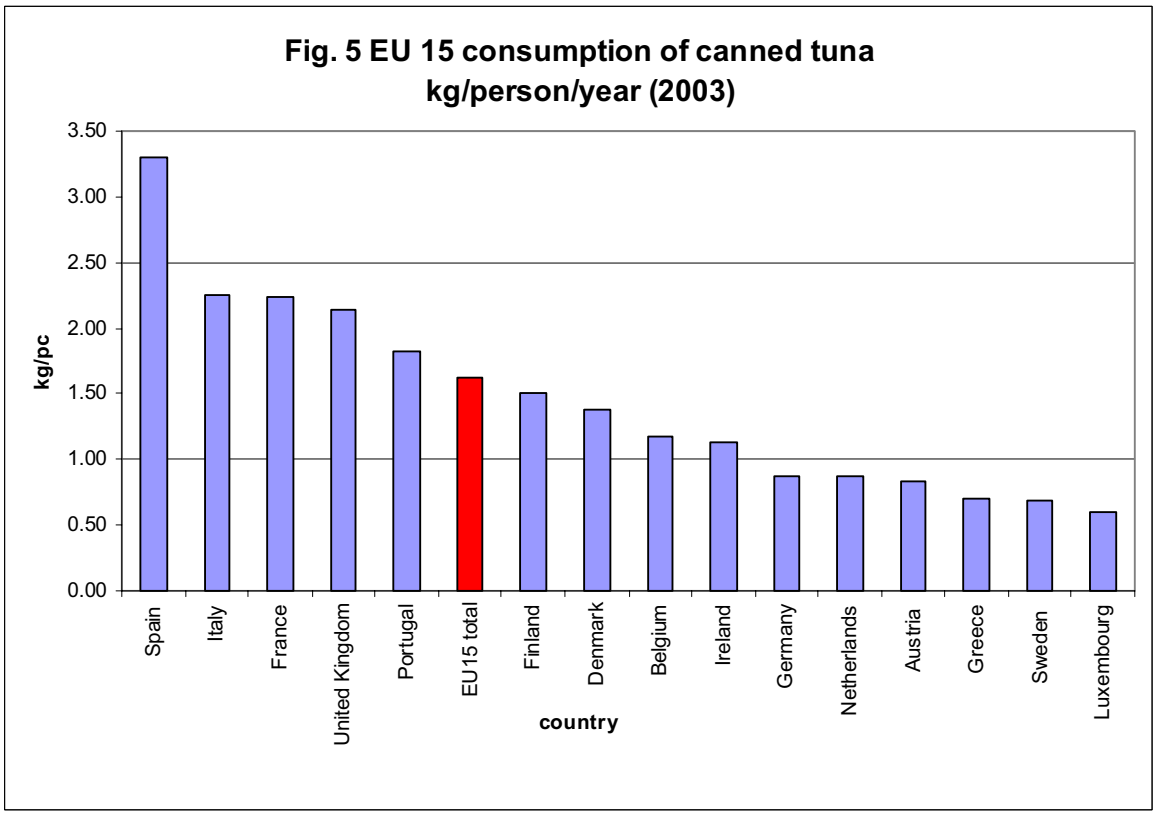


The main consuming countries are the European Union (EU 25), USA, Canada, Japan, Mexico and Iran (Table 2).

Table 2: Main consuming countries of canned tuna in 2004

Country	Supply of canned tuna (tonnes)	Population	Per capita consumption (kg/person/year)
EU 15	734 444.5	454 649 000	1.62
United States	445 847	294 000 000	1.52
Canada	29 126	31 500 000	0.92
Iran	51 704	68 900 000	0.75
Japan	93 661	127 700 000	0.73
Mexico	69 138	103 500 000	0.67
World average			0.48

In the EU, tuna consumption is much higher than the world average. The main EU consuming countries are Spain, Italy, France, UK and Portugal (Figure 5).

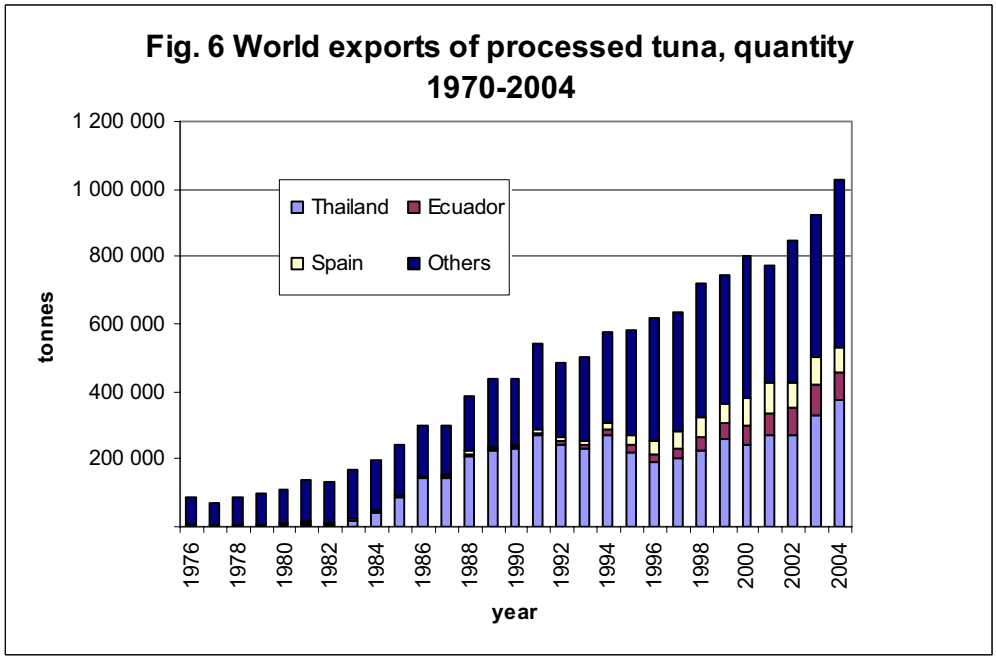


3-2. Global trade of canned tuna

Tuna is the third major commodity traded worldwide, after groundfish and shrimp. The value of tuna products traded globally represents 9% of total global fish trade, of which around 43% is represented by processed tuna.

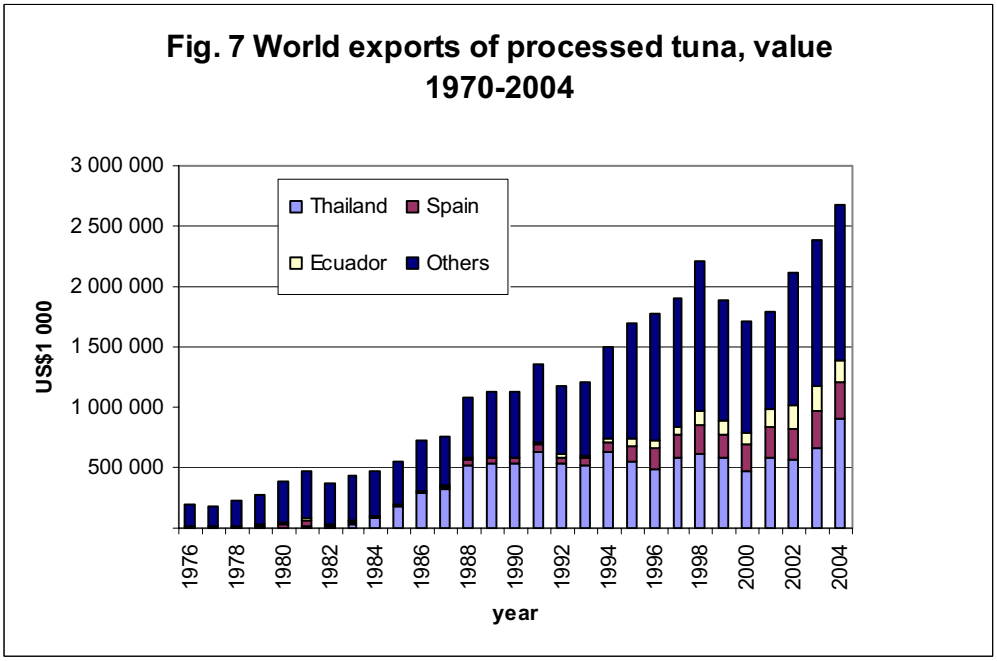
3.2.1 Canned tuna export

Export volumes of canned tuna has increased significantly over the years, from less than 100,000 tons in 1976 to more than 1 million tons in 2004, valued at US$ 2.7 billion (figure 6).



This includes export of frozen tuna loins used in canning. A decline was observed in 2001 due probably to a major crash in prices of both frozen and canned tuna. This prompted the World Tuna Purse Seine Organization WTPO to adopt drastic measures in 2001 and again in 2003 aimed at reducing fishing efforts or fishing duration to stabilize supply and prices.

In terms of value, the impact of the oversupply and price decline in 2000 was much more significant (Figure 7)



Value of export decreased significantly in 2000 and 2001 but has since recovered to record high levels of US$ 2.7 billion in 2004.

In the late 1970s, export of canned tuna started developing with Japan as the main exporter to the US market, followed by African countries, namely Cote d'Ivoire and Senegal which supplied the European market, mainly France.

Starting in 1981, new exporters entered the global market although Japan maintained its pole export position. In 1985, Philippines matched the export capacity of Cote d'Ivoire and Thailand became the first canned tuna exporter in the world. In 2003, the major canned exporters were Thailand, Ecuador, Spain, Philippines, Indonesia, Cote d'Ivoire, Seychelles, Ghana and Mauritius. During the last few years production and export of canned tuna from Cote d'Ivoire has been declining because of political instability in the country.

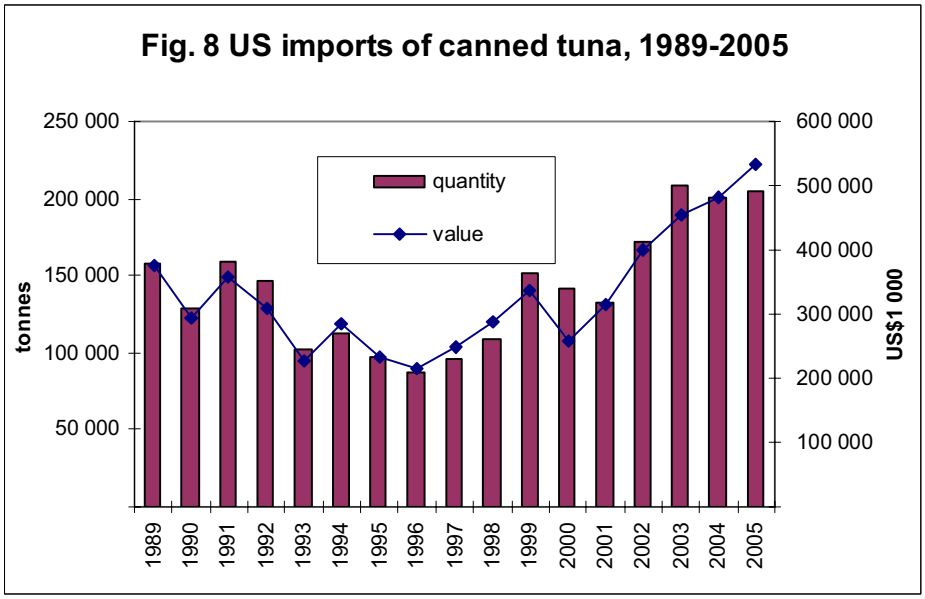
Data for Ecuador probably comprise export value of tuna loins. Also, significant increases in the volumes of canned tuna export were reported for Germany and the Netherlands, but represent probably re-export statistics for EU intra regional trade.

3.2.2 Canned tuna import

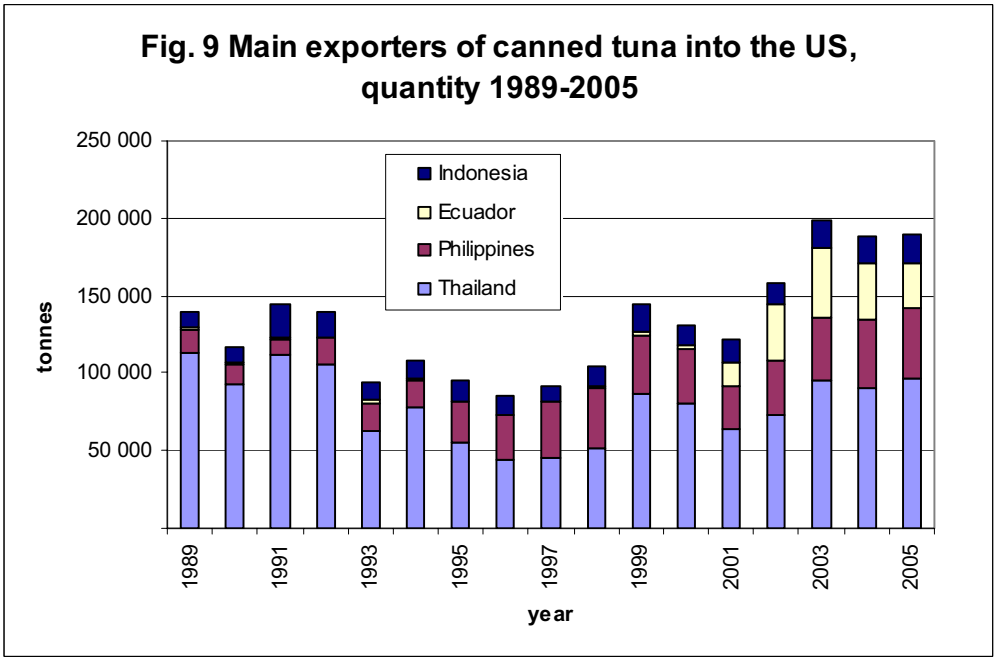
Whereas significant changes were experienced in the main producers and exporters of canned tuna, the absorption capacity of major markets remained mostly unchanged over the last 25 years. In 1976, the main importers of canned tuna were the USA, France, Germany, Canada and the UK. In 2004, main importers of processed tuna are the USA, the UK, France, Italy and Germany. Frozen tuna loins destined for canning represent probably an important proportion of the import data of Italy, Spain, France and the USA.

Over the period 1994-2004, EU import of canned tuna represented around 55% of the world import (by volume) on average. Large retailers (Supermarkets and Hypermarkets) are the main distribution centers of canned tuna. They are highly concentrated, especially in Northern Europe. Some 10 large retailers control most of the distribution. Canned tuna is also purchased by the catering sector, supplied mainly by the Philippines and Thailand in Northern Europe and by Spanish, French and Italian producers in Southern Spain.

Canned skipjack tuna is appreciated in Northern Europe whereas canned yellowfin tuna is appreciated in Southern European countries. Although, yellowfin tuna products have been successfully introduced into Germany and the UK and a fair amount of canned skipjack tuna is distributed in Spain, France and Portugal.

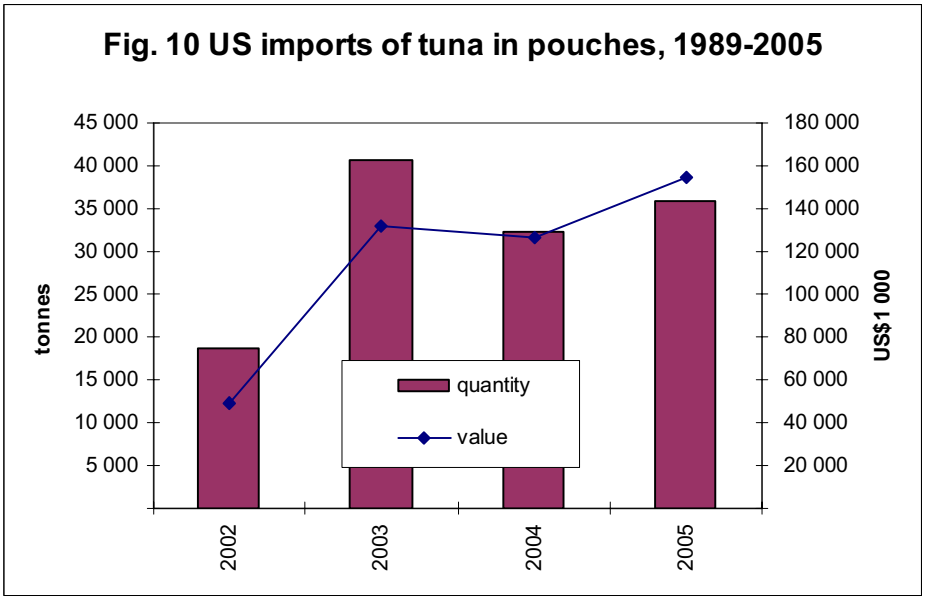


Import of canned tuna into the USA decreased during the period 1991- 1996, mainly because of quality depreciation, before starting to increase again (Figure 8), the main exporters to the USA being Thailand, The Philippines, Ecuador and Indonesia (Figure 9). Similarly to the EU, retailers distribute over 75% of canned tuna while the rest is absorbed by the catering and restaurant sector. Seventy percent of the canned tuna is made mainly from Skipjack (*light meat tuna*) and 30% of the market is Albacore (*white meat tuna*).



Distribution of tuna packed in flexible pouches has seen a major success in the USA (Figure 9) mainly because of its convenience for the preparation of sandwiches and salads. Thus, import volume of tuna in flexible pouches has more than doubled, going from 18600 tons in 2002 (valued at US$ 49

million), to 40700 tons in 2003 (valued at US$ 132 million), Ecuador and Thailand being the main exporters of this type of products.



Other major canned tuna importers are Australia (54 200 tons in 2004), Japan (38 400 tons in 2004), Canada (around 35000 tons in 2004), the Middle East (Egypt, Saudi Arabia and United Arab Emirates with a yearly volume of import estimated at 6 000 to 18 000 tons per country) and North African countries (Libya, Tunisia, Algeria and Morocco), with a yearly import volume of 1000 to 5000 tons per country in 2004). Canada is mainly supplied from Thailand and the Philippines whereas Thailand is the main supplier for Japan and the Middle East. Italy has succeeded in securing a niche market share of high value canned tuna in the Middle East.

3.3. Market access requirements

Over the years, the major import markets have developed comprehensive market access requirements which can be classified into 3 main categories:

- tariffs and quotas,
- consumer protection requirements and
- environmental protection requirements.

These requirements have been established mainly by governments and government institutions, although more and more access requirements and market driven standards are established by major importers and retailers.

3.3.1 Tariffs and Quotas

In general, tuna products are subject to import duties that increase as a function of the degree of processing applied for the production of the finished products. Thus, fresh or frozen tuna destined for further processing in the importing countries or to direct consumption are generally not taxed, whereas duties are applied to processed tuna, namely frozen tuna loins and canned tuna.

However, exceptions to this general rule exist in the frame of preferential duty regimes that are either unilateral (e.g. *General System of Preferences* GSP) or reciprocal (e.g. bilateral or regional free trade agreements). Unilateral duty concessions are generally designed to assist in the economic development of the benefiting country whereas the reciprocal concessions are negotiated between the parties to the Agreement.

The EU market: Three types of tariff systems are applied to canned tuna entering the EU:

- The Most Favored Nation MFN (or *erga omnes*) applied to all countries members of the World trade Organization WTO, The provisions of the MFN under Article I of the WTO Agreement stipulate that "*WTO members shall grant to each other's products treatment no less favorable than that accorded to the products of any one member*". In other words, MFN tariffs are tariffs applied to countries without any form of trade preference.
- the GSP and ACP (Africa, Caribbean and Pacific countries) preferential systems and
- other preferential systems established under bilateral or regional agreements.

The most favorable tariff systems applied to tuna products, especially processed tuna, entering the EU are the system applied to ACP countries and two types of GSP Plus schemes. GSP Plus one is destined to promote sustainable development and good governance. It is offered to countries which demonstrate desire and capacity for implementing specific standards of human and labor rights, environmental protection, the fight against drugs and good governance as per the requirements of Regulation 480/2005. The main beneficiaries are from Latin America. GSP Plus two, also known as everything but arms (EBA) is destined to the least developed among the developing countries. The tariff concessions under each of these regimes are presented in table 3.

Table 3. Tariffs applied to tuna and tuna products entering the EU (TARIC [1])

Description	**Duty rate %**				
	MFN tariffs [2]	**GSP (General)** As of 1/1/20006	**GSP Plus** 1 [3] (1/7/05)	**GSP Plus 2 (EBA)** [4]	**ACP**
Whole frozen Yellowfin tuna for canning	0	0	0	0	0
Whole frozen Skipjack tuna for canning	0	0	0	0	0
Tuna fillets and loins for industrial manufacture	24	20.5	0	0	0
Canned yellowfin/Skipjack tuna in oil	24	20.5	0	0	0
Canned yellowfin/Skipjack tuna (other products)	24	20.5	0	0	0

[1] The integrated tariff of the European Community. [2] MFN tariffs are tariffs applied to countries without any form of trade preferences. [3] This regime is destined to promote sustainable development and Good Governance. The beneficiaries are mainly Latin American countries. [4] EBA: *Everything but arms* for the benefice of the LDC (least developing countries).

In addition, , following a threat for legal action at the World Trade Organization in 2003, the EU has revised import tariff quotas for canned tuna from certain countries allowing 25, 000 tons of imports at

a duty rate of 12% in 2003 and 25, 570 tons at the same duty rate as from 2004 onwards. The beneficiary countries are Thailand (52% of the quota), the Philippines (32% of the quota), Indonesia (12% of the quota) and other nations (1% of the quota).

Finally, special concessions are negotiated under bilateral free trade agreements (e.g. with Chili or Mexico).

The USA: The harmonized tariff schedule of the USA has also special provisions for GSP countries and other countries with bilateral (e.g. USA + Chile) or regional trade agreements with the USA (e.g. Caribbean Basic Economic Recovery Act CBERA, Andean Trade Promotion and Drug Eradication Act ATPDEA, African Growth and Opportunity Act AGOA.

In practice, tuna loins weighing more than 6.8 Kg (yellowfin) are subject to 1.1 cent per kilo. The tariff is zero for SPG countries. Loins weighing less than 6.8 Kg (Skipjack) are subject to a 6% tariff but the tariff is zero for SPG countries except Thailand and Colombia.

Canned tuna in oil, including in flexible pouches are subject to 35% tariff except for the least developed countries which benefit from a zero tariff. Other types of canned tuna (e.g. tuna in brine) are subjected to a 6% for a quota equivalent to 4.8% of the canned tuna consumed in the USA. Beyond this volume, tariffs are 12.5%.

Japan: Japan has developed a general import duty system with specific derogations and temporary regimes for specific products lower than the general regime. Likewise, Japan has special provisions for GSP least developed countries, in addition to a tariff concessions in favour of Singapore as a result of the Japan-Singapore agreement for a new economic partnership.

In practice, Japan charges 3.5% duty for fresh and frozen tuna, the general tariff system (not applied) being 5%. Canned tuna and *fushi* products are subjected to 9.6% but GSP countries benefit from a lower tariff of 7.2% for skipjack and other bonito species (*Euthynnus* spp.) and 6.4% for other canned tuna products.

Thailand and Indonesia, main exporters to Japan benefit from the GSP scheme.

3.3.2. Rules of origin

In order to ensure proper implementation of a preferential tariff system, the EU and USA developed rules to demonstrate that the tuna products come from the country entitled to benefit from the specific tariff concession.

In the EU, rules of origin for preferential tariff systems specify that the tuna should be caught by EU fleet or the beneficiary country fleet and be processed in the beneficiary country. A traceability system is needed to provide evidence of the origin of the product and its processing sites.

For the USA, the country of origin is the country where the product has been manufactured, produced or cultured. If processing in another country changes substantially the denomination, the use or the characteristics of the original raw material, the country of origin will be the country where the substantial changes have taken place. Evidence for a substantial transformation is evaluated on a case by case situation. Also, the country of origin is the beneficiary country where direct costs of processing operations are $\geq$ 35% of the value of the product.

3.3.3. Environmental protection requirements

Over the last decades, global trade in fish and fishery products has developed in a setting of increasing influence of civil society and consumer advocacy groups over the agenda of governments, companies and international organizations on a wide array of issues relevant to food production and distribution systems.

Increasingly demanding consumers expect not only safe and quality food but also a transparent and informative trail that can be used to trace the origin of the food, its quality, as well as the environmental and/or social conditions that prevailed during its production, processing and distribution.

As the last link in the supply chain between producers and consumers, retailers have seen their responsibility towards consumers' increase, resulting in a greater need for controlling regulatory and consumer demands to prevent any risk of damage to their reputation. Consequently, retailers have increasingly translated these demands back through the supply chain to producers and processors by developing process and product standards and certification schemes.

Eco-labeling aims at using market based tools to promote conservation measures and the sustainable use of natural resources. In the past decade, significant resources have been devoted world-wide by the seafood industry to promote the purchase of seafood only from sustainable sources and several production and processing companies and retailers have built comprehensive food sourcing campaigns around sustainable and environmentally friendly seafood initiatives. These initiatives aim to tap into a growing consumer demand for environmentally preferable products, channeling purchasing power toward seafood products from fisheries that are managed in a sustainable manner and/or aquaculture activities and or apply conservation measures. By appealing to consumer preferences, the eco-labeled products may generate higher returns than those that either do not qualify for eco-labeling or those whose producers do not seek to obtain such labeling.

Consequently, a number of eco-labeling initiatives have been introduced in the fisheries sector as market-based incentives to improve fisheries management systems and conservation measures. Eco-labels are certifications given to products that are deemed to have a lower negative impact on the environment than other similar products. Already several national, international, industry-sponsored, NGO-led and consumer-supplier partnership certification and standards schemes in the fisheries sector exist –each with distinct criteria and assessment methods that have variable levels of transparency.

Tuna fisheries have been among the first fisheries confronted to eco-labeling. The US *Marine Mammal Protection Act* (MMPA), largely motivated by the high dolphin mortality rate in tuna purse-seine operations, established standards for marine mammal conservation and protection for the US tuna purse seine fishing fleet. In 1988, this Act was amended to include new regulations concerning US embargoes on yellowfin tuna and yellowfin tuna products from countries that do not have marine mammal protection regulations comparable to US regulations or whose dolphin mortality rates do not meet the US standards. Current embargoes exist for Belize, Bolivia, Colombia, Guatemala, Honduras, Nicaragua, Panama, Vanuatu, Venezuela and Peru.

In 1990, the US enacted the "*Dolphin Protection and Consumer information Act* DPCIA", which established standards for the use of "*dolphin safe*" labels on yellowfin tuna products that are exported from or offered for sale in the United States. Under the DPCIA, "*dolphin safe*" means no purse-seine net was intentionally deployed on or used to encircle dolphins during the particular voyage on which

the tuna were caught and no dolphins were killed or seriously injured. This applies only to tuna caught by purse-seine nets in the Eastern tropical Pacific Ocean.

This issue was the subject of disputes introduced by Mexico and the EU the 90s with GATT. The dispute settlement group of GATT ruled in favor of Mexico and EU although it also ruled that the labeling tuna products as "*dolphin safe*" and letting consumers decide whether or not to buy them, was not against GATT rules.

Since then, Mexico and the USA have settled the issue by adopting, along with 13 other countries, the *Agreement on International Dolphin Conservation Programme* AIDCP under the framework of the *Inter American Tropical Tuna Convention* IATTC. This programme comprises commitment by master fishermen to implement the provisions of the programme, the presence of observers on fishing vessels, the supply of regular information by the fishing vessels and the use of certification systems.

In parallel, the environmental NGO *Earth Island Institute* EII had developed its own certification system which has been adopted by several canneries to access the American market. The EII has challenged the definition change of "*dolphin safe*" under AIDCP and was supported by a ruling of the San Francisco federal court. The embargo on yellowfin tuna imports from Mexico was lifted in 2000. Mexico may export tuna into the US but any tuna product accompanied by a label suggesting it is "*dolphin safe*" must comply with the standards established under the DPCIA.

As a party to IATTC, the EU has adopted a "*tuna tracking system*" and a regulatory frame requiring that tuna caught in the East Pacific Ocean be accompanied by a catch documentation indicating the risk (or not) incurred by dolphins during tuna capture. Adhering to the EU *dolphin safe* scheme is voluntary and users can adopt either the EII or AIDCP definition of *dolphin safe*.

3.3.4 Consumer protection requirements

Low acid canned foods, which comprise canned tuna, have had an excellent record of consumer safety. However, outbreaks of food poisoning involving canned fish made unsafe because of inadequate handling during raw material storage, landing, processing or distribution, although very rare, can result in severe health problems, especially in the case of a botulism outbreak. Business-wise, it can damage the reputation of a company or undermine a whole industry. For example, a 1982 outbreak of botulism that caused the death of one person in Belgium who consumed canned salmon led to the examination of the entire 1980 and 1981 production records of the Alaskan salmon canning industry and a series of recalls involving over 50 million cans of salmon worldwide.

Earlier outbreaks of botulism incriminating low acid canned foods in the 1960s led US food control authorities and the US food canning industry in the early 1970s to embrace safety and quality approaches embodied in the Code for Good Manufacturing Practices (GMP) and in the HACCP principles. Likewise, international Organizations, under the frame of the FAO/WHO *Codex Alimentarius* Commission (CAC), and regional and national food control authorities have enacted regulations that require mandatory application of these approaches which stipulate that:

- Canned food products should be prepared/processed in certified canneries. The certification process requires that the plant meets minimal requirements in terms of layout, design and construction, equipment, personnel hygiene and qualifications and plant sanitation
- canning companies are responsible for developing and implementing a HACCP-based safety and quality assurance program
- national food control authorities are responsible for certifying canneries, approving and monitoring in-plant HACCP-based programs and product certification.

The major canned tuna importers have developed comprehensive strategies and working procedures to implement these approaches, using the Codex Codes of practice and canned tuna standards as a basis.

3.3.4.1 Institutional and regulatory frameworks

In the USA, the FDA adopted the Better Process Control (BCP) Plan of 1971. The plan was drawn as a GMP regulation (21 CFR Part 108 titled *Emergency Permit Control* and Part 113 titled *Thermally processed low acid foods packaged in hermetically sealed containers* which became effective in January 1973. A few years later, safety concerns regarding the hazard of botulism in heat-sensitive low-acid foods that are acidified to permit less severe thermal processing requirements led the FDA Commissioner to add a separate GMP regulation (Part 114 for *acidified foods*) which became effective in May 1979.

The US BPC plan places the responsibility for production of safe canned food on individual food industry employees. The plan requires that operators of thermal processing retorts and seaming machinery work under the supervision of a person who has attended and completed a prescribed course of instruction at a school approved by the FDA commissioner (The Better Process Control School BPCS). BPC schools represent a co-operative venture between the universities, FDA and industry personnel. In the 1990s, the FDA Commissioner authorized the holding of BPC schools in foreign countries in Africa, Latin America and South East Asia. In parallel, the canning industry, through its professional associations in Europe and America conducts research to establish reliable heat processes and container closure evaluation schemes and advise the industry regarding technological developments and their quality and safety implications.

HACCP implementation in the tuna canneries is mandated by the Federally Mandated Seafood Rule (21 CFR 123: *Procedures for the safe and sanitary processing and importing of fish and fishery products, Final Rule, Federal Register 1995*), which entered into force in December 1997. The Rule requires US importers to ensure that foreign producers meet these requirements and have documentation and evidence for FDA inspectors to demonstrate that the requirements have been met.

In addition, the 2003 FDA Interim Final Regulation (21 CFR Parts 1 and 20) was promulgated under the 2002 *Public Health Security and Bio-terrorism Preparedness and Response Act*. This regulation requires that domestic and foreign facilities that manufacture/process, pack or hold food for human or animal consumption in the USA register with FDA and submit electronically prior notice to FDA, at least 8 hours before the shipment is due to arrive into the USA.

At the US borders, FDA examines food offered for entry into the US through US Customs, either prior to entry or after secured delivery to importers/brokers. Importers, or their representatives, are required to file a notice with the US Customs to gain entry of each shipment of goods. Importers are also requested to provide copies of Customs entry documents, together with an invoice of the items in each entry, to FDA. Recent electronic filing advancements are simplifying this procedure. Customs notifies FDA of notices received for all FDA regulated products. FDA decides which entries need to be examined and samples collected accordingly. All imported seafood is required to meet the same standards as domestic goods. Products which appear to be adulterated, misbranded, or manufactured, processed, or packed under unsanitary conditions may be refused admission.

FDA is authorized to take food samples for examination and investigation purposes. Each year, the Programme offices of FDA and the Office of Seafood at the Centre for Food Safety and Applied

Nutrition (CFSAN) prepare Compliance Programmes that direct the field inspection and surveillance activities. The Programme describe the product areas to emphasize, the types of product to target, the make-up of samples, the types of analyses to conduct on specific products, the analytical methods to be used, and the regulatory parameters to determine compliance. If, during the course of the year, concerns about specific products arise, assignments are written to address inspection and/or sampling to investigate the particular concerns. FDA checks the standard of identity of canned tuna, labeling (including nutritional labeling), and economic deception such as short weights or specie substitution.

The EU: Since the mid 1990s, canned tuna import into the EU has been authorized only from third countries which have a Competent Control Authority that has been certified by the European Commission. The EU delegates the control of food safety to a Competent Authority in each country, who in turn ensures that exporting farms, vessels and processors are producing safe food under a system equivalent to that in the EU.

When the laws of any third country are harmonized with that of the EU, and systems to monitor and control food (fish) processing establishments and vessels are deemed equivalent, the exporting country is approved for export to the EU. Individual companies are checked by the Competent Authority and, if deemed appropriate, are listed as approved in a national register, with a certification number. This register is passed to the European Commission who makes the information public via its website and other public documents. These are the so-called List I countries. Other countries that are in the process of gaining approval but are deemed to be producing safe foods are shown in List II. Shipments from List II countries are, however, subject to 100 percent border checks

Unfortunately for processors, these are the only routes by which processors can export to the EU. Even if a processing establishment is meeting international standards of safety and quality, it can only export if the country in which it operates is recognized and certified by the EC on List I or List II. This has caused problems for qualified processors in several countries who then have to wait for the government to complete the process of recognition by the EU.

During recent years, the EU has completed a recast of the legislation governing food hygiene and laying down specific hygiene rules for food of animal origin.

EC Regulation 178/2002 is of very broad scope; it establishes the general principles and requirements of food law, lays down procedures on matters of food safety, and establishes the structure and role of European Food Safety Authority (EFSA). It also covers the basic concepts of equivalence and traceability.

A new regulation, EC/853/2004, lays down the food hygiene requirements for product of animal origin, including HACCP systems and procedures. The new legislation gives food producers primary responsibility for the safety of food through self-checking and hazard control techniques. It integrates 17 existing specific Directives into a new 'Food Hygiene Package' of 4 regulations.

Regarding canned tuna entering the EU market, the sanitary requirements during on-board storage, landing, transportation, processing and distribution are similar to those applied prior to the enactment of the new Food Hygiene Package'. The major additional requirements relates to product traceability.

Regarding chemical contaminants, in particular heavy metals (Cadmium, lead and mercury); the EU requires third countries to implement a monitoring program of the fishing grounds. These programs, including sampling plans and analytical methods, should be approved by the European Commission.

In addition to the certification requirements from exporting countries, the EU operates a border inspection system to verify regularly that the EU requirements are effectively implemented in the exporting country. It requires that all products of animal origin imported into the EU from third countries must be checked at an approved Border Inspection Post (BIP) to verify their compliance with EU legislation.

At these BIPs, there are three main types of veterinary check on all consignments - documentary, identity and physical.

Documentary

A documentary check is carried out on all consignments. This involves checking that the appropriate veterinary documentation (including the health certificate) exists and has been completed properly.

Identity

Every consignment is subject to an identity check to verify that the consignment matches that described in the documentation and check the health mark, which typically identifies the country and company identity.

*Physic**al***

In principle, a physical check is required on all consignments. However for the majority of products where import rules are fully harmonized a physical check is carried out on a percentage of consignments, 20% for canned tuna. A physical check involves an inspection of the contents of the consignment and may also involve sampling for laboratory tests.

As a result of the checks, consignments may be sent for further testing. The professional judgment of the inspectors will identify the tests to be carried out, for instance, histamine and heavy metals for canned tuna.

Japan: Application of HACCP-based food control regulations has been introduced for some years now, including sanitary and hygienic requirements for fish handling and processing establishments and conditions for storage and transport, along with spot checks at the border and with the industry quality control schemes that often control imports at the source.

The main laws controlling entry of food products are the Food Sanitation Law, the Quarantine Law and the Customs Law for labeling.

Under the Food Sanitation law, all importers of food must submit an “import notification” to a quarantine station of the Ministry of Health, Labour, and Welfare (MHLW) that a consignment is intended to be imported. Without such a notification, the imported food cannot be sold or used for business purposes.

At the quarantine station, food sanitation inspectors carry out document examination and inspection to confirm that the foods comply with the Food Sanitation Law. This will include validation as to:

- Whether the imported food, etc. complies with the manufacturing standards regulated under the Food Sanitation Law
- Whether the use of additives complies with the standards
- Whether poisonous or hazardous substances are present
- Whether the manufacturer or the place of manufacturing has a record of sanitation problem in the past.

Consignments with a record of non-compliance with the law in the past may be subjected to further testing. In such cases, an "inspection order" will be issued out in order to confirm compliance. The importer is responsible for the cost of this inspection.

Industry and retailers: Public authorities have been increasingly engaging industry in the implementation of good practices and providing the assurance for doing so. Control of food safety and quality requirements by food firms and retailers encompasses the implementation of Good Practices, Sanitary and HACCP plans. Many food companies and retailers have adopted other voluntary standards such as ISO 9000 for quality assurance, ISO 14000 for the environment, SA 8000 for social conditions or ISO 22000 which integrates HACCP requirements into ISO 9000. This has led to an increased use of global business to business (B2B) standards in procurement from suppliers, including for developing country exporters supplying international markets. As a result, B2B standards are increasingly used as a governance tool in the food industry.

This trend has been reinforced by the emergence of global coalitions, such as the Global Food Safety Initiative (GFSI) and the British Retail Consortium (BRC) for setting food safety standards. The Global Food Safety Initiative was founded in May 2000 as a retail-led network of food safety experts and their trade associations to enhance food safety, strengthen consumer confidence by setting requirements for food safety schemes and improve cost efficiency through the food supply chain.

GFSI requirements address consumer safety and regulatory requirements, but also the requirements of certification bodies. The benchmarked food safety standards can then be applied by food suppliers throughout the supply chain, upon agreement with retailers, when defining contracts for sourcing products. Retailers and suppliers have the discretion to apply the benchmarked standards to specific products, and this may vary across countries according to regulatory requirements, product liability and due diligence regulations as well as company policies. Due diligence refers to the taking of all reasonable precautions to prevent an unsafe or illegal product causing customer illness or injury.

In 1998, the British Retail Consortium BRC, responding to industry needs, introduced the BRC Food Technical Standard to evaluate own brand foods produced by retailers. These standards would also serve to provide UK retailers and brand owners with evidence of due diligence to use in case of prosecution by enforcement authorities.

The BRC standard covers HACCP system, quality management, factory environment standard, product and process control. Suppliers undergo an evaluation by BRC certified auditors who are recognized by an accreditation body. The standard has been recently revised to reflect new EU legislation and is claimed to be used in many countries worldwide.

3.3.4.2 Product certification of canned tuna

All major markets for canned tuna have specific sanitary and quality product requirements.

The sanitary requirements comprise defect and/or action levels for histamine, heavy metals (cadmium, lead and especially mercury), and container closure assessment; whereas the commercial quality requirements concern product presentation, appearance, sensory attributes, weight, packing medium and labeling.

The type and methods of controls used at the border control points are based on the Codex standard for canned tuna and bonito (*Codex Alimentarius* STAN 70-1981 – Rev 1995). Additional controls, not harmonized at *Codex* level, vary from country to country which creates confusion and additional

costs for exporters. This is exemplified by the control of histamine in fish in general and in canned tuna in particular.

Histamine

Histamine is a major cause of detentions and rejections of canned tuna consignments at the borders of major markets (Table 5). For example, the EU rejected/detained a total of 77 tuna consignments during the period 2003 – 2006, of which up to 37% represented canned tuna.
The US FDA guidelines, established for tuna, mahi-mahi and related fish, specify 50 mg/100 g (500 ppm) as the toxicity level, and 5 mg/100g (50 ppm) as the defect action level because histamine is not uniformly distributed in a decomposed fish. Therefore, FDA considers that if 5 mg/100g is found in one section, there is a possibility that other units may exceed 50 mg/100g. FDA requires the use of the Association of Official Analytical Chemists AOAC fluorometric method.

Table 5. Detentions and rejections of fish consignments at EU borders due to histamine

Year	Total number of cases	Total Tuna		Canned Tuna	
		Numbers	%	Numbers	%
2003	5	0	0	0	0
2004	32	23	72	5	15.7
2005	12	9	75	4	33
2006	27	23	85	7	25.9

The European Union requires Competent Authorities to take nine samples from each batch:

- the mean value must not exceed 10 mg/100g (100 ppm)
- two samples may have a value of more than 10 mg/100g (100 ppm) but less than 20 mg/100g (200 ppm)
- no sample may have a value exceeding 20 mg/100g (200 ppm).

Examinations must be carried out in accordance with reliable, scientifically recognized methods, such as high-performance liquid chromatography (HPLC).

In Australia and New Zealand, the level of histamine in a composite sample of fish or fish products, other than crustaceans and molluscs must not exceed 10 mg/100g (100 ppm). A 'composite sample' is a sample taken from each lot, consisting of five portions of equal size taken from five representative samples. This clause, which came into force in October 1994, was under review in 2002, with a proposal to increase the maximum allowable level of histamine in fish and fish products to 20 mg/100g (200 ppm).

In Canada, the level of histamine in canned tuna is checked by collecting samples according to the *Codex* sampling plan 1 (AQL 6.5) for inspection. Any sample exceeding 50 mg/100g will result in the lot being rejected with no right to re-inspection.

Mercury

Another issue of concern to canned tuna relates to methylmercury content. Both the USA and EU have an action level of 1 ppm in canned tuna, but recent guidance from FDA and health authorities regarding the frequency of tuna consumption has created consumer confusion.

In 2003, the FAO/WHO Codex Joint Expert Committee on Food Additives (JECFA) revised the guideline for mercury in fish to 1.6 microgram of methyl mercury intake per Kg of body weight, nearly half the original standard of 3.3 microgram Methyl mercury /Kg of body weight. At the same time, the JECFA report emphasized that people should continue to eat a normal diet of fish pointing out to its many health benefits. Included in its consideration was a then recently released Seychelles Islands study, which analyzed mother and child pairs and fish consumption for almost 10 years. That study determined that high levels of fish consumption led to no adverse effect to a fetus or a child's neuro-development.

Translating the recommended weekly intake of mercury into national maximum mercury levels in fish requires adaptation taking into consideration consumption patterns, other sources of mercury intake and other relevant information. However, public pressure often leads to consumer confusion between maximal allowable levels necessary to protect human health (set by FDA) and limits recommended to protect the environment (set by the EPA).

Unfortunately, several media articles and public health warnings exacerbated consumer confusion and sent conflicting/contradictory messages regarding the health benefits of fish and seafood and mercury risks from fish to the point that local authorities in California requested grocery retailers to display signs cautioning consumers about the dangers of mercury in fish and threatened to sue retailers that did not abide.

To restore consumer confidence, A EPA/FDA guidance was issued in 2004 emphasizing that canned tuna are safe for consumption highlighting however that pregnant women or women in child bearing age limit their weekly consumption of white tuna to one portion (6 ounces).

These 2 examples amplify the need for a harmonized and scientifically based approach for setting up, under the auspices of the *Codex*, common canned tuna standards regardless of the market. However, it is worthy to emphasize that sampling and control of the final canned products, especially at borders, although useful, is insufficient to ensure that a shipment of canned tuna has no safety or quality concerns. These controls have to be strongly supported by preventative and well documented safety and quality assurance programs based on GMP and HACCP.

4- Conclusion and outlook for the global markets for canned tuna

Globalization of the tuna canning industry is foreseen to continue at a steady pace, both in terms of outsourcing processing into low labor cost countries and of further vertical integration and consolidation of retailing.

The supply of raw material is expected to remain stable as foreseen by FAO and RFBOs recommendations. The demand for canned tuna is likely to show a slow but steady growth on the main markets (Western Europe, USA) and a healthier demand growth by new markets such as Eastern Europe, the Near East and possibly China;

The advantage of the trade preference and tariff concessions of African and Latin American countries are likely to be gradually eroded, giving the Asian canning industry further competitive advantages.

A growth in demand, although limited, and a stagnant supply of raw material are likely to result in moderate increases in raw material prices in the medium term. The highest raw material prices were seen in 1998 and are unlikely to be attained in the future. But, prices are expected to increase during the period 2007 - 2010 to an annual average of US$ 930/ton and of US$ 1 705/ton, respectively for skipjack in the Bangkok market for yellowfin in the Vigo market.

The role of environmental and social issues and the development of market based standards and certification schemes, driven by multinationals and large retailers, will be expanded further. International fora where trade issues are discussed, including FAO and WTO will play an important role to advance the international agenda of negotiations on many of these issues. These will in turn raise several challenges, particularly for producers in developing countries.

JOINT MEETING OF TUNA COMMISSIONS

Kobe, Japan; 22-26 January 2007

The current situation and challenges for the IATTC

1. Basic information

1. The Inter-American Tropical Tuna Commission (IATTC) was established by the 1949 Convention for the Establishment of an Inter-American Tropical Tuna Commission. In 2003, the IATTC adopted the Antigua Convention, which strengthens and updates the 1949 Convention, taking account of developments in international fisheries instruments. At the time of writing, the Antigua Convention has five ratifications, four of which are by Parties to the 1949 Convention; ratification by seven IATTC Parties is required for its entry into force.
2. The 1949 Convention lists the species within the IATTC competence as yellowfin and skipjack tunas, baitfishes, especially anchoveta, and other kinds of fish taken by tuna fishing vessels in the eastern Pacific Ocean (EPO); the fish stocks covered by the Antigua Convention are the stocks of tunas and tuna-like species and other species of fish taken by vessels fishing for tunas and tuna-like species in the Convention Area The boundaries of the EPO were not defined in the Convention, but in recent resolutions it has been defined as the area between 40ºN and 40ºS latitude and between the coast of the Americas and 150ºW longitude. The Antigua Convention defines its area of application as lying between the coast of the Americas, 50ºN and 50ºS latitude and 150ºW longitude.
3. The members of the IATTC are Costa Rica, Ecuador, El Salvador, France, Guatemala, Japan, the Republic of Korea, Mexico**,** Nicaragua, Panama, Peru, Spain, the United States, Vanuatu, and Venezuela.
4. The IATTC has established a status of Cooperating Non-Party or Cooperating Fishing Entity for non-parties and fishing entities with vessels known to be fishing for species covered by the IATTC Convention (Resolution C-04-02). Belize, Canada, China, the Cook Islands, the European Union, Honduras and Chinese Taipei have been accorded that status, and are, collectively with the Parties, referred to as CPCs.
5. The 1998 Agreement on the International Dolphin Conservation Program (AIDCP) is a closely associated agreement that has the following objectives:
   - "to progressively reduce incidental dolphin mortalities in the tuna purse-seine fishery … to levels approaching zero …;
   - with the goal of eliminating dolphin mortality in this fishery, to seek ecologically sound means of capturing large yellowfin tunas not in association with dolphins; and
   - to ensure the long-term sustainability of the tuna stocks … of the marine resources related to this fishery, taking into consideration the interrelationship among species in the ecosystem, with special emphasis on, *inter alia*, avoiding, reducing and minimizing bycatch and discards of juvenile tunas and non-target species."
6. The general objectives of the AIDCP are implemented within the framework of the IATTC, and there is a great deal of interaction between the two agreements. The IATTC provides the secretariat for the AIDCP. The members of the AIDCP are: Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, the European Union, Guatemala, Honduras, Mexico**,** Nicaragua, Panama, Peru, the United States, Vanuatu, and Venezuela.

Organization

7. The officers established by the 1949 Convention are a Chairman and a Secretary who are to

be selected for a period of one year. The position of Secretary has not been filled since 1993. In 2005 the Commission agreed to extend the period of office for the Chairman to two years; however, at the 74th meeting of the IATTC in June 2006 it was not possible to select a chairman for an extended term.

8. The 1949 Convention did not establish any subsidiary bodies; however, the Commission has established a number of working groups, of which the following are currently active:

   - Permanent Working Group on Fleet Capacity;
   - Permanent Working Group on Compliance;
   - Working Group on Finance;
   - Working Group on Bycatch;
   - Working Group on Vessel Measurement;
   - Joint Working Group on Fishing by non Parties.

   The Joint Working Group is a subsidiary body for both the IATTC and AIDCP.

Secretariat

9. The Convention provides for the appointment of a Director and a scientific staff, to carry out the research required by the Commission as a basis for its management measures. The international scientific staff provides all Commission members with independent scientific advice. Most (45) staff members are located at the Commission's headquarters in La Jolla, California, USA. The focus of the staff's tuna research work in La Jolla is stock assessment and life history studies, and studies of other non-target species affected by the fishery. The staff also manages an on-board observer program that covers all fishing trips by large purse-seine vessels, whose original purpose was to obtain information about dolphin abundance and incidental mortality, but which now provides a wide variety of scientific data on the fishery and also compliance information for the IATTC and AIDCP.

10. The Director convenes an annual Stock Assessment Working Group to provide a review by scientific representatives of member nations and interested organizations of the staff's research.

11. To collect data from the fishery and to provide local administration of the observer program, the Commission maintains six field offices and 16 staff members in Ecuador, Mexico, Panama, and Venezuela. Another one–person office is in the process of being transferred from Puerto Rico to Costa Rica.

12. The IATTC operates a unique laboratory at Achotines, Panama, established as part of the Commission's research program. It is one of the few research facilities in the world designed specifically for studies of the early life history of tropical tunas, and has maintained a population of yellowfin tuna that has spawned on an almost daily basis since 1996.

13. The current Director will retire in September 2007, and, at the time of writing, the Commission is developing a process for the selection of the next Director, which is expected to take place at the Commission meeting in June 2007.

2. Current conservation and management measures

Measures relating to management of stocks

14. The 2006 assessment of yellowfin and bigeye tuna in the EPO showed that both species are experiencing over-fishing (*i.e.*, the fishing mortality rate is greater than the rate corresponding to the maximum sustained yield (MSY)), and that bigeye tuna is over-fished

(*i.e.*, the stock is below the level that would provide the MSY). The fishing mortality rate for northern albacore tuna is estimated to be near the level corresponding to the MSY.

Yellowfin tuna

15. Resolutions C-04-09 and C-06-02 provide for annual closures of 42 days of the EPO to purse-seine fishing during 2004-2007.

16. Yellowfin are taken mostly taken by purse-seining and over-fishing is associated with the growth of that fleet. Between 1983 and 1997 the productive capacity of the fleet was less than that of the stock, so no management measures were necessary. However, by 1998 the capacity of the fleet was sufficiently large to require the first restriction of the fishery since the 1970s.

17. In 2002, the Commission decided to restrict the fishery using a closed season, initially of one month, rather than a catch quota.

18. The purse-seine fleet has grown steadily since then, leading to annual closures for 42 days during 2004-2007, and the staff has recently recommended a closure of 69 days. If the fleet continues to grow, it will become increasingly difficult to implement closures that will maintain the stock at the level that produces the maximum sustained yield.

19. It is more difficult to estimate the catch that will maintain the stock at a particular level than to estimate the appropriate fishing effort. The corollary of this is that fixing fishing effort allows catches to vary as the stock size fluctuates. As the IATTC has begun to adopt multi-annual conservation resolutions, it may need to consider whether to continue managing fishing effort, or to opt to forgo some yield in return for more stable catches under a total allowable catch program.

Bigeye tuna

20. The 42-day annual closures of the purse-seine fishery in the EPO during 2004-2007, established by Resolutions C-04-09 and C-06-02 (paragraph 15), also apply to bigeye. In addition, these Resolutions establish individual limits on the longline catch of bigeye for Chinese Taipei, Japan, Korea, and Vanuatu, and limits on the longline catches of bigeye by other fleets of up to their 2001 levels in 2004-2006, and of the greater of to 500 tons or their 2001 catch in 2007.

21. There have been substantial changes in the bigeye tuna fishery in recent years. Initially, the majority of the bigeye catch was taken by longline vessels. With the expansion of the fishery for tunas associated with fish-aggregating devices (FADs) since 1993, the purse-seine fishery has taken an increasing component of the bigeye catch. The FAD fishery captures smaller bigeye, and has therefore reduced the yield per recruit and the average MSY relative to the pre-FAD era. On average, the fishing mortality of young bigeye has increased substantially since 1993, and that of older fish has increased slightly. Overfishing has been taking place since 2000, and the stock is now overfished. The MSY could be taken by either the longline fishery or the purse-seine fishery individually; alternatively, a reduction of 31% in both fisheries would be required to reduce fishing effort to levels that would support the MSY.

Northern albacore tuna

22. Resolution C-05-02 requires that fishing effort for northern albacore not be increased beyond current levels.

Measures relating to management of fishing operations

23. The IATTC Regional Vessel Register, established by Resolution C-00-06, lists all vessels that are authorized to fish for tunas in the EPO. For purse-seine vessels, the Register is closed to new entrants unless they replace vessels with the same or greater well volume (Resolution C-02-03).

24. Purse-seine vessels that carry onboard observers are required to send weekly reports to the Secretariat, pursuant to Resolution C-03-04.

25. The Resolution on FADs, C-99-07, prohibits the transshipment of tuna by purse-seine vessels fishing for tuna in the EPO, and the use of tender vessels operating in support of vessels fishing on FADs in the EPO.

26. Resolution C-99-04 on management of fishing capacity of large-scale tuna longline fishery calls on states and fishing entities with large-scale tuna longline vessels to undertake initiatives similar to that of Japan with respect to fleet reduction in the EPO, and not to increase their fishing effort in the EPO.

27. Additional very detailed measures concerning reporting, fishing gear, and operational procedures are provided by the AIDCP for purse-seine vessels that are authorized to make sets on tunas associated with dolphins. Vessels are required, *inter alia*, to have nets with dolphin safety panels, be equipped with floodlights and have available a raft and other equipment for crewmen assisting in releasing dolphins, must carry out a maneuver called backdown to release dolphins from the net, and are prohibited from making sets in which they cannot complete backdown before 30 minutes after sundown.

Measures related to incidental catch

28. In addition to the measures of the IATTC described below, the AIDCP limits the mortality of dolphins taken incidentally in the purse-seine fishery through the imposition of individual vessel limits and other measures referred to above. This Agreement has been one of the most successful international agreements to address fisheries bycatch issues. The measures of the AIDCP and its predecessor, the 1992 La Jolla Agreement, with widespread support of the industry, were responsible for reducing the mortality of dolphins in the fishery from more than 27,000 animals in 1991 to a little more than 1,000 animals in 2005.

29. There are currently four IATTC resolutions relating to catches of species taken incidentally to fishing for tunas: on bycatch (C-04-05), on a three-year program to mitigate the impact of fishing on sea turtles (C-04-07), on seabirds (C-05-01), and on sharks (C-05-03).

30. Resolution C-04-05 establishes a requirement to avoid discarding small tunas and encourages research into technology to avoid catches of them; requires the release of other bycatch species unharmed to the extent practicable, with specific measures for the release of sea turtles captured in fishing gear; and the development of techniques to avoid bycatches of sea turtles and to release any that have been captured.

31. Resolution C-04-07 established a three-year program to mitigate the impact of tuna fishing on sea turtles. The program includes the collection and sharing of information, review and development of mitigation measures, industry education, capacity building in coastal countries, and reporting. Under the auspices of this resolution, a regional program to reduce sea turtle mortality incidental to longlining has been established in Central and South America. The program involves institutions from the governments concerned, as well as the Commission staff, and has been supported with funds and other contributions by agencies of the United States and Japan, and by the World Wildlife Fund and the Ocean Conservancy, with the support of fishers' cooperatives, industry groups, and national

conservation organizations from all participating countries.

32. Resolution C-05-01 seeks information on National Plans of Action for reducing incidental catches of seabirds in longline fisheries, and urges the implementation by CPCs of the FAO International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries. It also provides for the provision of information concerning interactions with seabirds and for the Commission to be given an assessment of the impact of incidental catches of seabirds resulting from tuna fishing in the EPO.

33. Resolution C-05-03 provides for the establishment and implementation of National Plans of Action for conservation and management of shark stocks, a plan for the comprehensive assessment of key shark species in the Pacific Ocean, and requires full utilization of any retained incidental catches of sharks.

Measures relating to inspection and control

34. Commission members are required, and other CPCs are encouraged, to have satellite-based monitoring systems (VMS) for all tuna-fishing vessels of 24 m or more in length operating in the EPO (Resolution C-04-06).

35. The IATTC has a Statistical Documentation Program (Resolution C-03-01) for frozen bigeye tuna taken by longline vessels. CPCs must require all imports of such bigeye to be accompanied by an appropriate IATTC document that has been validated by a government official or other authorized individual or institution of the flag state of the vessel that harvested the tuna.

36. Longline fishing vessels of CPCs with length overall greater than 24 m are included in the IATTC Positive List (Resolution C-03-07). CPCs are required to prohibit fishing for, retaining on board, transshipment, and landing of tunas and tuna-like species by longline fishing vessels with length overall greater than 24 m not included in the Positive List, and to validate statistical documents only for tuna caught by vessels included in the Positive List.

37. The IATTC is establishing a system for monitoring transshipment activities by large-scale longline vessels (Resolution C-06-04). The system will include requiring transshipment in port, or a program to monitor transshipment at sea, as well as a register of vessels authorized to receive transshipments at sea, notification to flag states before transshipment, and an observer program for all carrier vessels that transship at sea. This program will be introduced in stages during 2008 and 2009.

Measures against IUU operations

38. Resolution C-04-03 encourages vessels of CPCs to report informally to the Director and to responsible authorities any sightings of vessels that may be fishing contrary to the conservation and management measures of the IATTC. The information is to be provided to other CPCs, and any vessel concerned is to be requested to rectify its activities.

39. The IATTC has established a list of vessels (Resolution C-05-07) presumed to have carried out IUU fishing activities in the EPO. CPCs are required to take all necessary measures to prohibit landings by, and transactions with, vessels on the list, and not to charter or grant their flags to such vessels.

40. Resolution C-06-05 on trade measures provides for the identification of CPCs and non-Parties that have failed to discharge their obligations under international law to co-operate with the IATTC in the conservation and management of species covered by the IATTC Convention. If such CPCs or non-Parties fail to rectify the situation, the Commission may recommend to the Parties that they impose non-discriminatory trade

restrictive measures.

Others

41. Resolution C-03-05 requires that CPCs provide data on catch and effort data, preferably in the form of logbooks and unloading records, by 30 June of the following year. Timely at-sea information is required from purse-seine vessels carrying observers by Resolution C-03-04.

3. Challenges the IATTC is facing

42. Maintaining the fleet size in balance with the productive capacity of the tuna stocks is probably the greatest challenge being faced by the IATTC. In 2005, the IATTC developed a Plan for the Regional Management of Fishing Capacity, which includes objectives for the establishment of target capacity levels for all fleets covered by the Convention, and the development of mechanisms to limit the fleets to target sizes. In particular, the Regional Plan has a target of 158,000 m^3 of well volume for the purse-seine fleet, while the current fleet has nearly 230,000 m^3.

43. It is likely that the Antigua Convention will come into effect within two or three years. This will require some organizational changes, and also mandate some additional standards for fisheries management. The IATTC has made some progress in adopting an ecosystem and precautionary approach to the management of the fisheries for which it is responsible. However, much more needs to be done before the IATTC can say it has met that challenge adequately. In particular, the Commission will need to develop ecosystem management objectives and associated reference points, and obtain assessments of species other than tunas and dolphins that are taken by the fishery, especially sharks and other species that are the target of other fisheries (*e.g.* dorados, wahoo, *etc.*).

44. The difficulty of the conservation of bigeye tuna in the EPO is complicated by the fact that the purse-seine fishery on tunas associated with FADs is directed primarily at skipjack, a species for which no management measures are currently necessary in the EPO. To fully utilize the skipjack resource, either bigeye will be overfished or some means must be developed to catch skipjack without catching bigeye, and the challenge for the Commission is to provide the right incentives for fishermen to do that.

45. Several of the stocks covered by the IATTC are shared with the Western and Central Pacific Fisheries Commission (WCPFC). A memorandum of understanding between the two Commissions was signed recently, and a work plan to implement the cooperation is being developed. Eventually, effective management will likely require resource allocation decisions of some sort being made on a Pacific-wide basis, and for that, even greater cooperation will be required.

46. The Commission has been discussing a new formula for allocating the budget contributions among its members since 1999. Lack of agreement on a formula and late payment by some members are leading to financial difficulties, which need to be resolved.

APPENDIX 10

Opening Statement by Dr. William Hogarth, ICCAT Chairman

Joint Meeting of Tuna RFMOs
(Kobe, Japan - January 22-26, 2007)

Delegates, colleagues, ladies and gentlemen:

My name is Bill Hogarth, and I am the Chairman on the International Commission for the Conservation of Atlantic Tunas (ICCAT). On behalf of ICCAT, I would like to thank the Japanese government for its initiative in organizing this tuna RFMO summit and hosting it in such a lovely city. It is quite fitting to have such an important meeting in Japan, a land that loves tuna perhaps more than any other. For some inexplicable reason, however, we are meeting in Kobe, a city known for its beef. I hope this is not a commentary on the future of our tuna resources...

More seriously, I would like to take a few minutes of your time to reflect on the important work before us. There are a number of cross-cutting issues facing RFMOs today. Improving data collection and sharing; rebuilding stocks and reducing by-catch; addressing IUU fishing, including by strengthening MCS measures; and, of course, reducing fleet capacity since overcapacity exacerbates many fishery management problems are just a few of the key issues of our time. ICCAT is facing all these challenges and more. I think we all recognize that to have the best chance of dealing with these matters comprehensively and completely, we must improve the cooperation and coordination between and among tuna RFMOs. We must also be able to assess clearly and honestly how our RFMOs are doing in these and other areas.

I have high hopes for this meeting. While we cannot solve the many thorny issues facing tuna RFMOs in the five short days of this meeting, we very much look forward to the important process that is beginning this week. Charting the course for addressing problems in tuna fisheries is an essential step in ensuring the future of the global tuna resource. ICCAT is firmly committed to working with its tuna RFMO partners in undertaking this much needed and much overdue process.

Before I finish, let me introduce the others who will be presenting on behalf of ICCAT. First, we have our Executive Secretary, Mr. Driss Meski. Second, we have our Assistant Executive Secretary, Dr. Victor Restrepo and finally, the Chair of our scientific committee, Dr. Gerry Scott. Thank you.

Appendix 10

TunaRFMOs2007/9_2

Draft Introduction of the International Commission for the Conservation of Atlantic Tunas (ICCAT)

Joint Meeting of Tuna RFMOs
Kobe, Japan - January 22 to 26, 2007

Introduction

The creation of the International Commission for the Conservation of Atlantic Tunas (ICCAT) took place at a time in history whereby tuna fishing had increased at the world wide level and whereby several scientists of different nationalities became aware of the interest of establishing a regulatory system. The creation of this Commission, which followed the creation of the Inter-American Tropical Tuna Commission (IATTC) at the beginning of the 1950s, consisted of establishing a mechanism of monitoring catches and creating management measures for the conservation of tuna species in the Atlantic Ocean and adjacent seas.

Since its establishment, ICCAT has shown its concern as regards to the implementation of all necessary institutional, structural and material means to carry out its assigned mission.

Although the Convention for the creation of ICCAT was signed in 1966 in Rio de Janeiro, it was not until the beginning of 1970 that the location of the headquarters was chosen and the setting up of the Secretariat took place.

It should be pointed out that, at the beginning, the creation of ICCAT was not supported by all countries and to a certain extent this delayed the entry into force of its Basic Texts. Furthermore, it should be noted that at that time, the United Nations Convention on the Law of the Sea did not yet exist and that the political context in the Atlantic area was highly complex.

The objective of this introduction, which will be presented in three parts, consists of providing a general overview of ICCAT, the state of the stocks in the Convention Area and the overall management and conservation measures currently in force.

My intervention will be limited to a general introduction of ICCAT's objectives and its organization.

Dr. Gerald Scott, who was elected in 2005 as Chairman of the Standing Committee for Research and Statistics (SCRS), will present an overview of the current status of the stocks of major species, as well as the possible future perspectives.

Finally, the Assistant Executive Secretary, Dr. Victor Restrepo, will make a presentation of the main management and conservation measures adopted by ICCAT which are currently in force.

1. Background, Objectives and Organization

ICCAT was formally initiated by the Conference of Plenipotentiaries on the Conservation of Atlantic Tunas which met, at the invitation of the Government of Brazil, in Rio de Janeiro from May 2 to 14, 1966. The ICCAT Convention entered into force in 1969 and was later amended by two Protocols; one in 1984, which allowed inter-governmental economic integration organizations to become Contracting Parties to ICCAT and one in 1992 which changed the methodology used for the calculation of financial contributions.

The objective of the Commission is to cooperate in maintaining the populations of tuna and tuna-like fishes found in the Atlantic Ocean at levels which will permit the maximum sustainable catch for food and other purposes. Currently, approximately 30 different species of tuna and tuna-like fishes are covered by the ICCAT Convention.

The area to which the Convention applies, referred to as the Convention area, is all waters of the Atlantic Ocean, including the adjacent Seas. No coordinates are specified in the Convention, but for practical and statistical purposes, the area is set between 70ºW and 20º W.

The original Convention entered into force upon the deposit of instruments of ratification, approval, or adherence by seven Governments. Today, ICCAT comprises 43 Contracting Parties. Cooperating status has been granted to Chinese Taipei and to Guyana.

The basic structure of ICCAT is determined by the Rules of Procedure, which determines the establishment of the Panels, STACFAD, SCRS and the Secretariat. Other bodies, such as the Compliance Committee and PWG, as well as various *ad ho*c Working Groups, have been established under Rule 13 of the Rules of Procedure.

The Chair of ICCAT, currently held by Dr. William Hogarth of the United States of America, is elected every two years, as are the Vice-Chairs. The chairs of the Panels, STACFAD, the Compliance Committee, the PWG and the SCRS are also elected every two years, each body electing its own Chair.

The Commission Structure includes:

> Four PANELS: Individual stocks are reviewed by the Panels and management measures are adopted by these bodies with scientific advice provided by SCRS. The Panels also set country quotas for those stocks subject to quota management. There are currently four Panels: PANEL 1 (Tropical tunas); PANEL 2 (Northern temperate tuna species); PANEL 3 (Southern temperate tuna species); PANEL 4 (Swordfish, billfish and other species)
>
> The CONSERVATION AND MANAGEMENT MEASURES COMPLIANCE COMMITTEE (Compliance Committee): The Committee examines the information submitted by Contracting Parties, including Annual Reports, in order to assess compliance with the measures in force. Contracting Parties which are deemed to have seriously undermined ICCAT conservation and management measures are subject to a review process, which may include penalties such as reductions in quota or as a last resort to the imposition of trade sanctions.

The Standing Committee on Finance and Administration (STACFAD): The Committee deals with all issues relating to the budget, personnel and other administrative matters.

WORKING GROUPS. The Permanent Working Group for the Improvement of ICCAT Statistics and Conservation Measures (PWG) was established in 1992, and deals mainly with issues concerning non-Contracting Parties and the statistical document (trade tracking) programs. Other ad hoc Working Groups are established as necessary.

SCRS (Standing Committee on Research and Statistics). The SCRS comprises national scientists from Contracting Parties, although scientists from non-Contracting Parties may participate. The main task of the SCRS is to assess the status of stocks under the ICCAT mandate and to advise the Commission of areas where measures need to be taken. The SCRS meets in Plenary once a year in order to discuss and approve the findings of its various subsidiary bodies, which are the Species Groups, the Sub-Committee on Statistics and the Sub-Committee on Eco-Systems. The SCRS also undertakes various research programs, including the Bluefin Year Program, and the Enhanced Billfish Research Program.

ICCAT is supported by the Secretariat which currently comprises 23 staff members, based in Madrid, Spain. The function of the Secretariat is to assist the Commission in its work, including the collection, processing and publication of data.

2. Overview of fisheries and status of major stocks

According to Article VIII of the ICCAT Convention, the provision of scientific advice on stock status underpins decision-making for the purpose of maintaining ICCAT stocks at levels which will permit the maximum sustainable catch.

The SCRS carries out resource assessments, and advises the Commission on the need for and effectiveness of specific conservation and management measures. The SCRS also advises the Commission on policy and procedures for collection, compilation, analysis and dissemination of fishery statistics.

The total catch of tuna and tuna-like species in the Atlantic Ocean has grown from approximately 93,000t estimated in 1950 to 565,000 t in 2004. Current catches are estimated to be below the catches made in other Oceans.

The SCRS conducts stock assessments for major species every few years, typically four, in synchrony with the management plans that are in force. The stock assessments are made by scientists from the Contracting and Cooperating Parties, with assistance from the Secretariat. Detailed reports of every assessment are published and made available through the Internet and on CD. All ICCAT publications, including historical ones, can be downloaded from the ICCAT Web site, www.iccat.int. In addition, all ICCAT databases can be consulted on the web.

In addition, each year the SCRS produces "Executive Summaries" for the major species. These non-technical reports contain summary information on biology, fisheries, current status

and outlook for each stock. The stock status information is summarized, when possible, in terms of two quantities: These are the most recent estimates of stock biomass and fishing mortality levels, relative to the Commission's objective (those levels which will permit maximum sustainable catch).

3. Conservation and management measures and other decisions

ICCAT conservation and management measures are adopted in accordance with Articles VIII and IX of the Convention which stipulate that the Commission may, on the basis of scientific evidence, make recommendations designed to maintain the populations of tuna and tuna-like fishes that may be taken in the Convention area at levels which will permit the maximum sustainable catch, and that the Contracting Parties undertake to collaborate with each other with a view to the adoption of suitable effective measures to ensure the application of the provisions of the Convention. The number of conservation and management measures has increased greatly since the adoption of UNSFA.

Many of the ICCAT measures, particularly those adopted in recent years, are comprehensive measures aimed at addressing more than one issue. The majority of measures address directly the conservation and management of stocks. Measures related to monitoring, control and surveillance are also numerous.

In recent years, the Commission has adopted multi-year management and/or recovery plans for several stocks. This multi-year approach reduces uncertainty and in general is set to coincide with the scientific assessment cycle, in order to ensure that measures can be based on the most recent and best scientific advice. These multi-year plans cover such measures as:

- TAC and allocations
- Provisions for catch overage/underage
- Minimum size limits
- Vessel number limitations
- Time/area closures

Of the different types of measures that are in place for ICCAT stocks, catch limits and size limits are the most commonly used types of measures. These are followed by size limits and by strengthened data collection and reporting requirements.

North Atlantic swordfish is an example where a rebuilding program has been successful in achieving the goal within a pre-specified time frame. The rebuilding program for the stock consisted primarily of TACs and size limits as well as measures to protect juveniles.

ICCAT was a pioneer in monitoring international trade of certain species and products through its Statistical Document Programs. All exports or re-exports of bluefin tuna or bluefin tuna products, swordfish or swordfish products, and all frozen bigeye and bigeye products (except bigeye tuna caught by purse seiners and pole and line (bait) vessels destined principally for the canneries in the Convention area), must be accompanied by a validated ICCAT Statistical Document (and Re-Export Certificate, where appropriate) regardless of ocean or area of catch. It is an obligation of the Contracting Party importing the fish not to allow such imports unless the appropriate documentation is presented.

The ICCAT Statistical Document Programs have been a useful tool for the Commission to detect unreported or IUU catches in the past. Currently, the Commission is considering ways with which to strengthen these Programs such as a catch documentation scheme and a pilot electronic system.

The ICCAT Secretariat maintains a password protected web site containing all the seals and signature of the institutions and/or individuals authorized to validate ICCAT Statistical Documents. This site currently contains almost 1300 signatures of individuals from 420 organizations from 59 parties, entities or fishing entities.

In recent years, the Commission has adopted a number of measures to create "positive" and "negative" lists. In accordance with the ICCAT management and conservation measures, the Secretariat currently maintains the following records on the ICCAT web site:

ICCAT Record of Vessels over 24 m Authorized to Fish in the Convention Area (3373 entries).
ICCAT Record of Carrier Vessels Authorized to Receive Transhipments (44 entries).
ICCAT Record of Vessels Authorized to Fish, Transport or Provide BFT for Farming Purposes (231 entries).
ICCAT Record of BFT Farming Facilities (72 entries).
List of Vessels Presumed to Have Carried Out IUU Activities in the Convention Area (17 vessels).

In 2007, four additional Records will be established as follows:

Record of vessels authorized to fish for bluefin tuna in the eastern Atlantic and Mediterranean Sea
ICCAT record of traps authorized to fish for bluefin tuna in the eastern Atlantic and Mediterranean Sea
ICCAT record of designated ports in which vessels are authorized to tranship eastern Atlantic and Mediterranean bluefin tuna
ICCAT record of designated ports in which vessels are authorized to land eastern Atlantic and Mediterranean bluefin tuna.

4. Challenges

One of the major challenges facing ICCAT, and other RFMOs, is the ability to allocate catches satisfactorily, especially when resources are limited. The number of new contracting parties has increased substantially, especially in the years after the 1995 UN Fish Stocks Agreement. At the same time, none of the major tuna stocks appears to be underexploited such that there is little room for expansion. It is therefore difficult to balance the aspirations of historical fishing members with the aspirations of new entrants.

The *ICCAT Criteria for the Allocation of Fishing Possibilities* require that countries be Contracting or Cooperating Parties to ICCAT before they can be considered as candidates for a catch allocation. The recent increase in ICCAT membership has resulted in a major increase in the proportion of the catch that is taken by members. Today, over 99% of the reported catch of the major commercial tuna species is classified as being taken by Contracting and Cooperating Parties.

There are also other important challenges ahead. A more accurate scientific basis for management decisions requires improvements in the quality of basic fishery statistics. In particular:

- Accuracy of total catch by species and flag (Task I)
- Detailed spatial and temporal coverage (Task II)
- Capacity-building (training, data collection)

Challenges relating to effective implementation of the Commission's decisions are also important. ICCAT is moving in this direction with measures that include:

- Real-time monitoring of catch limits
- Ensuring that all CPs have the capacity to fully implement instruments
- Efficient flow of information (e.g., trade data, VMS)

One of the greatest problems in ensuring the full implementation of management and conservation measures is financing. Many measures in recent years have implied a need to take more actions, although resources remain limited.

From a more global point of view, there may also be potential advantages in streamlining the flow of certain types of information between the different tuna RFMOs, such as is the case of Statistical Document Program data and/or vessel lists.

As stated at the outset, the ICCAT Convention was drawn up in 1966, many years before the UN Fish Stocks Agreement came into force, and the consideration of new approaches to conservation and management has become necessary to include the relevant provisions of the UNFSA, particularly in the areas of duties of flag states, port state measures ecosystem approach to management, and effective monitoring, control and surveillance. While the scope of the Convention may be sufficiently broad to allow this, work remains to be done, although progress has been made in many of these areas.

ICCAT

International Commission for the Conservation of Atlantic Tunas
Commission Internationale pour la Conservation des Thonides de l'Atlantique
Comisión Internacional para la Conservación del Atún Atlántico

Outline

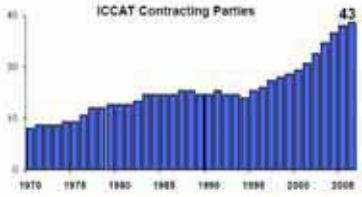
- **Basic Information about ICCAT**
- **Stock Status**
- **Conservation and Management Measures**
- **Challenges ICCAT is Facing**

1. Basic Information

- **International Convention for the Conservation of Atlantic Tunas:**
  - –Signed in Rio de Janeiro, 1966
  - –Entered into force in 1969
  - –Amended in 1984 and 1992
- **Objective:**
  Maintain populations at levels which will permit the maximum sustainable catch for food and other purposes.
- **Competence:**
  - –Tuna and tuna-like species (30+)
  - –Atlantic Ocean and adjacent seas

1. Basic Information

- **Membership (43)**



Algérie, Angola, Barbados, Belize, Brazil, Canada, Cap-Vert, China, P.R., Communauté Européenne, Côte d'Ivoire, Croatia, France (St. P.&M.), Gabon, Ghana, Guatemala, Guinea Ecuatorial, Guinea Rep., Honduras, Iceland, Japan, Korea, Rep., Libya, Maroc, Mexico, Namibia, Nicaragua, Norway, Panama, Philippines, Russia, São Tomé e Principe, Senegal, South Africa, St. Vincent & Grenadines, Syria, Trinidad & Tobago, Tunisia, Turkey, United Kingdom (O.T.), United States, Uruguay, Vanuatu, Venezuela

- **Cooperators (2)**

Chinese Taipei, Guyana

1. Basic Information
Organigram

1. Basic Information

Commission Chairman: Dr. William Hogarth (U.S.A.)
First Vice Chair: E.J. Spencer (European Community)
Second Vice Chair: F-O. Mbo Nchama (Equatorial Guinea)

- PANELS
  - PANEL 1 (Tropical tunas)
  - PANEL 2 (Northern temperate species)
  - PANEL 3 (Southern temperate species)
  - PANEL 4 (Swordfish, billfish and other species)
- Compliance Committee (Contracting Parties)
- Permanent WG (non-Contracting Parties)
- Standing Committee on Finance and Administration
- Standing Committee on Research and Statistics

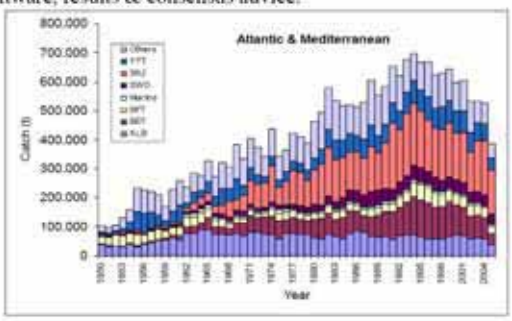
1. Basic Information

- Secretariat (23 staff)
  - Executive Secretary: Driss Meski 
  - Assistant Executive Secretary
    - TRANSLATION AND PUBLICATIONS DEPARTMENT (7 STAFF)
    - ADMINISTRATION AND FINANCE DEPARTMENT (6 STAFF)
    - STATISTICS DEPARTMENT (5 STAFF)
    - COMPLIANCE DEPARTMENT (1 STAFF)
    - SCRS COORDINATION AND RESEARCH (ad hoc)
    - Data Improvement Project (2 staff)

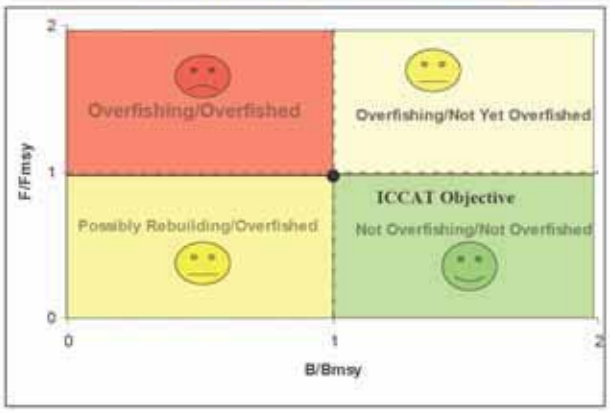
Headquarters: Madrid, Spain

2. Stock Status Evaluations by SCRS

- Transparency: emphasized through participation & access; each member country may be represented; web site distribution of data, software, results & consensus advice.



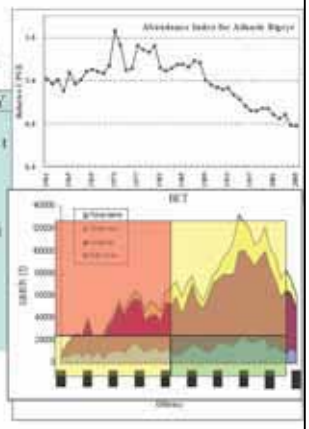
Stock Status Classifications



BET

Last Assessed: 2004, Next Assessment: 2007

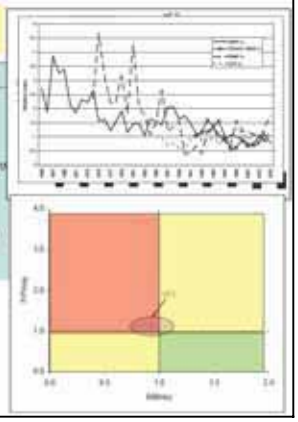
ATLANTIC BIGEYE TUNA SUMMARY	
MSY(likely range)	93,000 t - 114,000 t
Current (2005) Yield	60,000 t
Replacement Yield (2003)	89,000 - 103,000 t
Relative Biomass (B_{2003}/B_{MSY})	0.85 - 1.07
F_{2003}/F_{MSY}	0.73-1.01



YFT

Last Assessed: 2003, Next Assessment: 2008

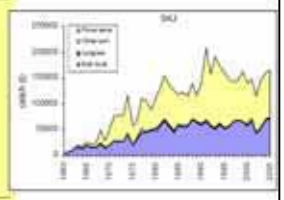
ATLANTIC YELLOWFIN TUNA	
MSY	~ 148,000 t
Current Yield (2005)	108,143 t
Replacement Yield (2001)	May be somewhat below 2001 yield
B_{2001}/B_{MSY}	0.73 - 1.10
F_{2001}/F_{MSY}	1.13 (0.94 to 1.38)

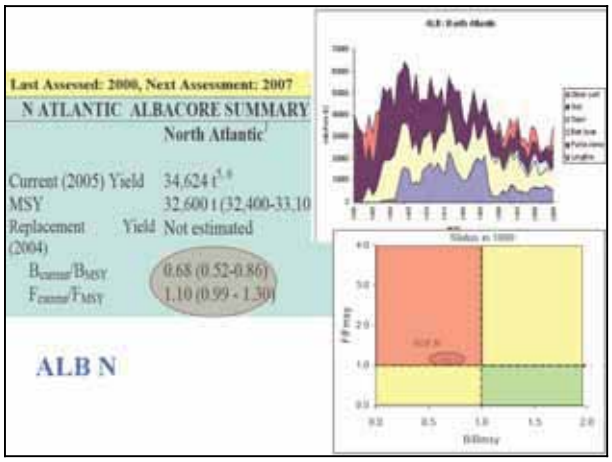


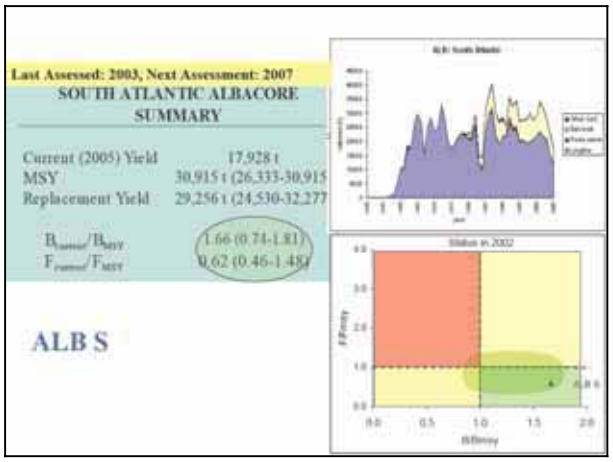
SKJ

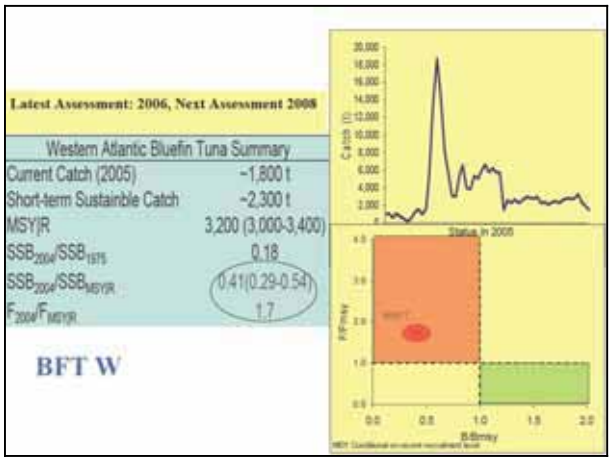
Last Assessed: 1999, Next Assessment: TBD

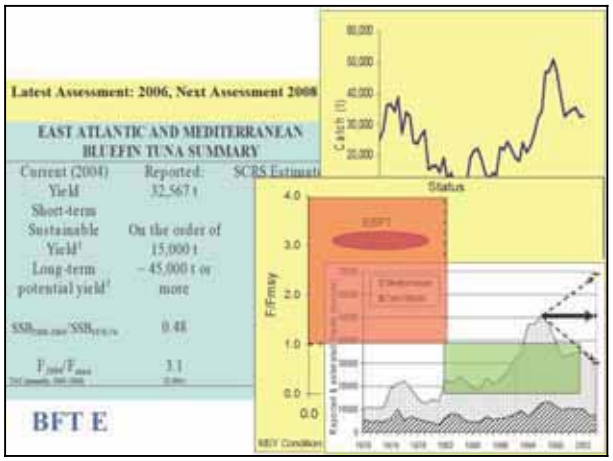
ATLANTIC SKIPJACK TUNA SUMMARY	East Atlantic	West Atlantic
Maximum Sustainable Yield	Not estimated	Not estimated
Current (2005) Yield	138,218 t	28,028 t
Current Replacement Yield	Not estimated	Not estimated
Relative Biomass (B_{2005}/B_{MSY})	Not estimated	Not estimated
Relative Fishing Mortality F_{2005}/F_{MSY}	Not estimated	Not estimated
Management measures in effect	None	None

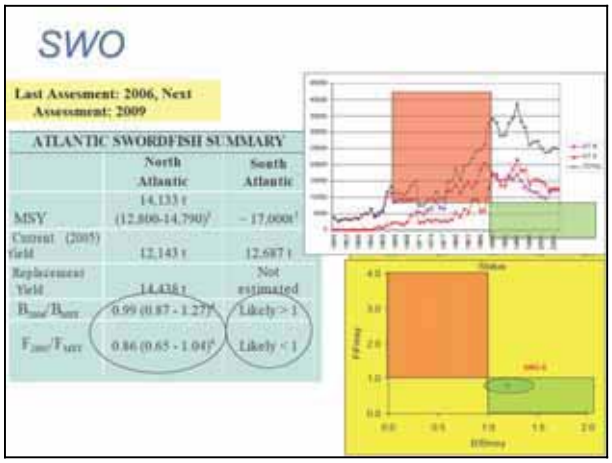


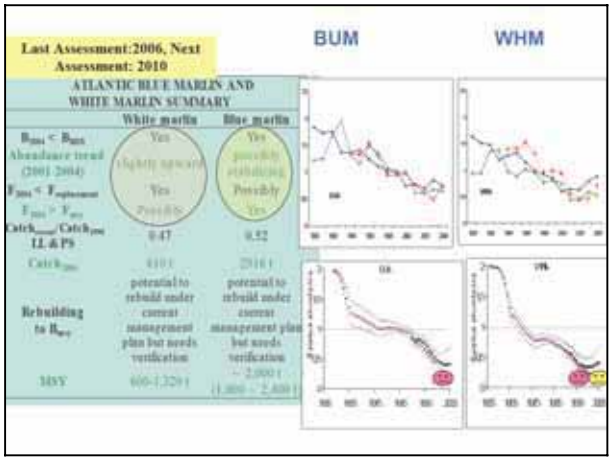

Last Assessed: 2000, Next Assessment: 2007
N ATLANTIC ALBACORE SUMMARY
North Atlantic[1]
Current (2005) Yield 34,624 t[5,6]
MSY 32,600 t (32,400-33,10
Replacement Yield (2004) Not estimated
$B_{current}/B_{MSY}$ 0.68 (0.52-0.86)
$F_{current}/F_{MSY}$ 1.10 (0.99 - 1.30)
ALB N


Last Assessed: 2003, Next Assessment: 2007
SOUTH ATLANTIC ALBACORE SUMMARY
Current (2005) Yield 17,928 t
MSY 30,915 t (26,333-30,915
Replacement Yield 29,256 t (24,530-32,277
$B_{current}/B_{MSY}$ 1.66 (0.74-1.81)
$F_{current}/F_{MSY}$ 0.62 (0.46-1.45)
ALB S


Latest Assessment: 2006, Next Assessment 2008
Western Atlantic Bluefin Tuna Summary
Current Catch (2005) ~1,800 t
Short-term Sustainble Catch ~2,300 t
MSY|R 3,200 (3,000-3,400)
SSB_{2004}/SSB_{1975} 0.18
SSB_{2004}/SSB_{MSYR} 0.41(0.29-0.54)
F_{2004}/F_{MSYR} 1.7
BFT W


Latest Assessment: 2006, Next Assessment 2008
EAST ATLANTIC AND MEDITERRANEAN BLUEFIN TUNA SUMMARY
Current (2004) Yield Reported: 32,567 t
Short-term Sustainable Yield[1] On the order of 15,000 t
Long-term potential yield[1] ~45,000 t or more
0.48
3.1
BFT E


SWO
Last Assesment: 2006, Next Assessment: 2009
ATLANTIC SWORDFISH SUMMARY
North Atlantic
South Atlantic
14,133 t
MSY (12,800-14,790)[3] ~17,000[3]
Current (2005) Yield 12,143 t 12,587 t
Replacement Yield 14,438 t Not estimated
B_{2005}/B_{MSY} 0.99 (0.87 - 1.27)[4] Likely > 1
F_{2005}/F_{MSY} 0.86 (0.65 - 1.04)[4] Likely < 1


Last Assessment:2006, Next Assessment: 2010
BUM
WHM
ATLANTIC BLUE MARLIN AND WHITE MARLIN SUMMARY
White marlin
Blue marlin
0.47
0.52
Rebuilding to B_{MSY}
MSY

ICCAT Stock Status Summary

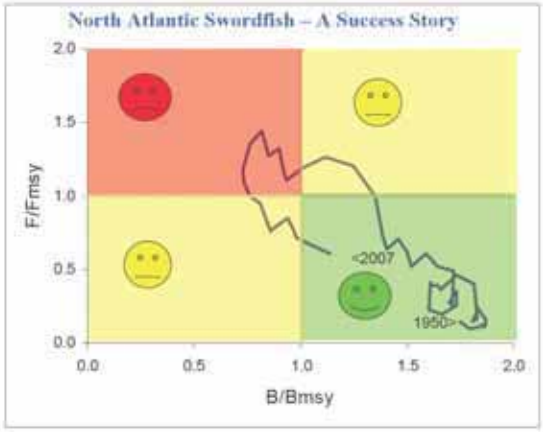
	Reference Levels		Draft FIRMS Descriptors (2006)	
STOCK	F/Fmsy	B/Bmsy	Exploitation Rate	Stock abundance
BFT-W	1.7	0.41(0.29-0.54)	High F	Depleted
BFT-E	3.1	=>.25	High F	Depleted/Low
BUM	>1	<<1	High F	Depleted/Low
WHM	Possibly =>1	<<1	Moderate F	Depleted/Low
ALB-N	1.10 (0.99-1.30)	0.68(0.52-0.86)	Moderate F	Low
YFT	1.13 (0.94-1.38)	0.73-1.10	Moderate F	Intermediate
BET	0.73-1.01	0.85-1.07	Moderate F	Intermediate
SWO-N	0.86(0.65-1.04)	0.99(0.87-1.27)	Moderate F	Intermediate
SWO-S	Likely <1	Likely >1	Moderate F	Intermediate
ALB-S	0.62(0.46-1.48)	1.66(0.74-1.81)	Moderate F	Intermediate
SAI	?	?	Uncertain	Uncertain
SKJ	?	?	Uncertain	Uncertain
SWO-M	?	?	Uncertain	Uncertain
ALB-M	?	?	Uncertain	Uncertain

Fishery Resources Monitoring System – An FAO/RFMO Partnership

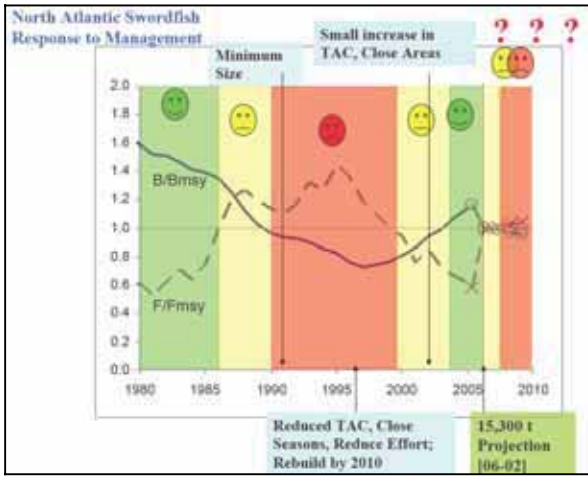
Where could the stocks be headed?

- **Implications of some recent management agreements:**
  - **NAtl SWO (A success story)**
  - **BFTW (A work in progress)**
  - **BFTE (Just getting started)**

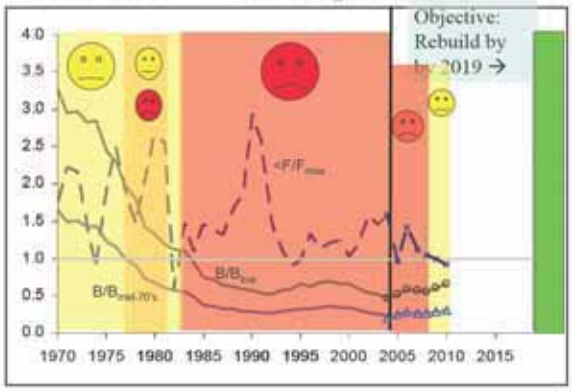
North Atlantic Swordfish – A Success Story



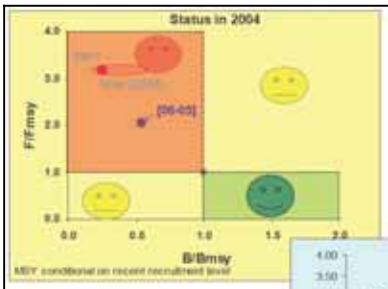
North Atlantic Swordfish Response to Management



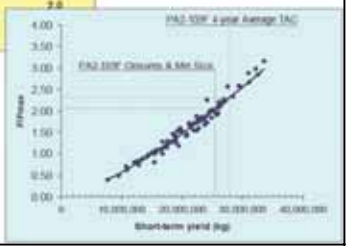
West Atlantic Bluefin – Work in Progress



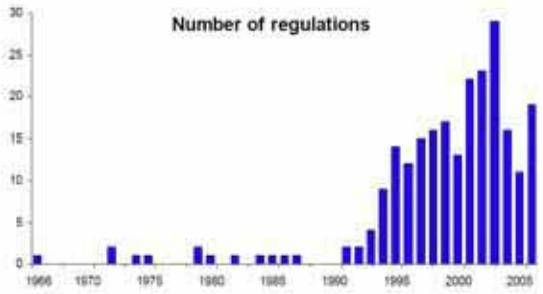
East Atlantic & Mediterranean Bluefin – Just Getting Started



Rebuilding Plan shifts selectivity vector, establishes closures and establishes an average TAC of 28000 t for 2007-2010. Rebuilding in 15 years

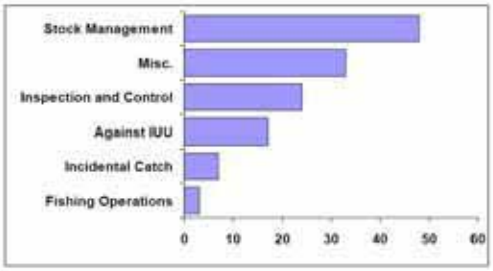


3. Conservation and Management Measures



3. Conservation and Management Measures

RECOMMENDATIONS AND RESOLUTIONS IN FORCE (2006)



(arbitrary classification; many measures cover different topics)

3. Conservation and Management Measures

MULTI-YEAR MANAGEMENT PLANS

- -Northern BLUEFIN TUNA (2 stocks)
- -Atl. SWORDFISH (2 stocks)
- -BIGEYE TUNA
- -WHITE MARLIN
- -BLUE MARLIN
- -Atl. ALBACORE (2 stocks)

CONTENTS

- TAC and Allocations
- Provisions for catch overage/underage
- Minimum size limits
- Vessel number limitations
- Time/area closures

3. Conservation and Management Measures

Stock	TAC / Limits	Effort	Size	Area/ Season	Gear	Data Reporting
BFT E+M	✓		✓	✓	✓	✓
BFT W	✓		✓	✓		✓
BET	✓	✓		✓		✓
BUM	✓		✓			✓
WHM	✓		✓			✓
SWO N	✓		✓			✓
ALB N	✓	✓				
SWO S	✓		✓			
SWO M				✓	✓	
YFT		✓				
ALB S	✓					
ALB M					✓	
SHK						✓
SKJ						
SAI						

3. Conservation and Management Measures

- ICCAT STATISTICAL DOCUMENT PROGRAMS
  - BLUEFIN TUNA
  - BIGEYE TUNA
  - SWORDFISH

Validating Authorities

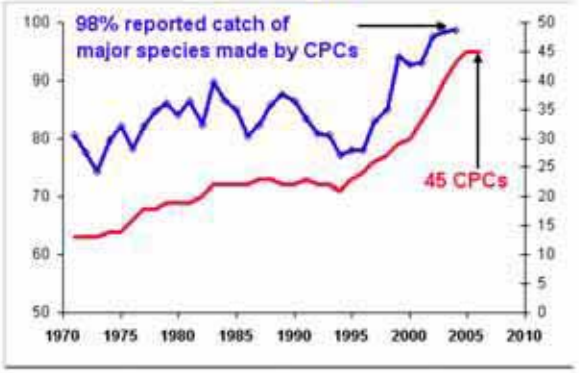
- 59 Parties/entities
- 420 organizations
- 1281 individuals

3. Conservation and Management Measures

- Records
  - List of vessels > 24 m authorized to fish (**3373**)
  - List of carrier vessels authorized to tranship (**44**)
  - List of vessels in BFT farming (**231**)
  - List of BFT Farming Facilities (**72**)
  - IUU vessel list (**17**)
  - 4 NEW Records to be added in 2007 (BFT fishery controls)

All records maintained at **www.iccat.int**

4. Challenges



4. Challenges

Data Quality

- Accuracy of total catch by species and flag (Task I)
- Detailed spatial and temporal coverage (Task II)
- Capacity-building (training, data collection)

Implementation

- Real-time monitoring of catch limits
- Ensuring that all CPs have capacity to fully implement instruments
- Efficient flow of information (e.g., trade data, VMS)

Performance

- Getting more done with limited resources
- Efficiency and effectiveness

4. Challenges

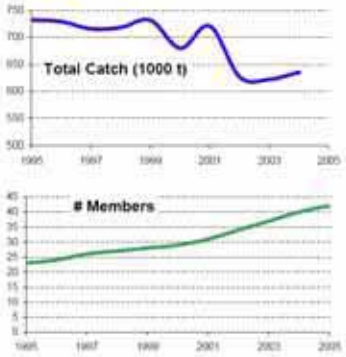
Adapting a 40-year old Convention to modern instruments

- UN Fish Stocks Agreement
- Flag State requirements
- Port State measures
- More effective MCS
- Ecosystem approaches

Global collaboration, information-sharing

4. Challenges

Allocation: New entrants and limited resources



The Indian Ocean Tuna Commission (IOTC): past, present and future

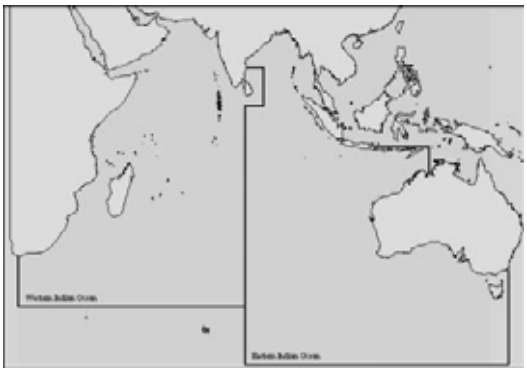
The road to a Commission for the Indian Ocean

- *The early period : the Committee of IO Tunas under IOFC.*
- *1986-1996: The negotiations for the establishment of IOTC.*
- *1981-1997: The IPTP period.*
- *Since 1998: IOTC Secretariat fully operational.*

The IOTC Agreement

- *Enters into force in March 1996, as an organization under Article XIV of the FAO Constitution.*
- *Open to FAO and UN Member countries.*
- *Covers 16 species of tuna and tuna-like species.*
- *Competence over IO waters and adjacent seas.*

Area of competence of IOTC



Current Members of IOTC

- ***Australia***
- ***China***
- ***Comoros***
- ***Eritrea***
- ***European Community***
- ***France***
- ***Guinea***
- ***Iran***
- ***India***
- ***Japan***
- ***Republic of Korea***
- ***Kenya***
- ***Madagascar***
- ***Malaysia***
- ***Mauritius***
- ***Oman***
- ***Pakistan***
- ***Philippines***
- ***Seychelles***
- ***Sri Lanka***
- ***Sudan***
- ***Thailand***
- ***United Kingdom***
- ***Vanuatu***

CNCP: Belize, Indonesia, South Africa, Senegal

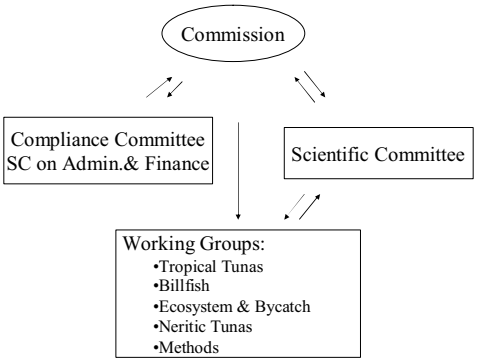
Objectives of IOTC

- *Promote conservation through optimum utilization.*
- *Encourage and coordinate research, development and transfer of technology.*
- *Review economic and social aspects.*
- *Conduct scientific analyses of stocks.*

IOTC Structure

- *Linked to FAO, but only on administrative and constitutional matters.*
- *Funding from Member contributions - proportional to catch and per capita GNP*
- *Binding decisions are made by two-thirds majority, with objection procedures.*

The basic structure of IOTC



The IOTC Secretariat

- *Based in Victoria, Seychelles*
- *Staff: 6 professionals and 6 administrative and technical support.*
- *Sections:*
  - *Data Section: 3*
  - *IT support: 1*
  - *Tagging: 1*
  - *Administration: 5*
  - *Secretary and Deputy Secretary*

Technical role of the Secretariat (I)

- *Data collection support:*
  - *IOTC-OFCF Programme (Japan) Five years project with support to Indonesia, Sri Lanka, Oman, Mauritius, Malaysia, Maldives, Kenya, Tanzania, Seychelles, Iran.*
  - *Sampling programmes; software development; hardware, training*
  - *Regional workshop in 2004*
  - *To be completed in March 2007*

Technical role of the Secretariat (II)

- *Tuna Tagging Programmes:*
  - *RTTP-IO: (EU): Supervised by the Secretariat, with a Project Management Unit (5).*
  - *120,000 fish released to date, in the WIO.*
  - *8,000 recovered.*
- *Sub-regional projects:*
  - *Indonesia (Japan): feasibility completed. Field activities to resume in March.*
  - *Maldives : 5,000 release in phase 1.*
  - *India : 5,000 release from Lakshadweep*
  - *Pilot projects in Mayotte and Oman*

Technical role of the Secretariat (II)

- *Tuna Tagging Programmes:*
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  - *India : 5,000 release from Lakshadweep*
  - *Pilot projects in Mayotte and Oman*

Measures: Management of Stocks

- *2001: Maintain bigeye tuna catch and effort at 1999 levels (01/04)*
- *2002: (02/08) Mandates SC to advice on measures to reduce fishing mortality on yellowfin and bigeye.*
- *2005: (05/01) Maintain catches and effort on bigeye tuna at recent levels. Establishes a mechanism to adopt quotas over the following 3 years*
- *2006: no quotas adopted. Further work is needed. Limitation of fishing capacity to 2006 levels (06/05).*

Measures: Fishing Operations

- *Record of Authorized Fishing Vessels (02/05;05/02)*
- *Record of IUU Vessels (02/04; 06/01)*
- *Record of Active Vessels (98/04;05/04)*
- *Management Standard for vessels (05/07; 06/05) and control of fishing activities (01/02)*
- *VMS Control: Pilot programme in 2002 (02/02) Mandatory since July 2007 (06/03).*
- *Observer programmes : CPCs to report on their national observer programmes. (01/01)*

Measures: port inspection and data collection

- *Inspection and Control Scheme (99/03): Scheme adopted at in 2001 at the Yaizu meeting.*
- *Port Inspection: Scheme to promote compliance (01/03); prevent landings if appropriate, port State to submit lists of all landing by July 1 ((02/01; 05/03).*
- *Bigeye Statistical Document Programme (01/06; 03/03): frozen fish, trade certification.*
- *Mandatory data requirements (98/01; 01/05; 98/02)*

Measures: Ecosystem and Bycatch

- *Conservation of sharks (05/05)*
- *Incidental catch of sea turtles (05/08); and birds (05/09; 06/04)*
- *Establishment of a Working Party on Ecosystem and Bycatch (2005)*
- *Survey on predation of fish in longline fisheries (00/02): workshop in 2007.*

Measures against IUU operations

- *Measures to prevent laundering of catches (02/07) request issuing of statistical document prior to transhipment.*
- *Mechanisms to establish identification and trade sanctions (03/05)*
- *Record of IUU vessels*
- *All resolutions concerning port inspection schemes.*
- *Transhipment control:*
  - *All transhipment at sea banned with exception of longline vessels*
  - *Establish record of carrier vessels.*
  - *Establish observer program on board carrier vessels*
  - *Effective July 1 , 2008.*

The challenges ahead:

- *Complete reform to increase effectiveness and efficiency.*
- *Establish effective mechanisms for implementation of measures.*
- *Management of fishing capacity.*
- *Maintain control of IUU fishing.*
- *Improve scientific advice.*
- *Incorporate ecological considerations in management.*

IOTC Reform

- *IOTC Members have agreed to a reform of the Agreement to improve effectiveness.*
- *Challenge: How to best navigate through the administrative transition.*

Effective implementation of measures

- *After adopted, resolutions need to be translated into national regulations. This process does not always take place in Member states.*
- *The challenge: Promote and monitor implementation at the national level, supporting the development of the process when necessary.*

Management of fishing capacity

- *Progressing towards establishing limits, CPCs agree to limit their fleets to the number of active vessels in 2006.*
- *The challenge: How to effectively accommodate desires for development from coastal countries, avoiding excess capacity.*

Maintain control of IUU fishing

- *IUU fishing can grow very quickly, depending on mobility of the fleets and the conditions in other oceans.*
- *Challenge: Develop effective flag and port State controls and identify effective measures against trade of illegal fish.*

Improve scientific advice

- *Better precision in assessments means better targeted management actions. Improvements in data situation and contributions of tagging projects should help*
- *Challenge: Increase participation of scientists from developing nations.*

Incorporate ecological considerations in management

- *There has been concerns about the impact of fishing on other species in the environment. Scientific research and management actions under way.*
- *Challenge: Develop mechanisms for data collection and support ecosystem-related research.*

Appendix 12

TunaRFMOs2007/11

CURRENT SITUATION AND CHALLENGES

Paper prepared by the WCPFC Secretariat for the Joint Meeting of Tuna Regional Fisheries Management Organisations
22-26 January 2007,
Kobe, Japan

1. ESTABLISHMENT OF THE WCPFC AND ITS OPERATION

The Western and Central Pacific Fisheries Commission (WCPFC) was established by the *Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention)* which entered into force in 2004. The Convention was concluded after six years of negotiation which commenced in 1994.

The WCPF Convention generally reflects the provisions of the UN Fish Stocks Agreement [UNFSA] while, at the same time, reflecting the special political, socio-economic, geographical and environmental characteristics of the western and central Pacific Ocean (WCPO) region. The WCPFC Convention seeks to address problems in the management of high seas fisheries resulting from unregulated fishing, over-capitalization, excessive fleet capacity, vessel reflagging to escape controls, insufficiently selective gear, unreliable databases and insufficient multilateral cooperation in respect to conservation and management of highly migratory fish stocks. A framework for the participation of fishing entities in the Commission which legally binds fishing entities to the provisions of the Convention, participation by territories and possessions in the work of the Commission, recognition of special requirements of developing States**,** and cooperation with other RFMOs whose area of competence overlap with the WCPFC reflect the unique geo-political environment in which the Commission operates.

A the establishment of the WCPFC was progressed in three stages:

- Multilateral High Level Conference (MHLC) period leading to the adoption of the Convention: December 1994 – September 2000 (seven sessions)
- Preparatory Conference for the preparation of basic documents and preliminary work to establish the institutional framework: April 2001 – December 2004 (seven sessions)
- Inaugural Session of the WCPFC: December 2004

In 2005 and 2006 the Commission's subsidiary bodies, the Scientific Committee, Technical and Compliance Committee and the Northern Committee met once during each year. The meetings of the subsidiary bodies were followed by a full session of the Commission. In addition, in 2006, the Commission established an ad hoc task group to develop the Commission's data management policies. This group met once in 2006 and the work it commenced will be absorbed by each of the subsidiary bodies from 2007.

2. STATUS OF FISHERIES AND FISHERY RESOURCES IN THE WCPO

2.1 Summary of tuna catches in the WCPO

The provisional total catch of target tuna species for 2005 from the WCPO was 2,145,367 metric tonnes (mt) comprising skipjack - 1,443,127mt (67%), yellowfin - 423,468mt (20%), bigeye - 163,419mt (8%), South Pacific albacore – 53,692mt (2.5%) and North Pacific albacore – 61,661mt (2.8%). This was a record tuna catch recorded for the WCPO – an increase of 5 per cent on the catch reported in 2004.

2.2 Target stocks and management implications

Bigeye tuna: Scientific advice is that overfishing of bigeye tuna is occurring though the stock is not in an overfished state. The longline fishery has the greatest impact on this species. The second regular session of the Scientific Committee (SC2) in 2006 recommended a 25 per cent reduction in fishing mortality for bigeye tuna from the average levels for 2001–2004.

Yellowfin tuna: Scientific advice is that overfishing is occurring in the WCPO but the stock is not yet in an overfished state. The Indonesian and Philippines domestic fisheries are considered to have the greatest impact on the status of this stock. SC2 recommended a 10 per cent reduction in fishing mortality for yellowfin from the average levels for 2001–2004.

Skipjack tuna: No assessment was undertaken in 2006 (the last assessment was undertaken in 2005). The existing level of catch is considered to be sustainable unless recruitment persistently falls below the long term average.

South Pacific albacore: The 2005 assessment was updated by SC2. Overall, fishery impacts on the total biomass are low (10 per cent), although considerably higher impacts occur for the portion of the population vulnerable to longline. SC2 advised that the current catch levels appear to be sustainable and yield analyses suggest that increases in fishing mortality and yields are possible. However, given the age-specific mortality of the longline fleets, any significant increase in effort is forecast to reduce CPUE to low levels with only moderate increases in yields.

North Pacific albacore: No new assessment was undertaken by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) in 2005 but the species is considered to be fully exploited.

3. THE COMMISSION'S WORK

3.1 Key decisions by the Commission

Target Species

Participants in the MHLC and Preparatory Conference first agreed to limit fishing capacity for tunas in the WCPO in 1999. When the fleets continued to grow, particularly the purse seine fleet, the Preparatory Conference adopted an additional resolution which committed participants to the 1999 Resolution to cap capacity. Nevertheless, since 1999, the WCPO purse seine fleet has grown by 26 vessels.

Increasing concern that overfishing of WCPO bigeye and yellowfin was occurring and that the status of the stocks was approaching an overfished state led the Second Regular Session of the Commission, in December 2005, to adopt a Measure that limited capacity and number of vessels operating in the WCPO purse seine fishery and the catch by the longline fleet. In a similar vein, the Commission agreed to limit the number of vessels operating in the South Pacific albacore fishery and the effort applied in the North Pacific albacore fishery.

At the Third Regular Session of the Commission in December 2006, the Commission adopted a supplementary Measure for yellowfin and bigeye that focused on commercial fleets other than longline and purse seine fleets and committed members to the adoption of future Measures to reduce the catch of juvenile yellowfin and bigeye tuna taken in association with floating objects.

Other Species and By-catch

The Second Regular Session of the Commission in December 2005 adopted non-binding resolutions relating to the by-catch of non-target fish species, sea birds and sea turtles. Binding Measures for sea birds and sea turtles were adopted at the Third Regular Session of the Commission in December 2006 during which Measures for limiting vessel numbers operating in the WCPO swordfish and striped marlin fisheries were also adopted. A Measure for sharks, including full implementation of the IPOA (Sharks) promoting and full utilization was also adopted. Uncertainty associated with the status of these resources will be the focus of future work of the Scientific Committee.

Decisions of the Commission, including those adopted by the MHLC and Preparatory Conference, are summarized at Appendix A.

3.2 Strategic Guidance

The Second Regular Session of the Commission in 2005 endorsed the preparation of a Strategic Plan to guide the work of the Commission. A first draft of this Plan, including means to measure performance, was considered at the Third Regular Session of the Commission in December 2006. During 2007 further work will be undertaken to prepare a revised draft of a Strategic Plan for the Commission and a Business Plan that, once adopted, will guide the work of the Secretariat over the next 5 years.

3.3 The Commission's science programme

Under contract, the Oceanic Fisheries Programme at the Secretariat of the Pacific Community (SPC-OFP) provides the Commission with stock assessment, fisheries research and data management services. The Scientific Committee replaced the Standing Committee on Tuna and Billfish which provided an informal forum for multilateral collaboration and peer review of science work on WCPO tuna stocks over a period of 17 years prior to 2005. Key scientific work for the Commission, guided by a Strategic Research Plan approved in December 2006, is:

3.3.1 Collection, compilation and verification of data from the fishery

i) Data management services (SPC-OFP services)
ii) Develop a list of data fields that observers should collect for longline and purse seine
iii) Develop a list of objectives and priorities for data to be collected by observers for fisheries other than purse seine and longline
iv) Indonesian and Philippines Data Collection Project (including Fish Aggregating Device [FAD] related studies)
v) Rescue of historical commercial catch data from the Philippines [and Indonesia and Vietnam]
vi) Quantification of changes in fishing efficiency due to changes in fishing gears and fish finding technologies
vii) Quantification of changes in longline selectivity due to changes in gears and patterns of deployment

3.3.2 Monitoring and Assessment of Stocks

Stock assessment and modeling

i) Detailed stock assessments for selected stocks (SPC-OFP services)
ii) Continued refinement of stock assessment models
iii) Exploration of sensitivity of assessment outcomes to structural assumptions in models
iv) Investigation of alternative stock status reference points
v) Development of an appropriate index of abundance (region 7)
vi) Development of recruitment indices independent of the MFCL model

Biological studies

i) Research with sonic and archival tags in Hawaii, Papua New Guinea and other areas
ii) Comprehensive study of bigeye tuna reproductive biology
iii) Better determination of length-weight relationships for the principal target species
iv) Tagging studies

3.3.3 Monitoring and assessment of the ecosystem

i) Ecological Risk Analysis (including Productivity Susceptibility Analaysis); studies on biology of high risk species
ii) Development/review of models for evaluation of impacts on ecosystem, including development of reference points
iii) Sea Turtle/seabird interactions and fishery overlaps; seabird and turtle education and extension of fishers;
iv) Survival of hooked and released seabirds; offal discards and haul-back mitigation studies
v) Turtle de-hooking devices; turtle population assessments; turtle tagging and associated materials

3.3.4 Evaluation of management options

i) Continued development of methods to evaluate potential management strategies, including MSE development and uncertainty

3.4 Data

The Commission has agreed that Members, Cooperating Non-members and Participating Territories (CCMs) must provide (i) annual catch estimates for target tuna and billfish species, by gear type; (ii) the annual number of vessels active, by gear type; (iii) operational level (logsheet) catch and effort data; (iv) catch and effort aggregated by periods of month and areas of 5° longitude and 5° latitude for longline and areas of 1° longitude and 1° latitude for surface gears (if the coverage of operational catch and effort data is incomplete); and (v) size composition data.

The Commission also compiles information for its Record of Fishing Vessels, and other types of data, such as VMS, high seas boarding and inspection and observer data, will likely be compiled in the future. The Commission adopted rules and procedures for access to and the dissemination of data at its Third Regular Session in December 2006, which establish how public domain and non-public domain data are defined, and how the Secretariat, service providers, CCMs and the general public can obtain data from the Commission.

3.5 MCS programme

Several elements of the Commission's regulatory framework were elaborated during the Preparatory Conference and became operational on adoption during the Inaugural Session of the

Commission in December 2004. These included the WCPFC Record of Fishing Vessels and Authorizations to Fish on the High Seas in the Convention Area (CMM-2004-01), Procedures for Cooperating Non-members (CMM-2004-02) and Specifications for the Marking and Identification of Fishing Vessels (CMM-2004-03).

During 2006 good progress was made with the elaboration of additional elements of the Commission's monitoring, control and surveillance (MCS) scheme. At the Third Regular Session of the Commission a Scheme for boarding and inspection on the high seas in the Convention Area was adopted as an alternative to the provisions to Articles 21 and 22 on UNFSA. Although a large amount of work remains to fully develop the procedures for implementation of the Scheme the broad framework is now in place. The Commission also formally established a regional observer programme and a vessel monitoring system both of which will be further developed during 2007 with implementation anticipated to commence in 2008. Procedures for IUU Listing were also adopted by the Commission at its December 2006 Session.

Additional work during 2007 will focus on transshipment verification procedures, harmonization of port State measures to promote consistency with the FAO Guidelines, catch/statistical documentation and elaboration of procedures for monitoring and reporting on compliance and managing non-compliance.

4. FUTURE WORK AND CHALLENGES

Membership

The Commission has 25 members and three participating territories[1]. Two States which actively participated in the MHLC and Preparatory Conference, Indonesia and the USA, currently participate as Cooperating Non-members. The USA, with provisions for the full participation for the three USA Pacific territories (Guam, Commonwealth of Northern Mariana Islands and American Samoa), is expecting to become a Member in early 2007. Indonesia continues to work through domestic requirements that will enable it to accede to the Convention. Considering the importance of Indonesian waters as a spawning and nursery ground for Pacific tunas and its high level of tuna catches (27% of WCPO tuna catches), Indonesia's full involvement in the work of the Commission is critical to being able to achieve the objective of the Convention.

Vietnam supports a developing fishery for tunas estimated to have reached 40,000mt annually in recent years. As much of this fishery depends on stocks shared with the Commission in the WCPO there is an increasing need to engage Vietnam in the work of the Commission. It is noted that the South China Sea is one of the few areas globally where hms fisheries are not formally managed by a regional fishery management organization at present.

MCS scheme

While developments to date are encouraging there is a significant amount of work, involving substantial financial resources and technical expertise, to fully operationalize the Commission's MCS scheme. The priority elements agreed by CCMs, the regional observer programme, the VMS and a high seas boarding and inspection scheme will all experience numerous challenges as design and implementation proceeds over the next 5 years. Still other components remain to be agreed. These include the development of a full trade/catch documentation scheme,

[1] Australia, Canada, Cook Islands, People's Republic of China, European Union, Federated States of Micronesia, Fiji, France, French Polynesia, Japan, Kiribati, Korea, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Chinese Taipei, Vanuatu and Wallis and Futuna.

transshipment verification, harmonization of port State measures and procedures for responding to IUU fishing. The Commission has commenced a review of procedures and processes for monitoring non-compliance in the Convention Area – a task that will be further refined as a priority in the short term.

IUU fishing

Similar to the situation confronting other RFMOs there is limited information for the extent of fishing by Non-members of the Commission in the WCPF Convention Area. This includes increased reporting of apparent fishing with long dr4iftnets in the Convention Area.

At the request of the second regular session of the Commission efforts to address this have commenced through initiatives such as extending invitations to non-Members (for example Thailand and Vietnam) to collaborate with the WCPFC and encouraging efforts by others, such as Belize and Senegal, to complete the process to be considered for Cooperating Non-member status.

Participatory Rights

The UNFSA requires RFMOs to, among other responsibilities, agree on participatory rights such as allocation of allowable catch or levels of fishing effort. This issue will be one of the more complex tasks to be addressed by the WCPFC. The complexity partly relates to the different legal regimes with the Convention Area (territorial sea, archipelagic waters, EEZ and high seas), the historical fishing patterns in the region and the requirement to accommodate new entrants. The Commission commenced a process to address issues associated with allocation in 2006. The Commission plans to adopt an allocation system for WCPO tuna resources by 2010.

Science

In addition to the annual updating of the stock assessment on key tuna and tuna-like species, the Commission's scientific activities extend to supporting efforts to develop technologies to reduce by-catch, an ecosystem approach to management of WCPO tuna stocks, development of a scientific observer programme, and supporting small island developing States in respect of data collection and capacity building in science.

The effective protection of marine biodiversity, an ecosystems approach to fishery management and the implementation of the precautionary approach are global challenges for all tuna RFMOs. In the WCPFC Convention Area, these are particularly challenging given capacity building requirements in developing coastal States, the significant socio-economic importance of tuna, the size of the fishery (in terms of the quantity of fish and the geographic area covering a diversity of ocean environments) and funds and expertise to be able to address issues whether that be through the Commission secretariat or by CCMs.

Data

The Commission's data is currently based on an extensive database administered by the SPC OFP covering the period 1950–2006 for tuna and billfish. Estimates of average annual catches in recent years of major non-target fish species, determined from observer data, are also available.

Coverage by operational catch and effort data held by the SPC OFP for 2005 was only 48.5% (percentage of catch of target tuna species in the Convention Area) although this may increase as additional data become available. In comparison, the highest level ever achieved for the region

was 49.6% in 2002. Coverage by port sampling data for 2005 was 2.0% and coverage by observer data for 2005 was 5.1%**.**

Considerable effort is required to address data gaps (including for non-target species), ensure the timely submission of critical fleet and fishery data and develop data management policies. The principle gaps in coverage in the Convention Area by operational level catch and effort data (log sheet data) currently held by SPC OFP include the domestic fisheries of the Philippines and Indonesia, the distant-water longline fleets of Korea and Chinese Taipei, and the longline, pole-and-line and purse-seine fleets of Japan on the high seas.

Conservation and management measures

Some CCMs consider priority should be assigned to the management of target tuna stocks while other CCMs are committed to addressing issues associated with incidental or non-target catch of other species such as sea-birds, sea turtles and sharks. Still other CCMs consider the priority should be with developing and implementing a management regulatory framework that can underpin future conservation and management arrangements agreed by the Commission. The success in balancing these views will largely depend on the resources available to the Commission to support the required work in these three, broadly compatible, areas.

While there is a high probability that WCPO yellowfin and bigeye tuna stocks are not yet in an overfished state, there is a high probability that overfishing is occurring. Although the Commission adopted a Measure to reduce fishing mortality of bigeye and yellowfin tuna in 2005 that Measure did not reflect the advice from the Scientific Committee. The adoption and full implementation of a measure that reflects the advice of the Scientific Committee by reducing fishing mortality to acceptable levels (currently that which supports a biomass at a level that produces MSY) is a priority for the Commission.

In addition to agreeing to management objectives for the fishery (individual stocks or the fishery as a whole) challenges for the Commission include maximizing economic and social benefits from increased utilization of the skipjack resource in the WCPO without impacting adversely on the sustainability of the yellowfin and bigeye resources taken in association with fishing operations that principally target skipjack.

It is too early to assess the impact of the Convention on the sustainable utilization of highly migratory fish stocks in the Convention Area. The Commission is at early stages in developing procedures to monitor the response of CCMs to implementation of conservation and management measures adopted by the Commission on both the high seas and in areas under national jurisdiction. A key issue that will determine the success of measures adopted by the Commission will be the extent developing coastal States supporting significant fisheries are able to implement measures within areas under national jurisdiction.

Cooperation with other organizations

Article 22 of the WCPF Convention provides for cooperation with other organizations with related competence and which can contribute to the objectives of the Convention, as well as those where the WCPFC Convention Area overlaps with the area under regulation by another RFMO for the purposes of avoiding duplication.

The area of competence of the WCPFC overlaps or adjoins with those of other RFMOs (IATTC, CCSBT and CCAMLR and IOTC). Partly as a result of the relatively large numbers of WCPFC CCMs that are also members of neighboring RFMOs compatibility and harmonization is being

encouraged in respect of conservation and management measure, sharing of vessel data and collaboration on MCS measures (observer programmes, VMS, transhipment verification schemes, stock assessment, etc.).

The WCPFC has developed a Memorandum of Understanding (MoU) with CCSBT, the Pacific Islands Forum Fisheries Agency, the Secretariat of the Pacific Community, the Inter American Tropical Tuna Commission (IATTC) and the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC).

At its Third Regular Session the Commission authorized the Secretariat to commence consultations with the Indian Ocean Tuna Commission (IOTC), the Agreement for the Conservation of Albatross and Petrels (ACAP) and the Secretariat of the Pacific Regional Environment Programme (SPREP) with a view to formalizing arrangements for collaboration, consultation and cooperation.

The need for a special relationship with IATTC is recognized in the WCPFC Convention. With the conclusion of a MoU in 2006, the Secretariats for the two organizations have commenced consultations on means to operationalize the relationship for mutual benefit. Initial discussions have included to data exchange (including compliance data), stock assessments, biological research, mitigation of by-catch and MCS schemes – particularly in respect of bserver programmes that might operate in each Convention Area.

Role of the Secretariat

There is a need to for more empowerment of RFMO Secretariats – from simply a post box to a body that is more actively involved in monitoring implementation of the respective Conventions – particularly in relation to compliance monitoring.

In addition, no Secretariat can be effective if it is starved of resources – there is an imbalance at present, across most RFMOs, between the value of the resource being fished and the financial support provided to Secretariats to support the conservation and management goals established by CCMs.

Special requirements of developing States

To facilitate effective participation, and give effect to Article 30 of the WCPF Convention, the Financial Regulations of the Commission provide that support for a representative from developing State CCMs to the meetings of the Commission and its subsidiary bodies be provided from assessed contributions of CCMs.

The WCPF Convention also establishes a Special Requirements Fund to receive voluntary contributions provided for the purposes of facilitating effective participation by developing State CCMs. In addition, the annual catch component that is factored into the calculation of the annual assessed contribution of developing State CCMs is discounted by 0.4 as an additional measure to relieve the financial burden associated with their effective participation in the Commission.

To give further effect to Article 30 of the WCPF Convention, CCMs have established a special project to support improved data and information collection and monitoring in the Philippines and Indonesia.

Appendix A

Key Decisions from the Commission (CMM = Conservation and Management Measure – binding measure; Resolution – non-binding)

Session	Title	Contents
MHLC4 (Feb.1999)	Resolution of 19 February 1999	Restraint in respect of any regional expansion of fishing effort and capacity
MHLC5 (Sep.1999)	Resolution	
PrepCon3 (Nov.2002)	Resolution of the preparatory conference relating to illegal, unreported and unregulated fishing and limits on fishing capacity (WCPFC/PrepCon/22)	Illegal, unreported and unregulated (IUU) fishing and limits on fishing capacity
PrepCon5 (Sep.2003)	Resolution of the preparatory conference in response to the recommendations of the second meeting of the scientific coordinating group on sustainable fisheries management WCPFC/PrepCon/34	Control of fishing effort and capacity
WCPFC1 (Dec.2004)	Resolution on CMMs	Priority work to be conducted by the SC and TCC; adoption of conservation and management measures at WCPFC2
	CMM-2004-01 Record of Fishing Vessels and Authorizations to Fish	Procedures for authorizing vessels to fish beyond areas of national jurisdiction in the Convention Area
	CMM-2004-02 Cooperating Non-members	Procedures for considering applications for cooperating non-members and obligations of cooperating non-members
	CMM-2004-03 Specifications for the Marking and Identification of Fishing Vessels	Description of vessel markings for vessels authorized to operate on the high seas in the Convention Area.
WCPFC2 (Dec.2005)	CMM-2005-01: CMMs for BE and YF tuna in the WCPO	PS effort limit and LL catch limit
	CMM-2005-02: CMM for SP ALB	Constraint on the number of SP albacore fishing vessels

	CMM-2005-03: CMM for NP ALB	Constraint on the number of NP albacore fishing vessels
	Resolution-2005-01: Resolution on the incidental catch of seabirds	Reporting domestic measures and information on interactions with seabirds
	Resolution-2005-02: Resolution on reduction of overcapacity	Reduction of overcapacity that entered the Convention Area after the MHLC and PrepCon resolutions
	Resolution-2005-03: Resolution on non-target fish species	Avoid the capture of all non-target fish species that are not to be retained
	Resolution-2005-04: Resolution to mitigate the impact of fishing for HMFS on sea turtles	Implement FAO guidelines, collect information on interactions, research on circle hooks, etc.
WCPFC3 (Dec.2006)	CMM-2006-01 Yellowfin and bigeye	Capacity restrictions in fisheries not covered by CMM-2005-01 and commitment to adopt a FAD-related measure at WCPFC4.
	CMM-2006-02 Seabirds	IPOA (Seabirds) including by-catch mitigation measures in areas of high encounters and commitment to further elaborate technical specifications of mitigation measures.
	CMM-2006-03 Swordfish	Limitation on vessel numbers
	CMM-2006-04 Striped marlin	Limitation on vessel numbers
	CMM-2006-05 Sharks	IPOA (Sharks) implementation and full utilization including fin and body weight ratios for fins on board.
	CMM-2006-06 Commission VMS	Establishment and phased implementation schedule.
	CMM-2006-07 Observer program	Establishment and formation of an inter-sessional working group to elaboration the Programme for adoption at WCPFC4.
	CMM-2006-08 high seas boarding and inspection procedures	Procedures adopted.
	CMM-2006-09 IUU fishing	Procedures for the establishment and administration of an IUU vessel list.

Current situation and challenges for CCSBT

Prepared for Joint Meeting of Tuna RFMOs Kobe Japan 22-26 January 2007
(text also available in Japanese)

Establishment of CCSBT

- From 1985 Australia, Japan and New Zealand, applied a voluntary management arrangement to their SBT fleets
- Convention for the Conservation of Southern Bluefin Tuna, came into force in 1994, creating the Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

Commission's Role

- The Commission's objective is to ensure, through appropriate management, the *conservation and optimum utilisation* of the global Southern Bluefin Tuna (SBT)

Global distribution of SBT

Members of CCSBT

- Japan 1994
- New Zealand 1994
- Australia 1994
- Republic of Korea 2001
- The Fishing Entity of Taiwan 2002
  - (member of Extended Commission)

Cooperating Non-Members of CCSBT

- Cooperating Non-Members participate fully in CCSBT but can not vote
- Cooperating Non-Member must adhere to objectives of the CCSBT and agreed catch limits
- Cooperating Non-Member status is regarded as a transitional measure to full membership

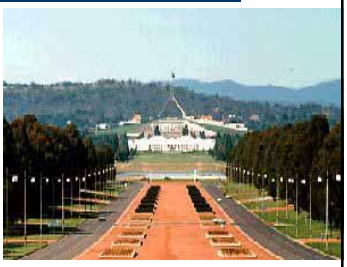
Cooperating Non-Members of CCSBT

- The Philippines 2004
- South Africa 2006
- European Community 2006

- Indonesia has been a formal observer at recent meetings and has indicated an interest in becoming a CNM

Location of Secretariat

- Headquarters in Canberra Australia



Organisation of CCSBT

- **Commission/Extended Commission**
- Science Committee
- Compliance Committee
- Finance and Administration Committee
- Stock Assessment Group
- Ecologically Related Species Working Group

Secretariat of CCSBT

- The Commission has established a Secretariat and appoints the Executive Secretary

- The Executive Secretary appoints, directs and supervises staff according to rules determined by the Commission.

- Official languages are Japanese and English

Duties of Staff

- Manage a Surface Tagging program
- Manage and hold Data and coordinate Data exchange
- Manage trade information
- Manage Finance and Administration
- Provide Secretariat support

2006 Decisions on conservation of SBT

- Global TAC & national allocations set for 2007-09

- 2007-2009 Global TAC reduced from 2006 totals by 3,115 tonnes annually

- Draft resolutions in 2006 on
  - Catch documentation scheme
  - Vessel monitoring system
  - Transhipment by large scale fishing vessels

Measures related to incidental catch

- Mandatory use of tori poles in all longline fisheries south of 30 degrees
- Publication of education materials on sharks and seabirds

Inspection and control

- Statistical documentation for all trade which is reconciled by Secretariat
- Positive list for vessels and restrictions on vessels not listed
- Monthly catch reporting
- Reporting of SBT quota by company/vessel
- Draft agreements on CDS, VMS and Transhipments

Measures against IUU fishing

- Trade restrictions on catches by vessels not on the authorised vessel list
- Requirements for all imports to be accompanied by a valid TIS document
- Provision for trade restrictive measures on SBT products for failure to cooperate

Provision of scientific data

- Member collected CPUE & minimum data requirements set by CCSBT
- Secretariat tagging & data collection
- Standards for CCSBT scientific observer coverage
- Other data or data products provided by Members as set out in data exchange documentation

Challenges for CCSBT

- Integrated package of compliance measures
- Data and models for accurate stock assessment
- Effective ERS Mitigation
- Ensuring all countries conform to CCSBT management and conservation measures
- IUU SBT fishing
- Integrated cooperation with other Tuna RFMO's

Course of Actions for RFMOs from the Kobe meeting of joint tuna RFMOs
January 26, 2007
Kobe, JAPAN

The assembled members and cooperating non members of the five tuna RFMOs present at the Joint Meeting of Tuna RFMOs, recognizing the critical need to arrest further stock decline in the case of depleted stocks, maintain and rebuild tuna stocks to sustainable levels and deal effectively with overfishing, overcapacity and IUU fishing activities, jointly commit to take urgent actions to co-operate through tuna RFMOs in accordance with their obligations under international law.

While noting that tuna RFMOs have different characteristics, pressures on their individual stocks, and management arrangements, it was agreed that enhanced cooperation among tuna RFMOs on a broad range of issues can increase their effectiveness and efficiency and provide improved management of all tuna stocks.

I. Key areas and challenges

Recognizing that priorities may vary from tuna RFMO to tuna RFMO, the following are identified as key areas and challenges to be urgently addressed through effective cooperation and coordination among the five tuna RFMOs to improve their performance:

1. Improvement, sharing and dissemination of data and stock assessments and all other relevant information in an accurate and timely manner including development of research methodologies
2. Development, where appropriate, and application of equitable and transparent criteria and procedures for allocation of fishing opportunities or level of fishing effort, including provisions to allow for new entrants
3. Controls, including capacity reduction as appropriate, to ensure that actual total catch, fishing effort level and capacity are commensurate with available fishing opportunities in order to ensure resource sustainability of tuna stocks while allowing legitimate fishery development of developing coastal states, particularly small island developing states and

territories

4. Ensuring that management measures are based on the best scientific advice available and consistent with the precautionary approach, particularly, with respect to establishment of effective stock rebuilding measures and other measures to maintain stocks at sustainable levels
5. Ensuring compliance through establishment of integrated MCS (monitoring, control and surveillance) measures that could include VMS, observers, boarding and inspection schemes, port state controls, market state measures, stronger controls on transhipment, and monitoring of bluefin tuna farming, and the harmonization of those measures across the five tuna RFMOs where appropriate to avoid duplication and increase cost efficiency
6. Application of penalties and sanctions of adequate severity to deter IUU fishing by both non-members and members
7. Development and implementation of stronger measures to prevent, deter and eliminate IUU fishing including, mechanisms to identify and quantify IUU activities based on trade and other relevant information, a system to exchange information on IUU fishing among RFMOs and among flag states, port states and market states and coastal states, consolidation of the positive and negative lists as described in section II below, effective control over nationals in accordance with their duties under international law, identification of beneficial ownership and demonstration of “genuine link” and dissemination of relevant information to the public
8. Establishment and implementation of a system to monitor catches from catching vessels to markets
9. Reviewing the performance of tuna RFMOs in accordance with ANNEX I
10. Implementation of the precautionary approach and an ecosystem-based approach to fisheries management including improved data collection on incidental by-catch and non-target species and establishment of measures to minimize the adverse effect of fishing for highly migratory fish species on ecologically related species, particularly sea turtles, seabirds and sharks, taking into account the characteristics of each ecosystem and technologies used to minimize adverse effect
11. Development of data collection, stock assessment and appropriate

management of shark fisheries under the competence of tuna RFMOs

12. Research and development of techniques to reduce incidental take of juvenile tunas during tuna fisheries, in particular FAD operations
13. Provision of adequate capacity building assistance, including human resource development, for developing coastal states, particularly small island developing states and territories, towards responsible fishery development, including participation in RFMO and scientific meetings, fisheries data collection and stock assessment and implementation of MCS measures
14. Enhancement of cooperation among scientists, relevant experts and with other relevant fisheries organizations possibly through organization of symposia or working groups on appropriate topics of common interest. Coordination of timing of annual meetings and scientific meetings with a view to avoiding their overlap as well as allowing an adequate interval between scientific and annual meetings and between proposal submission and annual meetings

II. Technical work to cooperate across RFMOs will commence by addressing the following challenges.

1. Harmonization and improvement of the trade tracking programs and, as appropriate, development of catch documentation including tagging systems as required
2. Creation of a harmonized list of tuna fishing vessels that is as comprehensive as possible (positive list) including use of a permanent unique identifier for each vessel such as an IMO number. The positive list should include support vessels. Creation of a global list of IUU vessels.
3. Harmonization of transshipment control measures
4. Standardization of presentation form of stock assessment results

III. Follow-up actions

1. Report to 2007 FAO Committee on Fisheries (COFI)

Participants request Japan to report the results of this Meeting to the 2007 COFI.

2. Implementation at each RFMO in 2007

Members shall commence implementing the measures foreseen in this Course of Actions at the 2007 annual meeting of each tuna RFMO as a matter of priority, consistent with the respective convention.

3. Establishment of a follow-up mechanism (ANNEX II)

(1) Policy level

An ad-hoc tuna RFMO Chairs' meeting should be held in January or February 2008 in the United States to discuss follow-up actions by each tuna RFMO. The meeting should be held with the participation of the appropriate representation from the tuna RFMOs secretariats, as well as representation from the FAO.

(2) Technical level

A technical working group (WG) consisting of appropriate experts from tuna RFMOs is established to consider technical issue 1 in section II of this Course of Actions. The first WG meeting will be held in July 2007 in the United States in conjunction with the ICCAT intersessional meetings and the tuna RFMOs will consider the results of such work during the 2008 annual meetings. The 5 tuna RFMO secretariats will jointly consider the technical issues 2 and 3 in section II on the occasion of the meeting of FAO COFI in 2007. Technical issue 4 will be considered by the scientific chairs of the 5 tuna RFMOs. The results on the 4 technical issues should be reported to the next joint RFMO meeting.

4. Next joint RFMO meeting

The next joint RFMO meeting is expected to be held in January/February 2009 in the European Community. It is desirable to hold the following joint meetings every two years but such frequency of meetings should be subject to a decision by the 2nd joint RFMO meeting.

ANNEX I

Attachment on RFMO Performance Review

The five tuna RFMOs should have reviews of their performance conducted in accordance with a common methodology and a common set of criteria. The goal of the performance reviews shall be to assist the RFMOs, through these evaluations, in improving their effectiveness and efficiency in fulfilling their mandates.

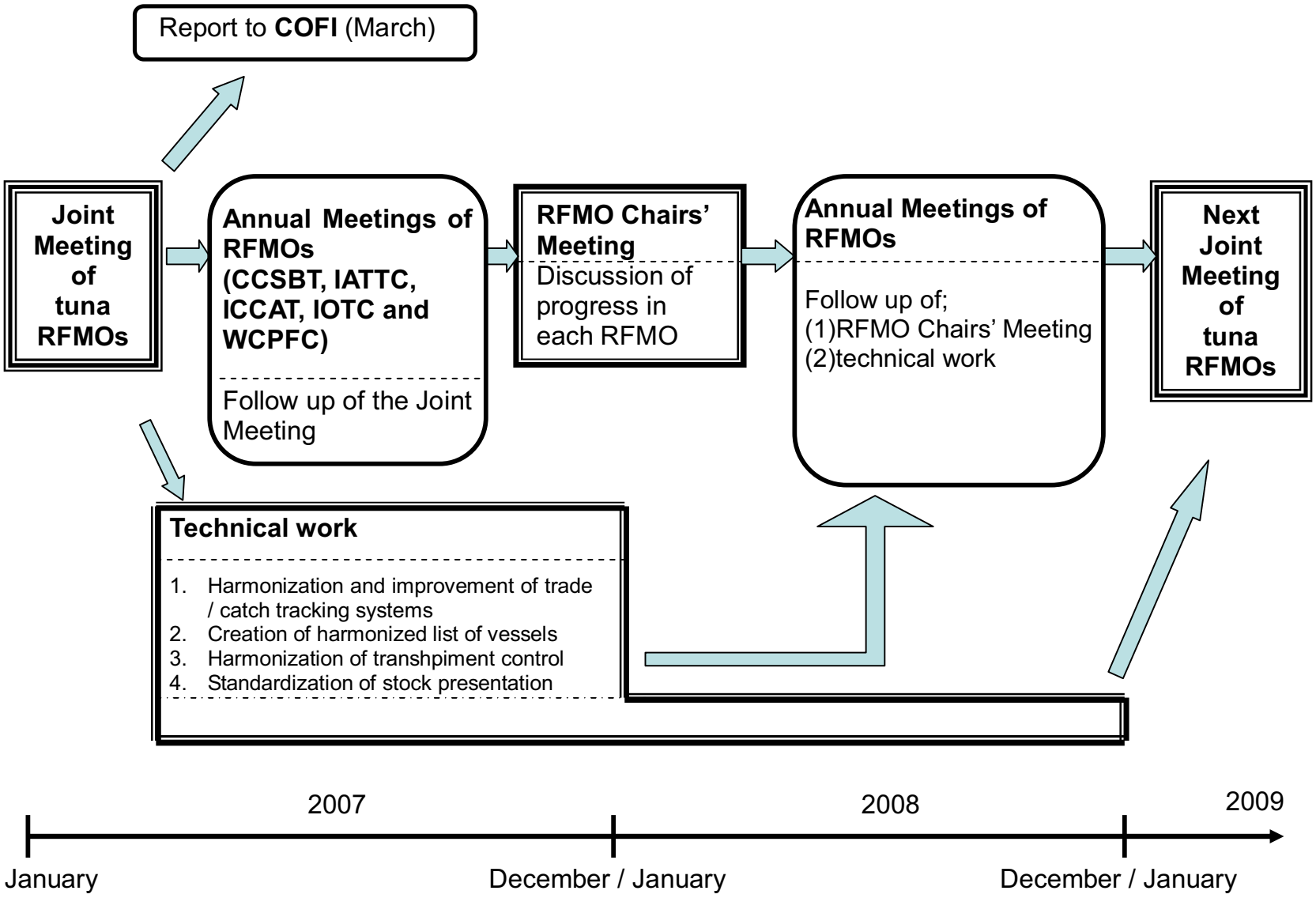
As decided by each tuna RFMO, the reviews should be conducted by a team of individuals drawn from the RFMO secretariat, members of that RFMO and outside experts, with a view to ensuring objectivity and credibility. .

The results of the performance reviews should be presented in the first instance to the tuna RFMO in question for consideration and possible action. The results of the reviews should also be made public on the respective RFMO website, and may be considered as well at future meetings of the five tuna RFMOs, COFI, and other relevant bodies.

The first performance reviews should commence as soon as practicable, following the development of a performance review framework through electronic means which is subject to the approval of the tuna RFMOs. The performance standards (criteria) contained in the framework should be based on the common elements of the tuna RFMO charters, best practices of each tuna RFMO and relevant provisions of applicable international instruments.

Each tuna RFMO should decide on the precise timing of its first performance review and on follow-up performance reviews, with a view to having performance reviews undertaken every 3-5 years.

ANNEX II: Future Work Plan



Appendix 15

Full recognition of the special requirements of developing States, particularly small-island developing States and of territories, including through the provision of assistance

- To enhance their ability to conserve and manage fish stocks, including through special funds and capacity building assistance, towards *inter alia* collection and verification of data, scientific research and stock assessment and in MCS and enforcement;

- To facilitate their effective participation in the work of tuna RFMOs; and

- To enhance their ability to develop their own fisheries for such stocks, as well as enabling them to participate in, and have access to, high seas fisheries for such stocks.

In establishing conservation and management measures tuna RFMOs must consider the vulnerability and dependence on tuna fisheries of developing States, particularly small-island developing States and territories, and such measures must not directly or indirectly transfer a disproportionate burden on developing States.