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Report of the

TECHNICAL CONSULTATION ON SEA TURTLES CONSERVATION AND FISHERIES

Bangkok, Thailand, 29 November-2 December 2004



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PREPARATION OF THE DOCUMENT

The present text is the final version of the Report of the Technical Consultation on Sea Turtles Conservation and Fisheries, held in Bangkok, Thailand, from 29 November to 2 December 2004.

Distribution:

Participants
Directors of Fisheries
FAO Fisheries Department
FAO Regional and Subregional Fisheries Officers

FAO.

Report of the Technical Consultation on Sea Turtles Conservation and Fisheries. Bangkok, Thailand, 29 November–2 December 2004.

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ABSTRACT

A Technical Consultation on Sea Turtles Conservation and Fisheries was convened by FAO and held in Bangkok, Thailand, from 29 November to 2 December 2004. The Consultation was attended by 28 Members of FAO and by observers from three intergovernmental and four international non-governmental organizations, as agreed at the Twenty-fifth Session of the Committee on Fisheries (COFI), held in Rome, Italy, from 24 to 28 February 2003.

The Technical Consultation addressed the major issues with regards to sea turtles conservation and fisheries with special emphasis on: (i) current status of sea turtles conservation and factors affecting the mortality of sea turtles; (ii) fishing gears and techniques to reduce sea turtle mortality; (iii) development of guidelines to reduce sea turtle mortality; (iv) assistance to members from developing countries for the conservation of sea turtles, and (v) future directions for global work on sea turtles conservation and fisheries.

The Technical Consultation agreed on recommendations for FAO, for Regional Fishery Bodies (RFBs) and for Member States related to future work on sea turtle conservation and reduction of sea turtle mortality in fishing operations, to be submitted to the Twenty-sixth Session of the Committee on Fisheries.

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OPENING OF THE CONSULTATION

1. On the recommendation of the FAO Committee on Fisheries (COFI) at its Twenty-fifth Session, the Director-General of FAO, Mr Jacques Diouf, convened the Technical Consultation on Sea Turtles Conservation and Fisheries, Bangkok, Thailand, 29 November–2 December 2004.
2. The Consultation was attended by 28 Members of FAO and by observers from three intergovernmental and four international non-governmental organizations. The list of delegates and observers is given in Appendix B. The documents that were placed before the Consultation are listed in Appendix C.
3. The meeting was called to order by the Secretary of the Consultation, Ms Gabriella Bianchi.
4. Mr Hiroyaki Konuma, Deputy Assistant Director-General and Regional Representative for Asia and the Pacific, in his opening statement on behalf of the Director-General of FAO, reminded delegates that the Technical Consultation was a direct response to a request from the 25th session of COFI. At that session, the Committee agreed that "...while taking into consideration existing work on sea turtle interactions and conservation, a Technical Consultation should be held in Bangkok, Thailand, in 2004". The FAO Fisheries Department was asked to organize the Technical Consultation, with the scope of reviewing the current status of sea turtle conservation and management, with special emphasis on mortality due to fisheries, review new developments of fishing gears and techniques and produce, if appropriate, guidelines to reduce sea turtle mortality in fishing operations. Furthermore, the Technical Consultation was requested to consider desirable assistance to members of developing countries for the conservation and management of sea turtles. He also recalled that conservation concerns were not new to fisheries management and referred to the Code of Conduct for Responsible Fisheries, which directly addresses biodiversity issues and conservation of endangered species and calls for the catch of non-target species, both fish and non-fish species, to be minimized. The full text of his statement is attached as Appendix D.

ELECTION OF THE CHAIRPERSON

5. Mr David Hogan (USA) was elected Chairperson of the Consultation.

ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE TECHNICAL CONSULTATION

6. The Consultation adopted the Agenda as given in Appendix A. The Chairperson outlined the timetable for the Consultation.

ELECTION OF VICE-CHAIRPERSONS AND DESIGNATION OF RAPPORTEUR

7. Mr Wimol Jantrarotal (Thailand), Mr Katsuma Hanafusa (Japan), and Mr Juan José Gaviria Menendez (Ecuador) were elected First, Second and Third Vice-Chairpersons respectively. Mr Alassane Dieng (Senegal) was elected Rapporteur.

SEA TURTLES CONSERVATION AND FISHERIES: A REVIEW OF THE ISSUES

8. As introduction to Agenda Item 5, presentations were made on the Report of the Expert Consultation on Interactions between Sea Turtles and Fisheries within an Ecosystem Context (TC:STCF/2004/2) by Mr Milani Chaloupka, and Sea Turtle Conservation Concerns and Fisheries Management Challenges and Options (TC:STCF/2004/3) by Mr Jorge Csirke.

9. The Report of the Expert Consultation on Interactions between Sea Turtles and Fisheries within an Ecosystem Context (TC:STCF/2004/2) outlined the major findings of the Expert Consultation convened in Rome (9-12 March 2004). These included the: (i) identification of the major at-risk sea turtle species and the high risk marine areas for sea turtle-fisheries interactions; (ii) identification of mitigation measures to reduce mortality including incentives; (iii) recognition of the socio-economic considerations for such measures; (iv) identification of the need for better information on sea turtle stocks and fisheries-related mortality, and (v) identification of a need for FAO to promote guidelines to help reduce sea turtle mortality.

10. The Sea Turtle Conservation Concerns and Fisheries Management Challenges and Options (TC:STCF/2004/3) outlined the major sea turtle conservation and management concerns and fisheries management challenges. The report included: (i) the background of FAO's role in responsible fisheries and sea turtles, in particular; (ii) identification of sea turtle stocks at risk and areas of greatest threat; (iii) modification of gear and fishing practices; (iv) legal considerations; (v) socio-economic cost to developing countries, and (vi) a need to develop guidelines to assist FAO implement the Code of Conduct for Responsible Fisheries.

11. In the discussions that followed the presentations many delegations expressed their gratitude to the FAO Secretariat for providing such comprehensive background documents. Some delegations however, noted information gaps in the two documents and specific reference was made to sea turtle-fisheries interactions in West African and South Western Atlantic waters and also for the Atlantic loggerhead and leatherback stocks.

12. Some concerns were expressed about the potential impacts of some fisheries on sea turtle populations, and acknowledged the decline of some sea turtle stocks. Several delegations also stressed the importance of considering the entire sea turtle life-cycle and the potential impacts of other human activities as well as fisheries on long-term sea turtle viability.

13. The development of guidelines to help reduce sea turtle mortality in fishing operations was discussed and suggestions of the important components to be considered included:

- assessment of the causes of sea turtle mortality
- protecting both nesting and foraging ground habitats
- improving sea turtle stock assessments
- improving existing knowledge of sea turtle abundance and fishery interactions
- modification to gear and fishing practices
- improving public education and awareness
- consideration of socio-economic factors
- review of the role of regional fishery management bodies (RFBs)
- building capacity to assist developing countries

- consideration of other aspects of sea turtle conservation and management

14. It was also pointed out that there was considerable variability among fisheries and the guidelines would need to recognize these differences. Some delegations from developing countries expressed a concern that such guidelines should not be used as a barrier to trade, as was the case with the shrimp embargo.

15. It was noted that the FAO forum provided an important opportunity for a wide range of fisheries management agencies to discuss these sea turtle-fisheries issues. Although this was a unique opportunity to improve our knowledge of the area and develop high-level policy, the importance of involving the fishers and their communities themselves in finding and implementing solutions was stressed.

Current status of sea turtles conservation and factors affecting the mortality of sea turtles

16. A number of the major hazards or threats affecting sea turtle viability was noted during the Consultation. These included:

- egg and turtle harvesting
- turtle poaching or illegal hunting
- nesting habitat loss
- foraging habitat loss
- exposure to coastal gillnet, trawl, setnet and trap fisheries
- exposure to pelagic longline fisheries
- injuries caused by boat propellers
- tourism impacts related to excess lighting on nesting beaches and noise
- ingestion of plastic

17. Serious attempts are being made to better understand the relative impact of these different threats using such techniques as onboard observer programmes but it was generally agreed that there is only limited information available on fisheries-related sea turtle mortality. The need for better information and of improved exchange of information on technologies to help reduce sea turtle mortality were highlighted.

18. While many States have adopted regional and/or international agreements and arrangements, as well as national conservation initiatives to reduce these threats, it was nonetheless believed that more effective and practical measures were still needed. Some delegates explained that such measures might include the action plans that are being developed.

19. The issue on the current status of sea turtle conservation and management in developing countries received special attention. Many delegations highlighted the need for both financial and technical support for developing countries to better manage and conserve sea turtle stocks within their region.

20. The importance of the livelihoods of the small-scale fishers needs to be taken into account. Several delegations reported on their attempts to raise turtles in hatcheries and

release them to restore turtle stocks and highlighted the need to better understand the long-term survival of these hatchery-reared sea turtles.

Fishing gears and techniques to reduce sea turtle mortality

21. The Consultation pointed out that a range of different management tools were either available or under experimentation that could be used to reduce mortality of sea turtles from interaction with fisheries. These included gear modification, new technologies and management of areas where fishery and sea turtle interactions are more severe.

22. Some delegates confirmed that trade in sea turtle products is not allowed in their countries and that all sea turtles are protected by law. It was also confirmed by some delegates that, with few exceptions, the incidental catch decreases the economic performance of fisheries and therefore fishers generally are willing to collaborate in reduction of bycatch of sea turtles. Some delegates also stressed the need to reduce the direct catch of sea turtles.

23. There was general recognition that the introduction of Turtle Excluder Devices (TEDs) have been very successful in developed countries, especially where there has been fishers involvement. In these countries, the ability to demonstrate economic benefits to fishers was stressed and the need to involve the fishing industry throughout the process of research and implementation. However, in developing countries, difficulties were experienced in introducing these types of devices, especially in small-scale fisheries and it was stressed that the socio-economic impacts need also to be considered.

24. There have also been promising results in pelagic longline fisheries including replacement of traditional J-hooks by circle hooks. Investigations on impact of different setting times and depth, moon phases, and different bait types have been performed in some areas. Such investigations have focused on the size and shape of hooks to obtain better results for the target species and incidental catch. The development of releasing tools and procedures, as well as guidelines and manuals for the treatment of sea turtles captured alive have also been produced. Based on such studies, one delegation advised that its country had introduced circle hook and bait requirements into its pelagic longline fisheries in both the Atlantic and Pacific Oceans. However, the applicability of experiments carried out in a few areas and only for some species was questioned. The need to expand these studies to other geographic areas and of active exchange of research results was also highlighted.

25. Several experiments are underway with other gears, such as bag nets, fish corrals and setnets that also capture bycatch species. Gillnets were highlighted as a possible threat, although more research is needed in terms of net materials and interactions with areas of abundant sea turtles. Nylon monofilament gillnets have been banned in some countries, especially as they can be quite destructive in terms of ghost fishing. Public awareness through avenues such as school programmes and building on religious and cultural beliefs was advocated as an important way to reduce impacts in these types of fisheries. Delegates from several developing countries also highlighted the need for more research on stationary coastal gear, in order to estimate the impact of such gears on sea turtle populations.

26. Cooperation between the countries and technical assistance from FAO is needed to implement the most successful technology in each region. Regional Fisheries Bodies (RFBs) could play a leading role in such work, but specific solutions for each fishery and each region should be the objective of the ongoing research. The need to adopt an ecosystem approach

and consider the impacts of mitigation on other bycatch species, such as sharks and seabirds, was raised. Some experience of these types of interactions with different types of hooks were reported, including possible increase in shark bycatch.

Development of guidelines to reduce sea turtle mortality

27. The Consultation reviewed two proposals provided to the meeting by Japan and USA, which were submitted as a basis for the development of Technical Guidelines by FAO as well as guidance for national or multilateral sea turtle conservation and management measures.

28. In describing the Japanese proposal, it was pointed out that it was in three parts: (i) fishing operations and related gear modifications; (ii) role of governments, and (iii) capacity building in developing countries. The proposal gives recommendation for general fishing operations, coastal shrimp trawls, purse seines (based on existing Inter-American Tropical Tuna Commission (IATTC) regulations), longlines, and other gears. Responsibility of governments included education and training, active participation of fishers and fishing industries, collection of information and data, legal aspects and the need for review of the effectiveness of mitigation measures.

29. USA explained that their proposal was similar to that of Japan, as the two proposals were developed collectively. The proposal recognizes that: (i) fishers need to be involved in the process; (ii) all threats to sea turtle stocks need to be addressed; (iii) need for financial and technical support, and (iv) the role of States, RFBs and other entities in sharing relevant information. The USA proposal highlighted recent scientific results that have lead to the implementation of practical and effective circle hook and bait technology to reduce sea turtle bycatch and bycatch mortality.

30. The Consultation agreed that the proposals formed a good starting point for discussion. It was pointed out that such Technical Guidelines should be globally applicable, practical and pragmatic but also flexible so that they can be implemented by all States based on reliable scientific data that is specific to a geographic region and fishery. Many delegations requested that FAO develop such Technical Guidelines, with RFBs taking on the role of making them more specific to their regions.

31. Several delegations also pointed out that socio-economic and cultural considerations need to be taken into account to a greater extent in developing and applying any guidelines. The implementation of guidelines should be based on better socio-economic data and information, as well as being prepared with the participation of local stakeholders. The rights of developing countries to develop their fisheries also needs to be respected and the use of specific guidelines as a barrier to trade needs to be avoided. In particular, the specific proposal concerning the use of TEDs in non-shrimp trawls and specific proposals concerning longline gear and purse seines needs to be re-considered and made more generic. Use of TEDs in shrimp trawls was also questioned as some experience has shown that there is insufficient information and research on what type of TED is most applicable. The Consultation noted that purse seine guidelines could also be difficult to apply in some regions of the world.

32. It was also stressed that guidelines should not be in conflict with existing regional agreements and when applied at national level they should not be cause of conflicts between governments and fisheries.

33. The need to build on and consolidate existing legislation was noted. Enforcement was also highlighted as a major issue, especially in developing countries. The need to integrate all activities undertaken by RFBs, existing sea turtle arrangements and instruments, and International Plans of Action was stressed. Reporting on progress in implementing the guidelines needs to be included.

34. Many delegations underlined the need for further research on: (i) interactions with other bycatch species; (ii) migratory pathways and areas of high interaction of fisheries and sea turtles, and (iii) turtle mortality from both fishing and non-fishing activities. Several delegations also requested strengthening of education and training, especially for small-scale fisheries.

35. Several suggestions for changing the structure of the proposals were provided and a small drafting group comprising China, Japan, Thailand and the USA was formed and requested to further elaborate the proposals and report back to Plenary.

36. The Consultation reviewed the draft for “Guidelines to Reduce Sea Turtle Mortality in Fishing Operations” provided by the drafting group. It was explained that the draft represents a combination of the two earlier proposals, and was based on the suggested changes in structure made in Plenary. The new draft takes into account the comments and concerns made by delegations. The Consultation considered that the guidelines should also apply to the direct take of sea turtles.

37. As a result of discussions, the Consultation agreed that the “Guidelines to Reduce Sea Turtle Mortality in Fishing Operations” (see Appendix E) be included as part of the report and recommended that it be used as input into the FAO Technical Guidelines.

Assistance to Members from developing countries for the conservation of sea turtles

38. Many comments and useful suggestions on this item were raised in earlier discussions and the Consultation agreed that these should be considered when drafting the guidelines and also included in separate recommendations from the Consultation.

39. In summary, the Consultation pointed out that development of guidelines by themselves would not be sufficient. Modification of gear and changing fishing practices would be extremely difficult without further technical and financial support. The different levels of development of countries might need to be taken into account and donor countries should provide support.

40. Support for training and awareness raising, in particular, were considered essential, but assistance is required. Current assistance in research and mitigation projects by some donors was described. A voluntary fund provided by donors to support such activities was considered as a possibility. Japan expressed its voluntary support through the Southeast Asian Fisheries Development Centre (SEAFDEC) and the Inter-American Tropical Tuna Commission (IATTC). The USA informed the Consultation of work of a technical nature carried out through bilateral and multilateral fora such as IATTC in the provision of replacement of circle hooks, collaborative training and research.

41. Priority for financial assistance should also take into account the prioritization of areas and species as outlined in the report of the Expert Consultation on Interactions between Sea Turtles and Fisheries within an Ecosystem Context.

FUTURE DIRECTIONS FOR GLOBAL WORK ON SEA TURTLES CONSERVATION AND FISHERIES

42. The advantages and disadvantages of the options of developing technical guidelines compared with developing an International Plan of Action (IPOA) were discussed. A general consensus emerged that Technical Guidelines would be more appropriate at this stage of development and that an IPOA could be considered in the future. A range of possible actions and initiatives for future global work were discussed in part of Item 5 and 6 of the Agenda and the main results of the discussion are reflected in the recommendations below.

RECOMMENDATIONS

43. Noting that the FAO Code of Conduct for Responsible Fisheries calls for sustainable use of aquatic ecosystems and requires that fishing be conducted with due regard for the environment, and noting the findings of the Expert Consultation on the critical status of some sea turtle populations and priorities for reducing the mortality in fishing operations, the Consultation agreed that the following recommendations be submitted to COFI for:

FAO to:

- (a) Develop Technical Guidelines for the reduction of sea turtle mortalities in fishing operations, based on the “Guidelines to Reduce Sea Turtle Mortality in Fishing Operations” (Appendix E) drafted and agreed by the Consultation.
- (b) Provide technical and other assistance for implementation of measures to reduce sea turtle mortality in fishing operations, especially for developing countries.
- (c) Conduct workshops to: (i) promote the consistent understanding of the overall picture of global and regional sea turtle conservation and management efforts, regional fisheries, fishing gears and mitigation options; (ii) review progress on implementing mitigation measures to reduce turtle mortality.
- (d) Strengthen linkages between national and international environmental and fisheries management agencies in the conservation and management of sea turtle populations.
- (e) Report on (i) global sea turtle stock status and trends and (ii) review progress on implementation of mitigation strategies biennially to COFI and include updated information on its web site.
- (f) Compile technical handling and release guidelines and manuals and distribute widely to Member States.
- (g) Coordinate research to include:
 - Standards for conducting research, including description of gear and appropriate experimental designs
 - Better sea turtle stock identification and assessment of interactions with fisheries
 - Use of observer programmes and coastal communities for collecting information
 - International research programmes using tagging and genetic studies
 - Testing of mitigation techniques in different regions
- (h) Establish and maintain a website serving as a clearing house for information on (f) and (g) above.

- (i) Facilitate the harmonization of national legislation relevant to sea turtle conservation and management.
- (j) Initiate the necessary action to attract the Extrabudgetary Funding (EBF) that might be required to implement the recommendations mentioned above.

RFBs to:

- (a) Pay urgent attention to the issue of interactions between fisheries and sea turtles, especially in regard to the collection of statistics on bycatch and fisheries interactions and the adoption of mitigation measures.
- (b) Develop networks with a view to sharing information on mitigation measures adopted and experiences undertaken at national, regional and global levels.

FAO Member Countries to:

- (a) Pay urgent attention to the sea turtle stocks and areas identified of greatest threat as specified in TC:STCF/2004/3 and paragraph 11 of this Report.
- (b) Give consideration to the implementation of the elements outlined in the “Guidelines to Reduce Sea Turtle Mortality in Fishing Operations” as agreed in the Technical Consultation (Appendix E).
- (c) Cooperate to broaden the mandates of RFBs to reduce the impacts of fishing on sea turtle populations.
- (d) Collect and make available, data and information on trends in sea turtle-fishery interactions, including trends in fishery-related mortalities.
- (e) Support the initiatives with respect to sea turtle conservation and fisheries interactions that FAO will develop and, in particular those member countries in a position to do so, mobilize the necessary funding for their implementation.

All to:

- (a) Collaborate in considering the adoption and implementation of the guidelines, with special consideration to: (i) fishing operations; (ii) research, monitoring and sharing of information; (iii) ensuring policy consistency; (iv) education and training; (v) capacity building, and (vi) socio-economic and cultural considerations, as outlined in the “Guidelines to Reduce Sea Turtle Mortality in Fishing Operations” (Appendix E).
- (b) Harmonize sea turtle conservation and management initiatives within regions.
- (c) Promotion, as appropriate, of participation in regional sea turtle conservation and management arrangements with a view to cooperate on sea turtle conservation and management.

ADOPTION OF THE REPORT

44. The Technical Consultation adopted the report on 2 December 2004.

APPENDIX A**Agenda**

1. Opening of the Technical Consultation
2. Election of the Chairperson
3. Adoption of the Agenda and Arrangements for the Technical Consultation
4. Election of Vice-Chairpersons and designation of Rapporteur
5. Sea Turtles Conservation and Fisheries. A review of the issues with special emphasis on:
 - Current status of sea turtles conservation and factors affecting the mortality of sea turtles
 - Fishing gears and techniques to reduce sea turtle mortality
 - Development of guidelines to reduce sea turtle mortality
 - Assistance to Members from developing countries for the conservation of sea turtles
6. Future directions for global work on sea turtles conservation and fisheries
7. Adoption of the report

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APPENDIX C**List of Documents**

TC:STCF/2004/1/Rev.1	Provisional Agenda and Timetable
TC:STCF/2004/2	Report of the Expert Consultation on Interactions between Sea Turtles and Fisheries within an Ecosystem Context, Rome, 9-12 March 2004
TC:STCF/2004/3	Sea turtle conservation concerns and fisheries management: challenges and options
TC:STCF/2004/Inf.1	Provisional List of Documents
TC:STCF/2004/Inf.2	Provisional List of Participants
TC:STCF/2004/Inf.3	Papers presented at the Expert Consultation on Interactions between Sea Turtles and Fisheries within an Ecosystem Context, Rome, 9-12 March 2004
TC:STCF/2004/Inf.4	Statement of Competence and Voting Rights submitted by the European Community and its Member States
TC:STCF/2004/DMA.1	National and International regimes for the conservation of sea turtles
TC:STCF/2004/DMA.2	Update on recent modifications of fishing gear and fishing procedures to reduce bycatch of sea turtles in longline fishery

APPENDIX D

**Opening statement of He Changchui
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delivered by Hiroyuki Konuma
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On behalf of Jacques Diouf, Director-General of the Food and Agriculture Organization of the United Nations, it is my pleasure to welcome you to this Technical Consultation on Sea Turtles Conservation and Fisheries.

The meeting is a good illustration of important developments that have taken place during the last decades in the field of fisheries management, specifically with regard to broadening its scope to include ecosystem and conservation concerns. These developments are also reflected in a number of international conventions and instruments.

The 1992 United Nations Conference on Environment and Development (UNCED) brought into focus the strong interdependence between the environment and people, and the need to assure sustainability for future generations. The concept of sustainable use of aquatic ecosystems – requiring that fishing is conducted with due regard for the environment – became a key element of the FAO Code of Conduct for Responsible Fisheries, adopted in 1995. The Code specifically addresses biodiversity issues and conservation of endangered species and, in so doing, calls for minimizing catch of non-target species, both fish and non-fish species. This notion of a broader ecosystem approach to fisheries was reiterated and reinforced in the 2001 Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem,

The expansion in fishing activities in coastal areas and in the high seas during the second half on the 20th century is believed to have contributed to important changes in marine ecosystems, not only as regards target species, but also other ecosystem components that are directly or indirectly affected by fishing activities. Because of these developments, and because of the increased awareness of indirect effects of fishing, FAO has initiated a number of global initiatives aimed at facilitating the implementation of the Code of Conduct for Responsible Fisheries. As an example, the UN Fish Stocks Agreement requires states to minimize catch of non-target species, in particular endangered species, through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques. Other instruments, such as the International Plan of Action for the Conservation and Management of Sharks, the International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries, directly address catches of vulnerable species.

Sea turtles are also affected by fisheries. These animals have traditionally been exploited for their meat, eggs, shell and skin, in some cases resulting in local overexploitation and the need to introduce management measures to restrict or prohibit exploitation and trade. However, sea turtles also get caught as bycatch in many fisheries that take place within their distribution range, i.e. in many coastal areas as well as in the high seas, from temperate to tropical regions of the world oceans. They are caught in bottom trawls, get entangled in line gear and gillnets and are hooked in longlines. As all species of sea turtles are considered endangered by The

World Conservation Union (IUCN), any international trade in sea turtles or sea turtle products is prohibited given that they are included in CITES Appendix I.

It is only recently that the issue of sea turtles conservation and interaction with fishing operations was brought to FAO's attention. It was raised at the 24th Session of the FAO Committee on Fisheries in 2001 and received great attention at its 25th session last year which agreed that "while taking into consideration existing work on sea turtle interactions and conservation, a technical consultation should be held in Bangkok, Thailand in 2004 [....]". FAO has therefore organised this meeting and – as a preparatory step – has also held an expert consultation on *Interactions between sea turtles and fisheries within an ecosystem context*. The report of that expert consultation contains most of the technical background for our present meeting. In the working documents, recommendations are presented for your consideration dealing with priority regions and fisheries to be considered in relation to sea turtles, appropriate management measures that may be implemented and legal and socio-economic aspects. In this connection, the outcome of this consultation will, in no doubt, directly contribute to the implementation of the FAO Code of Conduct for Responsible Fisheries, including the Ecosystem Approach to Fisheries, as well as to achieving the Millennium Development Goal 7 – ensuring environmental sustainability, especially Target 9 – integrate the principles of sustainable development into country policies and programmes and reverse the losses of environmental resources.

I am confident that your professional expertise coupled with diverse backgrounds and a genuine dedication to sustainable fishery management are necessary and sufficient guarantees for high quality consultations and the consequent formulation of comprehensive recommendations which will contribute constructively to progress in addressing the issue of sea turtle conservation and fisheries. These recommendations will be forwarded to the Committee on Fisheries for its consideration at its Twenty-sixth Session in March 2005.

Finally, I should like to thank the governments of Japan and the United States of America for their generous contribution towards the cost of this technical consultation, allowing the FAO secretariat to organize and hold this important meeting as mandated by the 25th session of COFI.

Our gratitude also goes to the government of Thailand for kindly accepting to host this important event.

I wish you all a very successful meeting and pleasant time in the beautiful city of Bangkok.

Thank you.

APPENDIX E

Guidelines to Reduce Sea Turtle Mortality in Fishing Operations*Preamble*

The FAO Code of Conduct for Responsible Fisheries calls for sustainable use of aquatic ecosystems and requires that fishing be conducted with due regard for the environment. Some sea turtle stocks are seriously impacted by fishing and require urgent attention. Because of the critical status of these stocks a broad suite of measures is recommended that includes reduction of fishery-related mortality in addition to other conservation measures.

Because of the concern regarding the status of sea turtles and the possible negative effects of fishing on these populations, the twenty-fifth Session of the FAO Committee on Fisheries (2003) raised the question of sea turtle conservation and interaction with fishing operations and requested that a Technical Consultation be held on the subject matter to consider, *inter alia*, the preparation of guidelines to reduce sea turtle mortality in fishing operations. These guidelines respond to the request of the Committee on Fisheries (COFI) and have been developed on the basis of the report of the Expert Consultation, held in Rome in March 2004.

These guidelines are intended to serve as input to the preparation of FAO Technical Guidelines as well as to offer guidance to the preparation of national or multilateral fisheries management activities and other measures allowing for the conservation and management of sea turtles. These guidelines are voluntary in nature and non-binding. They apply to those marine areas and fisheries where interactions between fishing operations and sea turtles occur or are suspected to occur. They are global in scope but in their implementation national, subregional and regional diversity, including cultural and socio-economic differences, should be taken into account.

These guidelines are directed towards members and non-members of FAO, fishing entities, subregional, regional and global organizations, whether governmental or non-governmental concerned with fisheries management and sustainable use of aquatic ecosystems.

All activities associated with these guidelines should be undertaken with the participation and, where possible, cooperation and engagement of fishing industries, fishing communities and other affected stakeholders.

Implementation of the guidelines should be consistent with the Code of Conduct for Responsible Fisheries as well as with the Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem with regard to ecosystem considerations and based on the use of best available science.

1. Fishing Operations**A. Appropriate handling and release.**

In order to reduce injury and improve chances of survival:

- (i) Requirements for appropriate handling, including resuscitation or prompt release of all bycaught or incidentally caught (hooked or entangled) sea turtles.

- (ii) Retention and use of necessary equipment for appropriate release of bycaught or incidentally caught sea turtles.

B. Coastal trawl

- (i) In coastal shrimp trawl fisheries, promote the use of turtle excluder devices (TEDs) or other measures that are comparable in effectiveness in reducing sea turtle bycatch or incidental catch and mortality.
- (ii) In other coastal trawl fisheries, collect data to identify sea turtle interactions and conduct where needed research on possible measures to reduce sea turtle bycatch or incidental catch and mortality.
- (iii) Implementation of successful methodologies developed as a result of B(ii).

C. Purse seine

- (i) Avoid encirclement of sea turtles to the extent practical.
- (ii) If encircled or entangled, take all possible measures to safely release sea turtles.
- (iii) For fish aggregating devices (FADs) that may entangle sea turtles, take necessary measures to monitor FADs and release entangled sea turtles, and recover these FADs when not in use.
- (iv) Conduct research and development of modified FADs to reduce and eliminate entanglement.
- (v) Implementation of successful methodologies developed as a result of C(iv).

D. Longline

- (i) Development and implementation of appropriate combinations of hook design, type of bait, depth, gear specifications and fishing practices in order to minimize bycatch or incidental catch and mortality of sea turtles.

Recent research has shown positive results for:

- Use of large circle hooks with no greater than a 10 degree offset, combined with whole fish bait. These measures have shown to be effective in reducing sea turtle interactions and mortality;
 - Arrangement of gear configuration and setting so that hooks remain active only at depths beyond the range of sea turtle interaction; and
 - Retrieval of longline gear earlier in the day and reducing soak time of hooks.
- (ii) Research should include consideration of the impact of various mitigation measures on sea turtles, target species and other bycaught or incidentally caught species, such as sharks and seabirds.
 - (iii) Retention and use of necessary equipment for appropriate release of bycaught and incidentally caught sea turtles, including de-hooking, line cutting tools and scoop nets.

E. Other fisheries

- (i) Assessment and monitoring of sea turtle bycatch or incidental catch and mortality in relevant fishing operations.

- (ii) Research and development of necessary measures for reducing bycatch or incidental catch or to control mortality in other fisheries with a priority on reducing bycatch or incidental catch in gillnet fisheries.
- (iii) In other setnet fisheries, collect data to identify sea turtle interactions and conduct when needed research on possible measures to reduce sea turtle bycatch or incidental catch and mortality.
- (iv) Implementation of successful methodologies developed as a result of E (ii) and (iii).

F. Other measures as appropriate for all fishing practices

- (i) Spatial and temporal control of fishing, especially in locations and during periods of high concentration of sea turtles.
- (ii) Effort management control especially if this is required for the conservation and management of target species or group of target species.
- (iii) Development and implementation, to the extent possible, of net retention and recycling schemes to minimize the disposal of fishing gear and marine debris at sea, and to facilitate its retrieval where possible.

2. Research, monitoring and sharing of information

A. Collection of information and data, and research

- (i) Collection of data and information on sea turtle interactions in all fisheries, directly or through relevant RFBs, regional sea turtle arrangements or other mechanisms.
- (ii) Development of observer programmes in the fisheries that may have impacts on sea turtles where such programs are economically and practically feasible. In some cases financial and technical support might be required.
- (iii) Joint research with other states and/or the FAO and relevant RFBs.
- (iv) Research on survival possibilities of released sea turtles and on areas and periods with high incidental catches.
- (v) Research on socio-economic impacts of sea turtle conservation and management measures on fishers and fisheries industries and ways to improve communication.
- (vi) Use of traditional knowledge of fishing communities about sea turtle conservation and management.

B. Information exchange

- (i) Sharing and dissemination of data and research results, directly or through relevant RFBs, regional sea turtle arrangements or other mechanisms.
- (ii) Cooperation to standardize data collection and research methodology, such as fishing gear and effort terminology, database development, estimation of sea turtle interaction rates, and time and area classification.

C. Review of the effectiveness of measures

- (i) Continuous assessment of the effectiveness of measures taken in accordance with these guidelines.
- (ii) Review of the implementation and improvement of measures stipulated above.

3. Ensuring policy consistency

- A. Maintaining consistency in management and conservation policy at national level, among relevant government agencies, including through inter-agency consultations, as well as at regional level.
- B. Maintaining consistency and seeking harmonization of sea turtle management and conservation-related legislation at national, sub-regional and regional level.

4. Education and training

- A. Preparation and distribution of information materials such as brochures, manuals, pamphlets and laminated instruction cards.
- B. Organization of seminars for fishers and fisheries industries on:
 - Nature of the sea turtle-fishery interaction problem
 - Need to take mitigation measures
 - Sea turtles species identification
 - Appropriate handling and treatment of bycaught or incidentally caught sea turtles
 - Equipment to facilitate rapid and safe release
 - Impacts of their operations on sea turtles
 - Degree to which the measures that are requested or required to adopt will contribute to the conservation, management and recovery of sea turtle population.
 - Impacts of mitigation measures on profitability and success of fishing operations
 - Appropriate disposal of used fishing gear
- C. Promotion of awareness of the general public of sea turtle conservation and management issues, by government as well as other organizations

5. Capacity building

- A. Financial and technical support for implementation of these guidelines in developing countries.
- B. Cooperation in research activities such as on status of sea turtle incidental catch in coastal and high seas fisheries and research at foraging, mating and nesting areas.
- C. Establishment of a voluntary support fund.
- D. Facilitation of technology transfer.

6. Socio-economic and cultural considerations

- A. Taking into account :
 - (i) socio-economic aspects in implementing sea turtle conservation and management measures.
 - (ii) cultural aspects of sea turtles interactions in fisheries as well as integration of cultural norms in sea turtle conservation and management efforts.

(iii) sea turtle conservation and management benefits to fishing and coastal communities, with particular reference to small-scale and artisanal fisheries.

B. Promotion of the active participation and, where possible, cooperation and engagement of fishing industries, fishing communities and other affected stakeholders.

C. Giving sufficient importance to participatory research and building upon indigenous and traditional knowledge of fisherfolk.

7. Reporting

Reporting on the progress of implementation of these guidelines as part of Members' biennial reporting to FAO on the Code of Conduct for Responsible Fisheries and, as appropriate, and, voluntarily, to other relevant bodies such as regional sea turtle conservation and management arrangements.

8. Consideration of other aspects of sea turtle conservation and management

Fishers, research institutions, management authorities and other interested parties dealing with fisheries conservation and management should collaborate with relevant conservation and management bodies, at national, sub-regional and regional level, in the following subject matters:

A. Collection and sharing of information on sea turtles relative to:

- (i) Biology and ecology (population dynamics, stock identification, behaviour, diet selection, habitats, breeding, nesting, foraging, migration patterns/areas, nursery grounds, etc).
- (ii) Sources of mortality other than fisheries.
- (iii) Status of sea turtle populations, including human-related threats.

B. Improvement and development of conservation and management measures applied throughout the sea turtle life cycle (habitat/ nesting beach protection, enhancement of sea turtle populations).

C. Promotion, as appropriate, of participation in regional sea turtle conservation and management arrangements with a view to cooperate on sea turtle conservation and management.

**A Technical Consultation on Sea Turtles Conservation and Fisheries was convened by
FAO and held in Bangkok, Thailand, from 29 November to 2 December 2004. The
Consultation was attended by 28 Members of FAO and by observers from
three intergovernmental and four international non-governmental organizations, as
agreed at the Twenty-fifth Session of the Committee on Fisheries (COFI), held in Rome,
Italy, from 24 to 28 February 2003.**

**The Technical Consultation addressed the major issues with regards to sea turtles
conservation and fisheries with special emphasis on: (i) current status of sea turtles
conservation and factors affecting the mortality of sea turtles; (ii) fishing gears and
techniques to reduce sea turtle mortality; (iii) development of guidelines to reduce sea
turtle mortality; (iv) assistance to members from developing countries for the
conservation of sea turtles, and (v) future directions for global work on sea turtles
conservation and fisheries.**

**The Technical Consultation agreed on recommendations for FAO, for Regional
Fishery Bodies (RFBs) and for Member States related to future work on sea turtle
conservation and reduction of sea turtle mortality in fishing operations, to be
submitted to the Twenty-sixth Session of the Committee on Fisheries.**

