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CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

REPORT OF THE MEETING

Introduction

1. A meeting to Identify and Elaborate an Option for International Cooperation on Migratory Sharks under the Convention on Migratory Species (CMS) was held at the Plantation Club, Seychelles from the 11th to 13th December 2007. The meeting was co-organised and co-hosted by the CMS Secretariat, and the Governments of Seychelles, Australia, Germany and the United Kingdom.

Agenda Item 1: Welcoming Remarks

2. Mr. Selby Remie from the Seychelles Department of Environment welcomed all present and outlined the purpose of the meeting. He said that he hoped that the meeting will be a first step in giving the plight of sharks the international recognition that it deserves.

3. Mr. Bernard Sham-Laye, Seychelles Minister for Education, officially opened the meeting on behalf of Mr. Joel Morgan, the Seychelles Minister of Environment, who was attending the United Nations Climate Change Conference being held in Bali, Indonesia. In his opening remarks Mr. Sham-Laye said that the Seychelles regards CMS as one of the most important environmental conventions as it has achieved tangible results over the years, and cited the Indian Ocean - South East Asia (IOSEA) MoU on marine turtles, of which Seychelles is a signatory, as an example. In conclusion he expressed his hope that real commitment is made to have as strong an agreement as possible for the protection of migratory sharks.

4. Mr. Robert Hepworth, Executive Secretary of the CMS Secretariat welcomed all participants on behalf of the Convention and outlined the work of the CMS and the threats that are currently being faced by migratory sharks. He cited new trends showing sharp declines in shark populations and said that there was a case for international and inter-governmental action. Mr. Hepworth informed the meeting that six new agreements were negotiated under CMS in 2007. He also thanked the Species Survival Commission for having prepared the key meeting document: "Background Paper on the Conservation Status of Migratory Sharks and Possible Options for International Cooperation under CMS" (UNEP/CMS/MS/4), and Bangladesh and Yemen for documents they provided on shark conservation activities in those countries.

5. Remarks were invited from the sponsors of the meeting which included the Governments of the United Kingdom, Australia, Germany and the Seychelles. The delegate of the United

Kingdom said that the United Kingdom is pleased to contribute to the negotiations but that it cannot pledge any financial contribution at the moment as the government is still discussing its financial plans for the next three years.

6. The delegate of Australia outlined the strong support that Australia has shown in the protection of migratory sharks and cited the role of Australia at the 7th Conference of the Parties (COP) in nominating the Great White Shark for listing in the appendices of CMS and, at the 8th COP, along with the United Kingdom, in nominating the Basking Shark. Australia stated that it comes to this meeting with an open mind as to whether a legally binding agreement or a non-legally binding instrument is needed.

7. The delegate of Germany was not present at the opening of the meeting. The delegate of the Seychelles welcomed all representing delegations on behalf of the Seychelles government and outlined the history of Seychelles in the CMS and the role that Seychelles played at the 8th COP in calling for the development of an instrument for the conservation of migratory sharks. He said that earlier this year the Seychelles finalised its National Plan of Action (NPOA) for sharks which has been endorsed by the Cabinet of Ministers and is pending implementation.

Agenda Item 2: Meeting Overview

8. The Executive Secretary of the CMS gave an overview of CMS and the shark meeting. He said that the meeting should consider an appropriate instrument for the conservation of migratory sharks and made reference to Recommendation 8.16 adopted by the Conference of the Paties (COP) of CMS at it`s eight meeting in 2005 which called for the development of a global migratory shark instrument in accordance with Articles III and V of the Convention. He also referred to Resolution 8.5 adopted at the same meeting which endorses the development of the instrument. He noted that there are several conservation instruments already in place such as the *International Plan of Action (IPOA)* for the conservation and management of sharks, established under the Food and Agriculture Organization of the United Nations (FAO) and that the FAO and Regional fisheries Management Organizations (RFMOs) are critical for shark management by virtue of their authority to influence fisheries development. Mr. Hepworth said that there are also many other bodies that are relevant to migratory shark conservation with special mention of CBD, CITES, UNCLOS, and various Regional Seas Agreements. On defending the need for having a CMS instrument for the protection of migratory sharks, Mr. Hepworth said that conservation of these species depends on a coordinated effort and further discussed the good track record of CMS in developing international agreements. It was noted that the instrument should be developed in cooperation with the fisheries sector to maximise synergies. Mr. Hepworth described the different conservation instruments that could be developed under CMS which included: (1) concerted action for species on CMS Appendix 2; (2) Type II partnerships; (3) Legally binding agreements; (4) Non-legally binding instruments; and (5) Action Plans, and said that CMS is very flexible in this regard. He emphasized that all of these tools can be either regional or global and that at the moment most agreements under CMS are regional, with some being very large in scope.

9. The Executive Secretary of CMS also provided an overview of the CMS Scientific Council, noting that the Convention prides itself on being science based. The role of the Scientific Council was described as ensuring that listings of migratory species in the CMS are soundly based in science. Species listings proposed to a CMS COP are normally accepted by consensus. Research, data collection and the need to increase public awareness are among the key actions required to address threats to migratory sharks. In conclusion he stated that concrete coordinated action is essential, that actions in one part of the sharks range should not be undermined by

actions in another part, that fisheries regulations are critical to shark conservation, that any "instrument" under CMS must add value to existing efforts, and that what CMS can accomplish is determined by its priorities and resources.

Agenda Item 3: Election of Officers

10. The meeting elected Dr. Rolph Payet from the Seychelles as Chair and Ms. Amanda Lawrence of Australia as Vice-Chair.

Setting up of Meeting Bureau, Credentials Committee and Working Groups

11. The Chair proposed the setting up of a Meeting Bureau and a Credentials Committee. The Bureau comprised the Chairman from Seychelles, Vice-Chairman from Australia and four members from Costa Rica, Belgium, Nigeria and Philippines. IUCN also formed part of the Bureau as an observer and acted as the rapporteur.

12. The Credentials Committee consisted of the CMS Secretariat, Chile, France and New Zealand acting as representatives from the different language groups.

13. The Chair proposed the setting up of two working groups to deal with specific issues regarding the institutional framework and the scope of the proposed instrument.

Agenda Item 4: Adoption of Agenda and Meeting Schedule

14. The agenda (UNEP/CMS/MS/1/Rev.1) was adopted with the modifications proposed by the CMS Secretariat, to adopt the agenda and meeting schedule before the election of officers, and is provided as **Annex 1** to this report.

15. The Secretariat introduced the meeting documents list (UNEP/CMS/MS/3/Rev.4). The final list of meeting documents is provided as **Annex 2** to this report.

16. The CMS Executive Secretary said that the meeting did not need to accept and use formal, rules of procedure however if delegates want formal rules they could can use the CMS rules of procedure which are normally used for COP meetings. Proposed informal Rules of Procedure were read out by the CMS Secretariat (**Annex 3**).

17. They did not meet with any objection.

18. The CMS Executive Secretary added that the views of both Parties and non-Parties will be treated equally at the meeting.

Agenda Item 5: Conservation Status of sharks defined as migratory under CMS

19. The key presentation on shark conservation status was made by Dr. Sarah Fowler from the IUCN Species Survival Commission. She informed the meeting that her group has completed the global assessment for all oceanic migratory shark species, which was accomplished through a series of regional workshops. She said that both intrinsic and extrinsic factors were taken into consideration during the assessment. Dr. Fowler elaborated the importance of both CMS and CITES in shark conservation due to the threat posed by trade in the various species. The assessment revealed that nearly half of the migratory species assessed are threatened whereas one-

fourth are near threatened. The report also noted a higher extinction rate of migratory species when compared to non-migratory species.

20. The Chairman invited Range States to make short interventions.

21. The delegate of Bangladesh reported that shark fishery was newly introduced to Bangladesh and accounted for 0.8% of total fish landings. It was noted that sharks are caught for meat, skin and liver oil and are mostly exported. It was stated that it was a matter of urgency that harvest is regulated.

22. The delegate of Chile reported that Chile has completed its NPOA for sharks and is now in the stage of implementation.

23. The delegate of Costa Rica reported that Costa Rica has already taken action on banning shark finning in 2001 and has required that sharks should be landed with fins attached as of 2005. He said that Costa Rica is pushing for a global ban on shark finning.

24. The delegate of Australia reported that Australia places considerable importance on the conservation of migratory shark species. She said that at this meeting we should consider shark species that are already listed by CMS and that new species to be added should undergo extensive scientific scrutiny.

25. The delegate of the United States noted that while the United States is not a party to CMS, it is Signatory to some of its instruments such as the IOSEA turtle agreement. He further stated that the situation regarding sharks is not very good and cited a proposed UN General Assembly resolution which emphasizes that more is needed to be done for sharks. He also reflected on the added value that CMS can bring to shark conservation and made specific mention of a potential role for CMS in assisting with data collection, carrying out stock assessments, and as a vehicle to help developing countries with capacity building and developing standards for eco-tourism.

26. The delegate of India said that 80 species of elasmobranches have been added to the Environmental Protection Act and that the Government of India is eager to take action on shark conservation.

27. The delegate of Norway said that CMS Parties should comply with CMS decisions. He said that Norway is implementing a national ban on shark finning and that it is very supportive of this CMS initiative.

28. The delegate of New Zealand said that New Zealand is open to any type of arrangement that may come out of this meeting and that the focus should be on species already listed, with a view to expending the species list at a later date.

29. Observers were invited by the Chair to make their contributions.

30. The delegate of Eco-ocean noted that there is a lot of illegal, unreported and unregulated (IUU) fishing for whale sharks taking place and that a lot of whale sharks are also being legally fished. He said that Eco-ocean is involved in developing a standardised whale shark data collection protocol which could hopefully identify and protect critical habitats.

31. The representative of Shark Alliance and the Ocean Conservancy emphasized that even when the mandate is clear RFMOs may lack political will to act, that species not listed under CMS are unprotected in most Exclusive Economic Zones and in all international waters, that CMS is well poised to lead on shark conservation, and that a first step should be to develop a binding agreement.

32. The CMS Ambassador asked whether the proposed CMS instrument would be limited to the three species listed in the CMS Appendices or cover the wider context of migratory sharks in general, and requested the CMS legal officer to advise the meeting whether CMS can make agreements on species that are not listed in the CMS appendices. The Secretariat agreed to provide clarification for participants. The Chair noted that Article IV, paragraph 4 of the CMS encouraged Parties to take action with a view to concluding agreements for any population of wild animals, but that he would like to leave the conservation and practicality considerations for the meeting to decide.

33. The CMS Executive Secretary made reference to a letter from the Director General of FAO apologising for the absence of FAO at this meeting and expressed the CMS Secretariat's disappointment. The letter said that FAO considers the theme of the meeting highly relevant to FAO's own efforts on the conservation of sharks. Though not present FAO said that it wanted to make a contribution and therefore had requested its staff to produce a document (**Annex 4**) to this report) on its programs and activities on the conservation of sharks to be circulated at the meeting.

34. Seychelles said that it is the responsibility of the Parties to respect the CMS COP recommendation 8.16. Seychelles preferred a legally binding agreement. It recognises the opportunity to include other species in the CMS appendices but that this should not hinder progress with regards to species which are already listed.

35. Nigeria said that it belongs to two regional sub-associations that are both concerned with the conservation of marine ecosystems. It was pointed out that most commercial fishing is done by foreigners and that Nigeria has no capacity for this type of fishing and for enforcement of regulations. It stated that it needs more capacity for the enforcement of the existing rules for the conservation of sharks.

36. Yemen said that it has 2,500 km of coast and 150 islands in the Arabian and Red Sea and that include areas where there are feeding and nursery grounds for marine fishes, and that it has an abundance of pelagic fishes and high fisheries productivity with a potential annual fishery 2,400 metric tonnes. Yemen noted that sharks are targeted through traditional fishing, that there is increasing fishing pressure and that it needs scientific advice and a strategy for sustainability in fishing.

37. Netherlands said it is participating in this meeting to bring new life into global efforts for shark conservation. It said that the CMS option should really add value to existing instruments and that CMS can play a role in generating political will and public awareness with respect to shark conservation. Netherlands suggested that analysis of the reasons why current shark conservation efforts are not satisfactory is needed.

38. Argentina said that it is working on the implementation of its NPOA for sharks and that it is aware that there are still much to be done. It pointed out that only a few countries have implemented their NPOAs and that capacity building is needed for countries that are still behind.

Argentina said that it has signed an MoU with CMS on the conservation of Grassland Birds and that the proposed instrument should facilitate shark conservation.

39. Indonesia said that its Government is putting a lot of effort into fisheries management and is giving special attention to the shark fishery. It expects that its NPOA for sharks will be completed soon. It also noted the problems that it has with regard to taxonomic identification of species, lack of historical and biological data on life history and a lack of capacity in research and management. It pointed out that several conservation and management programmes have been undertaken recently. Indonesia also said that sharks and rays were targeted species and that therefore it is important to conduct research on the socio-economic aspects. It said that it hopes that the meeting will be constructive and establishes strong linkages and partnerships.

Agenda Item 6: Existing International, Regional and other Initiatives to Improve the Conservation Status of Migratory Sharks, including lessons learned

40. The meeting was informed by the CMS Secretariat that there are instruments that have been in place since 1982 for the protection of sharks. Some of the main instruments are the FAO Code of Conduct for Responsible Fisheries and a series of resolutions and decisions under CMS and CITES, e.g. on white sharks (2002) and basking sharks (2005). It was also pointed out that CMS has the potential to generate political will for the protection of migratory sharks. The Secretariat referred to the Strengths, Weaknesses, Threats and Opportunities (SWOT) analysis that had been carried out the results of which are given in Document UNEP/CMS/MS/4 (**Annex 5).**

Agenda Item 7: Options for International Cooperation under CMS

41. Referring to the SWOT analysis of possible instruments under CMS, more detail was provided by the CMS Secretariat on the different types of agreement that could be reached. The first option was a partnership agreement as envisioned in the World Summit on Sustainable Development (WSSD) outcome. The second option was a stand-alone Action Plan which is the least costly option; however its disadvantage is that it is not legally binding. The third option was an Memorandum of Understanding (MoU). This is the commonest methodology chosen by parties, for example for the dugong, monk seal, and South American grassland birds. The disadvantage of the MoU is that it is soft law, not legally binding, and parties need to seek independent financing. It was pointed out that delegates needed to be mindful of the cost of the arrangements proposed and that cost will also depend on the institutional infrastructure established. The role of the Secretariat can be at the top of the pyramid providing an umbrella under the auspices of the United Nations. A fourth option of having a legally binding agreement was also outlined.

42. The UK representative said that he did not think that this is a straightforward decision for this meeting. He said that there is a great difficulty in producing an agreement that will add value to existing efforts, and that it is clear that any agreement without a means to involve RFMOs will be doomed to failure. He said that in terms of EU politics any agreement on sharks will require implementation through fisheries. For that reason he said that it is better to work towards a partnership agreement as it will help gather the political will and offers a viable way forward with potential for a wide range of partners.

43. The Australian representative said that it was supportive of the MoU or the legally binding agreement as they have the greatest capacity to ensure the conservation of the species currently listed under CMS. The partnership agreement and the Action Plan options were not supported as

Australia believes that they are not two legitimate options under the current CMS mandate. Efforts around an Action Plan should be targeted to add value to what has already been done. These views were also supported by the Seychelles. India voiced support for a non-binding MoU.

44. The European Commission (EC) and France supported the position of the UK. It was stated that the EC and France do not want an instrument that is constraining. The meeting was informed of a consultation document on an EU Action Plan on the conservation and management of sharks inside and outside community waters. The EC noted that on 28 November 2007 the EC proposed a ban on fishing basking sharks by European vessels in European and international waters.

45. Norway said that any decision that is reached will need to include engaging the RFMOs, noting that they are operational in the North Atlantic. Control and enforcement measures must be an integral part of any instrument developed, and Norway would support a non-legally binding instrument that does engage RFMOs.

46. The USA agreed the need to engage RFMOs, and suggested that some basic questions need to be answered, e.g. will the instrument be global or regional initially, the financial and logistical aspects, and what elements to include as CMS is not to become a fisheries management body. The USA said that a CMS instrument can be used to help the RFMOs and hence add value, for example in data collection and sharing, capacity building, assessments of sharks, and enforcement of rules already in place such as the finning bans which are weakly enforced due to lack of resources. The USA was of the opinion that the instrument must be a bridge to other organizations such as CBD, CITES and FAO. It was also stated that there is an International Plan of Action and that there is no need for a CMS stand alone Action Plan. The idea of identifying what needs to be achieved through a CMS instrument as brought forward by USA was supported by New Zealand and Nigeria. New Zealand noted that RFMOs are discussing means to improve performance including introducing performance review. Nigeria supported a non-legally binding instrument initially with the possibility of a legally binding one at a later date.

47. The Gambia, Chile and Kenya all supported a non-legally binding instrument. Chile noted that MoUs work in the areas of improving cooperation and information exchange. Kenya noted the importance of including all stakeholders and countries, defining conservation targets, and increasing political influence by going beyond an Action Plan only. Kenya suggested a legally binding instrument is time consuming to develop and species may be lost in the interim.

48. The Seychelles defended its support for a legally binding instrument saying that there are some informal actions with regards to shark fishery but that most are not working because the agreements are not legally binding. Seychelles felt that a formal agreement is needed to achieve tangible outcomes.

49. The International Union for Conservation of nature (IUCN) said that the decisions of both RFMOs and CMS are implemented by governments, that all useful actions are implemented by governments, and that there therefore is a need to do a better job of linking government deliberations. Similarly for CMS and CBD. There is a need to improve the conservation of sharks by the Parties and these needs to be implemented by the Parties. IUCN was of the view that shark conservation will not benefit from a voluntary agreement due to its slow progress, that a binding agreement will make a difference in the water.

50. The International Commission for the Conservation of Atlantic Tunas (ICCAT) believes that developing another Action Plan will not change the shark conservation situation, what is needed is an option that increases political will, such as an MoU that will put sharks on top of the agenda. ICCAT noted that delegates should consider the progress made under ICCAT.

51. Australia said it appreciates the virtues of both legally and non-legally binding agreements, that political will must be increased, and that the issue of the nature of the agreement should be brought forward to the next meeting.

52. Dr. Ramon Bonfil, an independent sharks expert from USA, stated that governments need to decide the species and scope for the agreement, but he would not favour a non-legally binding agreement.

53. The UK offered that it could support an agreement other than a partnership if RFMOs are engaged, but suggested that developing a legally binding agreement could be time consuming.

54. IUCN suggested that an MoU as a short term measure was acceptable with development of a legally binding instrument in parallel. The CMS Ambassador pointed out that for whale and basking sharks already listed on CMS Appendix 1, there is a prohibition in Article III.5 on taking these species which is legally binding.

55. The CMS Secretariat thanked participants for the constructive debate, and said that there is consensus building that more needs to be done quickly for the conservation of certain species of sharks. He noted the growing support for an MoU, pointing out that an MoU has some legal status, is morally binding at a minimum, and that governments generally try to meet their obligations under an MoU. He suggested that it is not clear that a legally binding instrument always produces a better result. We need to look at which level this should be, either global or regional or a combination of the two.

56. The Netherlands reiterated the importance of engaging RFMOs and suggested that determining how to do this might lead to answers to many of the other questions raised by delegates. The Chair noted this applies to CITES as well. Netherlands requested, and it was agreed, that the Secretariat would obtain a legal opinion on involving RFMOs in the proposed CMS instrument.

57. The Chair then announced the creation of two working groups, Working Group 1 (WG1) to address institutional issues, and Working Group 2 (WG2) to consider the scope of the proposed instrument. Each group was given three issues to explore in depth, WG1 issues were the links to other organizations, e.g. RFMOs and CITES, value added and timeframes. WG2 issues were the geographic, species and legal scope of the instrument. WG1 was chaired by the UK, with Costa Rica acting as rapporteur. WG2 was chaired by Kenya, with Seychelles acting as rapporteur. These issues had originated from the earlier brain storming exercise in plenary that day. The working groups were asked to be open and to discuss issues freely. The meeting Chair said that the ultimate aim of the meeting is to have as strong an agreement as possible to protect migratory sharks and asked the WG Chairs to be flexible in the discussions to allow for free exchange and exploration of issues and options. The working groups were to report to plenary at the end of the day. The reports of Working Group 1 and 2 to plenary are provided in **Annex 6** and **Annex 7** respectively.

58. In discussions on the report of Working Group 1 , it was reiterated that the involvement of the RFMOs in the instrument is necessary as their non-involvement will restrict the effectiveness of the instrument that is finally adopted. Further discussion on RFMOs led to a request from Netherlands that the CMS Secretariat investigate how RFMOs could be involved, recognizing that Secretariats cannot make binding commitments on behalf of their memberships, and agreement that the CMS Secretariat would invite RFMOs to enter into a working relationship. South Africa concurred with the need to seek agreement with RFMOs. The US called for consideration of means of engagement with other bodies, e.g. CBD, as well. Argentina noted the limitations created by RFMOs current competence. The Chair of WG1 reflected that RFMOs may wish to expand their area of competence, adding that the CMS Secretariat may wish to bring the current discussions to the attention of RFMOs and make RFMOs reaction available to the meeting participants, but emphasized that the work to develop a CMS instrument should not be held up pending reaction from RFMOs.

59. Netherlands cited information in document UNEP/CMS/MS/4 suggesting why current shark conservation initiatives have not been satisfactorily implemented – e.g. lack of time and resources, low level of interest and that these are areas where CMS could add value. The Chair of WG1 reflected on the extent to which CMS could influence political will. Ocean Conservancy/Shark Alliance noted that some RFMOs do not see sharks as part of their remit, and that RFMOs should be queried as to how they view sharks, what priority is placed on shark conservation, and whether and when they plan to change their mandate. The Chair of WG1 suggested a less open question about target and by-catch issues within RFMOs respective territories. The representative of Ocean Conservancy/Shark Alliance suggested that if RFMOs were to look at these aspects they might later be criticized by their Parties if sharks are not their remit. The US noted that habitat and ecotourism are not being addressed within RFMOs and are areas where a CMS instrument could add value, with the Chair of WG1 suggesting that improving habitat is not easily achieved especially away from shorelines. South Africa and Netherlands suggested including data analysis as a value-added area. The Chair of WG1 cautioned that this meeting should not give the impression that research should precede concluding an agreement, but rather that the agreement should cover research needs. Seychelles cited the value of obtaining by-catch data from RFMOs since the latter do not necessarily analyze this data, with the Chair noting that this data is not collected by all RFMOs. Ocean Conservancy/Shark Alliance suggested that research is needed on habitat preferences and use, where tagging programs play a role. South Africa proposed that a scientific committee would be needed under a CMS instrument to engage in exchange of information, but not to develop a research program. The Chair of WG1 then turned to timeframe issues, questioning what would be a reasonable time to have an instrument ready for approval, suggesting 3 to 6 months. The meeting Chair suggested the main elements of the instrument need to be worked out before the nature of the agreement is decided.

60. The Chair closed the first day of deliberations by stressing that there is a constituency that wishes to see this meeting make substantial progress on shark conservation and management and to be seen to be making progress. Delegates later enjoyed an evening reception and banquet hosted by the Save Our Seas Foundation.

61. **Day 2 of the meeting** was opened by the Chair in plenary by reiterating his charge to the Working Groups, and addressed the mandate of the meeting with regard to shark species. The Bureau meeting had concluded that the mandate of the meeting was to discuss the three species listed in the CMS appendices and that it has no mandate to discuss new species. The likelihood that certain countries will be proposing new species for listing under CMS was noted.

62. The Secretariat informed the meeting that there is a plan to circulate a Questionnaire (**Annex 8**) to get delegates views with regards to the proposed instrument. The aim was to get an indication of the various perspectives on the main issues of concern.

63. The representative from Australia said that they have just received instructions from headquarters and would like to make an addition to their opening statement for inclusion in the meeting record.

64. The Chairman of the Indian Ocean Tuna Commission (IOTC), Mr. Rolph Payet of Seychelles, asked members of IOTC present at this meeting to comment on the role of IOTC with regard to the protection of migratory shark species. He said that IOTC has been mandated by its members to ensure that sharks are protected and that IOTC does not see any problem with the CMS initiative. He went on to read resolution 0.5 05/05 paragraph 7 of the IOTC regarding release of incidental catch of sharks. He stated that there is willingness by IOTC and its members to protect sharks and that IOTC gives its full support to the deliberations of the meeting.

65. In discussions of the report of Working Group 2, the Chair of WG2 sought guidance on limiting the scope to the 3 species listed in CMS Appendices versus including the 3 species and a mechanism to add other species. The meeting Chair advised WG2 to consider the latter keeping in mind that no decision is to be taken at this time.

66. The relevance of the three species to RFMO engagement was questioned by the Netherlands, which commented that the it does not believe that the three species or wider coverage is irrelevant for RFMOs and FAO and that it feels that there should be consultation with the RFMOs and FAO as otherwise these issues may come back to haunt us.

67. The Shark Alliance/Ocean Conservancy representative advised that copies of the European Commission's consultation document on the EU Action Plan on the conservation and management of sharks inside and outside community waters were available for review. Copies were distributed at the meeting.

68. The Chair said that the Bureau Meeting proposed that regional groups meet to discuss their positions, as this would allow the meeting to get an idea of the global concerns. Meetings in small groups might be more fruitful. The Chairs of the regional meetings should present to Plenary what was discussed in their groups. The Secretariat asked the five members of the Bureau to act as convenors of the regional meetings - Australia for Oceania, Costa Rica for the Americas, Belgium for Europe, and Thailand for Asia and Nigeria for Africa.

69. Guidance was provided as to what was required of the regional meetings, in particular they should discuss if there are any regional issues to be considered in the instrument to be developed, identify gaps in terms of management and research, the needs of the countries to have regional agreements for migratory sharks, and opportunities and value added issues for migratory sharks.

70. Delegates again turned their attention to RFMOs, and resumed discussions from day 1 on linkages with and engagement of RFMOs, FAO and other organisations. Norway said that the purpose of the discussion was to decide how to engage the RFMOs, whether that should be done formally, and at what stage of the process they should be engaged. It was asked whether they should be presented with a finish product or should they be involved with the elaboration of the product. Should they be engaged through a memorandum of cooperation between the secretariats,

and can the secretariats do this on their own? There was wide agreement that the RFMOs must be involved, that some will be involved from the start and some at a later stage.

71. The Chair said that he was informed that there was a meeting of RFMOs coming up in January 2008 and asked if anyone was aware of that meeting. Norway indicated it was not aware of such a meeting. Columbia said that it is important to coordinate the work done with the RFMOs to ensure that there are no overlaps since many countries already belong to RFMOs.

72. Seychelles said that it had information that there was a joint meeting of the five tuna RFMOs in January 2007 but that no date has been set as yet for 2008. The Chair said that he felt that this is important as it gives the CMS an opportunity to interact with this group of RFMOs in a much more coordinated way. ICCAT confirmed that the information that was tabled by Seychelles is completely accurate and that the 2007 meeting was actually held. He confirmed that indeed there will be another joint tuna RFMOs meeting but that a date is yet to be set.

73. The Chair asked ICCAT what its views were with regard to the interaction between CMS and the RFMOs at a joint meeting. ICCAT said that it is very important that the RFMOs are involved in the CMS process from the beginning and that they do agree that the joint meeting of the tuna RFMOs will be a good opportunity for CMS to present whatever proposals come out of this meeting.

74. The Chair asked about the structure of the meeting. ICCAT responded that each RFMO has its own convention, own membership and own mandates, but that the joint RFMO meeting does not have any mandate to make decisions that could be imposed on RFMOs. He said that these meetings are more coordination rather than decision making meetings. Some decisions are important, for example those relating to the RFMOs' performance review. He said that some guidelines for the review have been set. ICCAT is beginning a review of its performance early next year and that was the basis of the joint RFMOs meeting held in January 2007.

75. Columbia said that the RFMOs cannot agree what they are going to do about the main resource that they are managing, which is tuna, having a need for an extraordinary meeting next year. If these RFMOs cannot agree on this, he does not understand how they are going to deal with issues such as by-catch and incidental catch of sharks and turtles.

76. Costa Rica supported Columbia's comments and made reference to Sarah Fowler's presentation where she expressed her frustration regarding RFMOs. He said that he has been working with sea turtles conservation for many years and it is difficult to get action through RFMOs.

77. Norway said that FAO has a normative function and sets rules, but has no power of enforcement. They already have the IPOA sharks which is excellent and requires that each State follows up. FAO has to be on board but more in an advisory capacity, but actions need to be taken by Governments. He suggested that it will be easy to engage Governments in smaller fora like RFMOs where they are directly concerned with fisheries than through the FOA Committee on Fisheries (FAO/COFI).

78. The Chair asked if CMS was involved in the production of the FAO-IPOA for sharks. CMS responded that it was not involved, but said that it is important to see how that relationship can grow, that it is in the interest of CMS or any other instrument developed.

79. Morocco said that there is one way to have cooperation between CMS and FAO and cited one initiative between CITES and FAO where there was an MoU signed last year which gave a mandate to FAO to make expertise available on all aquatic species listed on the annex of CITES. He said that there is a possibility to have a similar MoU between CMS and FAO.

80. IOTC proposed that one way to further cooperation is to have the Executive Secretary of CMS to write to the RFMOs over the next couple of months to ask them to put the issues raised at this meeting on their agenda for deliberation at their next meeting. An IOTC meeting is planned for May or June 2008. There is next week a South West Indian Ocean Fisheries Commission (SWIOFC) meeting that will look at coastal issues and this will be attended by an FAO representative who could be consulted regarding discussion of the issues raised at this meeting.

81. Columbia said that the relationship between CMS and the RFMOs should also be assessed in terms of the fishing methods that are being used in which the major by-catch is shark. At the last Inter-American Tropical Tuna Commission (ATTC) meeting, one of the points of discussion was the use of aggregating devices in which many sharks were being caught. In that sense maybe the discussion should address which fishing method is most damaging for sharks.

82. New Zealand commented on how CMS is adding value to the existing instruments. He said that it is evident that CMS could reinforce the political will to act on shark conservation issues. Listing the three species on the CMS Appendices has had the effect of forcing a consistent approach to the management of those species within New Zealand. He believed this is how a CMS instrument could add value and weight by putting some moral pressure on parties to make sure that their delegates in RFMOs have consistent views on conservation of sharks.

83. UK summarised the discussions on WG1`s work and said that the points brought out include to engage the RFMOs with a letter; to look at anything that can be done for habitat preservation and to look at secondary threats mentioned in SSC paper (document UNEP/CMS/MS/4). On data collection and monitoring, UK said that it was agreed that the RFMOs will be engaged to increase data collection. It was agreed that there should be cooperation in data sharing, greater access to data between Range States, and standardised data collection for better understating of the situation on a regional and global scale. South Africa brought out the point that some form of a scientific committee should be tied to the instrument developed to ensure the use of data collected by the RFMOs.

84. Seychelles reiterated that there has already been agreement with IOTC for the sharing of data with respect to shark and cetaceans, statistics that are being captured in their log book as a result of their observer system. But this has to be done within each RFMO by discussion with parties concerned because this data is sensitive data that has been paid for by different organisations and so there are constraints in accessing it. In the experience of Seychelles their seem to be a willingness to go forward provided that it can be shown that there is a good and valid reason behind these approaches. Seychelles added that it had amended the log book to include collection of data on shark. This has now been adopted by IOTC at the last Scientific Committee meeting which took place in November this year. There is now a standard log book for the long line fishery with the requirement to submit data on sharks.

85. IOTC confirmed the information that was provided by Seychelles and said that IOTC is aware that there is a wealth of shark information collected in log book in fisheries but the problem is that fisheries scientist are concerned about fisheries issues and that sharks data are put aside and not analysed. This is a deficiency with a lot of RFMOs dealing with fisheries. While there is a lot

of ancillary data collected these are not properly compiled and analysed. Maybe that is something that CMS could take up with the RFMOs and ask them to compile shark data that they have and ask someone to analyse it to determine the trends, the species being caught and the species being observed as well. IOTC realised that it is substantial work but believe that the CMS can take the initiative in that direction and assist some of the RFMOs in strengthening their shark policies and resolutions that they have passed.

86. The Chair requested additional clarification on the form of agreement within IOTC. Seychelles stated that as a party of IOTC it has to submit data as per the requirement of IOTC after a certain period of time. As part of the reporting mechanism, IOTC is adopting an ecosystem approach to the by-catch issue. This request was formally put forward by Seychelles for the cetaceans and pelagic whale shark data which was positively received by the Scientific Committee and then recommended onwards.

87. Eco-ocean said that it is important to raise awareness amongst the fishermen and data collectors to ensure that data collected is robust and worthwhile which could encourage greater education of the data collectors of its importance and use at the local, regional and global scales.

88. Sri Lanka said that they are a member of IOTC but only report on shark data related to the tuna fishery as by catch. She said that she is aware of many countries which have small scale fishery targeted for sharks but which are not reported anywhere. The coastal developing countries have a lot of problem in species identification and data collection and said that there is a need to get some support to improve data collection system especially concerning shark data.

89. ICCAT informed the meeting that the collection of shark data in ICCAT is mandatory and that the commission has several recommendations which do not only establish that obligation but reiterate the need for parties to provide shark data. On the basis of the data that has been provided the first stock assessments of Blue and Mako sharks were done in 2004. In 2005 the Standing Committee on Research and Statistics of ICCAT created a specific group to deal with elasmobranches as species and held a preparatory meeting for a second stock assessment planned for next year. The collection of data for scientific purpose and stock assessment is very clear in the ICCAT Convention. Another important aspect is to work on education of fishermen. One of the challenges that ICCAT has is to have an accurate identification of species. One of the initiatives that ICCAT is starting is to prepare educational materials to be distributed among fishermen so as to have more accurate identification of the shark species being caught by the fishing vessels operating in the convention area. The Chair asked whether there were any trade data issues which should also be looked at.

90. Costa Rica said that RFMOs should be queried on how they view their shark priorities. There are many resolutions about sharks calling on shark finning bans and collection of information but what is the priority. Will shark ever become a priority and are the RFMOs willing to change their mandate so that in the near future shark will be considered as a priority? The example used is that the IATTC in June 2005 issued a resolution banning shark fining, however in a recent meeting in Cancun the Scientific Committee of the IATTC acknowledged that at least 15,000 sharks are being finned in the eastern Pacific Ocean by IATTC boats, that this is a violation of the resolution and asked what they are going to do about this situation? As long as it is not a priority there is going to be large amounts of data but nothing will trickle down to any actions if they do not acknowledge it as a priority. How can we make sure that under their mandate it becomes a higher priority to look at sharks and not just collect data?

91. Eco-ocean said that they are particularly concerned about Whale Sharks and data collection on catches and trade data for that species. Whale sharks are protected under CITES and subject to regulations when traded between international boundaries. It is not so clear domestically the number of sharks that are taken in certain countries. Eco-ocean believes that to gain greater understanding of global numbers and change in numbers it is extremely important to get trade and catch data from these different countries, which is not as freely available as one would hope. Maybe there could be a recommendation from CMS to strengthen collection and release of data to be used to get better understanding of these species globally.

92. New Zealand said that some countries that have important whale shark habitat and fisheries have excluded their archipelagic areas from RFMOs so in terms of data collection unless archipelagic waters of these countries are included in some form of reporting requirement there will be a gap in the most important part of the fishery.

93. IOTC commented on the mandate of tuna RFMOs and said that the commissions are made up of individual members. He said that it is they that have to make representations at the commissions' meetings regarding the initiatives of CMS on sharks. It was said that IOTC will be going through a review process starting in February 2008 where they will be reviewed in terms of their management, conservation, data collection, scientific research, etc. to see if it is performing according to its mandate. There was a meeting held in Japan earlier this year where all of the tuna RFMOs met to come up with a common goal. There will be another such meeting around February 2009. There is also a meeting of RFMO chairs which will be held at the end of January 2008. It is proposed that the CMS Executive Secretary writes to the RFMOs to see how some of the shark issues can be raised so that they may be taken seriously by the commissions. Member countries need to raise the awareness about sharks within the RFMOs. IOTC thinks that the members need to come together to ensure that the fisheries are controlled.

94. The Chair said that we should look at a CMS instrument that narrows the gap between conservation and the management of the resources to ensure better management of species.

95. The Chair asked how long it will take to conclude an MoU. Australia wanted to make it known that they are not willing to commit to anything at this meeting which was also the view point of many countries. There were also discussions as to how long and at what time we should engage the RFMOs to ensure their involvement.

96. It was agreed that there should be two types of MoUs one between FAO and CMS for cooperation and the other one for the parties of CMS on how to protect sharks.

97. Seychelles reiterated that it can accept the option of looking at a MoU but that this option should be rapidly concluded. The country felt that this meeting had taken so long to organise and with so much funding that unless we come up with something positive at this meeting, the whole issue of shark conservation will not move forward. Seychelles wanted the outcome of the meeting to be more than an agreement on the organisation of another meeting.

98. Eco-ocean supported Seychelles comments and said that if nothing comes out of this meeting it will loose its strength in the future and the interest of parties to engage in a future meeting. New Zealand considered that a strong output from this meeting was needed to maintain interest in developing the CMS instrument.

99. Norway said that one problem is that there was no meeting document outlining a proposed instrument, therefore it is difficult to reach agreement on what needs to be done and by whom to improve shark conservation. A concrete statement of what this meeting wants in an instrument in terms of element and form would be a great step in the right direction and is as far as we can go at this meeting. This meeting should agree a package that can be presented at the next CMS COP in 2008, a full package with a plan of action and various elements including whom to engage and the views of the different RFMOs on what their contributions could be. Eco-Ocean suggested the meeting develop half a dozen bullet points and have agreement on them before the end of the meeting. Further to the statement by Norway, the Netherlands subsequently provided the CMS Secretariat with some suggestions for FAO and RFMO engagement. Time constraints did not allow for discussion and endorsement of the Netherlands contribution in the plenary, and it is therefore annexed (**Annex 9**) to the meeting report as an information item only.

100. Chile said that there is a need to settle what we want to achieve at this meeting, noted that a list of elements to include in an instrument is needed, and suggested that the meeting almost had agreement to develop an MoU so why don't we continue to work toward that.

101. The representative of Norway provided what he believes was the elements for the package, including data collection, harmful fishing methods, catch limitation schemes, and enforcement and control. There is a need to address who should be engaged on the different issues, describing the role of each of the different actors and how we can wrap these elements up in an instrument.

102. The Chair then called for the formation of two new Working Groups, with the broad objective of outlining the main elements for a global agreement. Working Group 3 (WG3), to be chaired by South Africa, was tasked with proposing the objective, scope, structure and broad articles of an agreement. Working Group 4 (WG4), to be chaired by Seychelles, was asked to consider mechanisms for engagement, the institutional structure, and priority issues. The Working Groups were to report to plenary the next day, the final day of the meeting.

103. The chair, at the conclusion of the second day of the meeting, also called for the production of two formal Conference Statements (CS), one on the purpose and process of the meeting, sections of which were to be drafted by IUCN, Australia, Norway and Belgium, and another on the outcome of the meeting as agreed by the participants, which was to be drafted by the Secretariat. These statements are given in **Annex 10 and Annex 11**, designated UNEP/CMS/MS/CS.1 and UNEP/CMS/MS/CS.2 respectively.

Agenda Item 8: Elaboration of an Option

104. The final day of the meeting opened with the presentation by the CMS Secretariat on the results of the questionnaire, which was answered by at least half of the participants. A copy of the questionnaire is Annex 8 to this report.

105. The CMS Secretariat reported that 21 completed questionnaires were received from governmental representatives and 8 from non-governmental representatives. Question 1 was about what form the CMS instrument should take. It was found that among the government representative 17 wanted a non-binding instrument. Some representative wanted to begin with a non-binding instrument and then move on to develop a binding instrument. The majority of the non-governmental representatives favoured a binding instrument. On species coverage, 15 of the 21 government respondents supported the option of initially covering the three listed species but

having the list expandable later on. For the non-governmental representatives there was a split between listing only 3 species and having more than 3 species listed. On question 3, on the option of a global versus a regional instrument, 16 of the governments were in favour of a global instrument. Seven (7) of the NGO respondents were also in favour of this option. Question 5 on the connection with FAO and RFMOs produced fairly high support for establishing the FAO – IPOA as the global action plan for the instrument, perhaps supplemented by CMS regional species work plans. There was also quite a high number of representatives favouring a technical advisory body for the instrument on which the RFMOs would be invited to take full membership. There was very little support for any of the other actions. The NGOs were very much in favour of NGOs sitting on the technical and advisory body. Among the NGOs there was no support to use the IPOA and the Global Action Plan.

106. The Government representatives were in clear favour of a global non-binding CMS MoU initially covering three species but expandable later, with the FAO-IPOA Sharks as the global action plan and having RFMOs as members of a dedicated scientific advisory body. The non-governmental bodies also believed in a large majority that there should be a global agreement and FAO-IPOA Sharks should be the action plan and that the RFMOs should be on the dedicated advisory body.

107. Answers to question 4 on key elements of the agreement indicated that the highest level of support was for capacity building in developing countries. The next priority elements were the development of the shared shark database, identification and protection of critical habitats, stock assessment and related research, and cooperation with the fisheries industry. High seas protected area and migratory corridors also received a high level of support as well as finning bans and the promotion and regulation of eco-tourism. Three others attracted medium level of support. These include action plans for particular species and regions, implementations of rules and resolutions from other fora, and the global promotion of shark conservation and wise use. Attracting lower support was behaviour and aggregation studies, user and community education, and quotas and prohibition. As an additional element delegates wished to include by-catch and precautionary catch levels.

108. The meeting then considered the presentation of the regional reports.

109. African Regional Group Report: There were initially differences of opinion in the African group. However, they were able to resolve these differences and came up with a common front. It was decided that if the species is to be limited to the 3 species in the appendix of the CMS then they would opt for a legally binding instrument, but if other species are to be added then they would opt for a non-legally binding MoU.

110. Whichever option is eventually adopted the African group would like to see more use of research which should include capacity building as most countries in the African region do not even know the species that are available in their waters. The issue of sustainable use should also be considered. The issue of poverty alleviation, which could be addressed by sustainable use of the species, should also be considered.

111. Asia Regional Group Report: The Asian group consisted of participants from Bangladesh, China, India, Indonesia, Sri Lanka and Thailand. Since each country has approximately more than 100 species of sharks they focused on the 3 species in the CMS appendix. It was concluded that (a) whale shark, basking shark and white shark are found in China while the other countries only have whale shark; (b) more than 100 species of sharks are landed in each country; (c) recent

studies in East Indonesia found that there are at least 200 species of sharks identified; (d) laws and regulation for whale shark are in place in India and Thailand; (e) in most of the countries sharks are caught as by-catch except in Bangladesh and Indonesia where there is artisanal shark fishery; (f) National Plans of Action for Sharks is not in place yet in all countries; (g) the main issues for the countries are lack of biological information, lack of knowledge on migration patterns, lack of data on catch and effort and on species composition, as well as a lack of capability for research on assessment and management.

112. The recommendations from the Asian group are: (a) improvement of capability in research and data collection; (b) besides National Plans of Action, Regional Plans of Action for highly migratory shark species should also be prepared jointly among Asian countries; and (c) there is unanimity among all countries for a non-legally binding MoU.

113. Americas Regional Group Report: The Americas Regional Group consisted of Argentina, Chile, Columbia, Costa Rica and USA. The first and major question was how can CMS work with FAO and other bodies such as CITES and RFMOs. It was agreed: (a) to work through the member states and through the instrument that comes out of the meeting to introduce the issues onto the RFMO's agendas; (b) that it is important for major fishing countries and FAO to be involved in the present and future CMS meeting related to this issue; and (c) that there is a common feeling that there is a major problem of vessels fishing in the region which are registered elsewhere. Foreign flag vessels often operate in violation of local laws.

114. It was questioned whether the CMS could help with enforcement issues at domestic landing sites and how coastal states can deal with this problem. Perhaps CMS can help with funding for surveillance at the local ports. CMS should also be present at the Tuna commissions meetings. There is one planned in 2009 where the five tuna commissions will be meeting. CMS must be there to present the instrument to them. The notion must be supported to call for a certain portion of observers on the RFMO vessels in the region to be independent in order to guarantee a balance between the observers.

115. Oceana Regional Group Report: Oceana was represented by Australia, New Zealand and the Philippines. The group discussed the various domestic initiatives and measures which are underway in the countries to address the conservation of the three CMS listed species. It was noted that of the three countries present one had a completed NPOA-Sharks in place and two had substantially progressed drafts. It was identified that there was a very strong need for increasing and formalising the collection and exchange of data for these three species. It noted that there are some existing measures and projects underway by countries and between some countries bilaterally. It was also noted that there was a regional need to increase the collection and exchange of species specific data. It also acknowledges the need for effective engagement of the relevant fisheries organisation to extend the protection of these species.

116. European Regional Group Report: The European region discussion can be summarised in four points. It was noted that the first draft of the European Plan of Action for sharks is now available and the Group would like to thank the European Union for the plan at the moment as it is relevant to the discussion at this meeting. The provisional draft is now open for stakeholder consultation. The Group invited all parties to comment on this plan. Secondly the plan should be analysed to see which elements could be integrated into the instrument that is now being developed. The record of the present meeting should be sent to the European Commission so that they are well informed of what happened in Seychelles. It was also pointed out that at an early stage we should discuss on how to engage the RFMOS in this process and in this respect we

should reflect on the mandate of the RFMOs to regulate shark fisheries and what kind of cooperation models are possible between Secretariats. Whatever kind of agreement that we come out with it is important to include Regional Economic Integration Organisations to ensure that EC is fully involved. One of the most important value-added issues is raising political awareness in existing instruments to ensure that we have a strong impact on what is being done in the region and on many targeted fisheries.

117. The meeting then received and discussed the reports of Working Groups 3 **(Annex 12)** and 4 **(Annex 13).** Regarding the scope of any future agreement, the CMS COP-appointed Councillor for Fish pointed out that CMS Scientific Council believes there are 35 other species of sharks that potentially meet the criteria for listing in the CMS Appendices. The CMS Secretariat noted that nominations to Scientific Council for possible listing must occur by mid-2008, and any new species that are listed could be incorporated into a CMS sharks agreement. A suggestion to reference these 35 species in the agreement was viewed as potentially creating an open-ended instrument, however the possibility of other species being added to the CMS Appendices in the near future was recognized. The CMS Secretariat noted that it would be unprecedented for a non-binding instrument to change its species base without approval by CMS Scientific Council, Standing Committee and COP.

118. Guided by the deliberations of the four working groups and the five regional groups, and the responses to the Secretariat's questionnaire, the meeting turned its attention to outlining what had been agreed over the past two days. The ensuing discussion was wide-ranging addressing the question of RFMO engagement, data collection FAO-CMS linkages, measures needed to be taken to further shark conservation and management, cooperation on control and enforcement, timeframes, species of concern, a mechanism to add species, the need for a follow-up meeting to move the proposed instrument forward, and inter-sessional work.

119. The Chair called for final statements from delegates. The US made further reference to the UN General Assembly preparing to adopt (today) a resolution on sustainable fisheries, which the US viewed as an important step toward improved shark conservation and management in US waters, improving capacity building in other countries and working through RFMOs. ICCAT reiterated its commitment to work with CMS on a sharks agreement. Seychelles acknowledged the progress made at this meeting, the need to keep the momentum going, the importance of delegates providing text to the CMS Secretariat for the proposed instrument, and thanked sponsors, delegates and observers for their contributions to this meeting.

Agenda Item 9: Any other business

120. The CMS Secretariat suggested that, resources permitting, a second meeting could be held, possibly in Bonn, Germany, and that the Secretariat would be prepared to share the cost of the meeting up to about 50%.

121. The Netherlands suggested that the CMS Secretariat should develop a paper giving the relevant key milestones, dates and events over the next two years to assist in planning the development and implementation of the CMS instrument.

Agenda Item 10: Closure of the meeting

122. Seychelles thanked all the participants of the meeting for the fruitful outcome. The List of Participants is provided as **Annex 14** to this report.

123. The meeting was closed with remarks from the Chair and the Executive Secretary of CMS. The CMS Secretariat was encouraged that steps toward a CMS instrument had been agreed, that a follow-up meeting in 2008 was supported and thanked organizers, sponsors, participants and the meeting Chair for their contributions. The Chair emphasized that we are putting our own welfare in jeopardy through environmental degradation, that we need to get others involved in the sharks initiative, that we need to move beyond voluntary measures, and that senior level involvement and commitment is essential to our success.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 1

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

AGENDA

1. Welcoming remarks

2. Meeting overview

3. Election of officers

4. Adoption of the agenda and meeting schedule

5. Conservation status of sharks defined as migratory under CMS

6. Existing international, regional and other initiatives to improve the conservation status of migratory sharks, including lessons learned

7. Options for international cooperation under CMS
   - 7.1 CMS instrument under Article IV of the Convention
   - 7.2 Other options for co-operation under CMS

8. Elaboration of an option

9. Any other business

10. Closure of the meeting

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 2

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

LIST OF DOCUMENTS

Symbol	Agenda Item(s)	Title of Document
UNEP/CMS/MS/1/Rev.1	3.0	Agenda
UNEP/CMS/MS/2/Rev.3	3.0	Annotated Agenda and Meeting Schedule
UNEP/CMS/MS/3/Rev.4	3.0	List of Documents
UNEP/CMS/MS/4	4.0-7.0	Background Paper on the Conservation Status of Migratory Sharks and Possible Options for International Cooperation under CMS
Information Documents		
UNEP/CMS/MS/Inf/1		CMS Convention Text and Appendices
UNEP/CMS/MS/Inf/2		List of Participants
UNEP/CMS/MS/Inf/3		CMS COP Recommendation 8.16 (Migratory Sharks)
UNEP/CMS/MS/Inf/4		Migratory Sharks: Excerpt from CMS COP Resolution 8.5 (Implementation of Existing and Development of Future Agreements)
UNEP/CMS/MS/Inf/5		CMS COP Recommendation 7.2 (Implementation of Resolution 6.2 on By-catch)
UNEP/CMS/MS/Inf/6		CMS COP Resolution 6.2 (By-catch)
UNEP/CMS/MS/Inf/7		Commonalities Between the Three Sharks Species Listed on the Convention on Migratory Species: Basking Shark, Great White Shark and Whale Shark
UNEP/CMS/MS/Inf/8		Confronting Shark Conservation Head On!
UNEP/CMS/MS/Inf/9		IUCN Press Release (15 November 2007) Mediterranean Sea: most dangerous place on Earth for sharks and rays
UNEP/CMS/MS/Inf/10		Present Status of shark fishing in the marine water of Bangladesh: Presentation by Bangladesh
UNEP/CMS/MS/Inf/11		Biology and status of sharks fishery in Yemen: Presentation by Yemen
UNEP/CMS/MS/Inf/12		Report of activities related to sharks undertaken by the Convention on International Trade in Endangered Species on Wild Fauna and Flora (CITES)
UNEP/CMS/MS/Inf/13		Programmes and activities of relevance to the conservation and management of sharks undertaken by the Food and Agriculture Organization of the United Nations (FAO)

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 3

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

INFORMAL RULES OF PROCEDURE
Read out by the CMS Secretariat

1. The meeting should operate without formal rules of procedure.

2. The meeting should follow generally accepted rules of procedure for international fora.

3. As is the tradition within CMS, decisions will be taken by consensus.

4. Time limits may need to be placed on interventions; please keep interventions short and to the point as the chair will reserve the right to intervene.

5. When necessary, first priority will be given to Range States, second priority given to other official delegations, then cooperating INGOs, and finally, to others.

6. All opinions expressed will be given equal weight in the consideration as to whether they should be formally reflected in the meeting report.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 4

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

PROGRAMMES AND ACTIVITIES OF RELEVANCE TO THE CONSERVATION AND MANAGEMENT OF SHARKS UNDERTAKEN BY THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

(*Submitted by FAO*)

PROGRAMMES AND ACTIVITIES OF RELEVANCE TO THE CONSERVATION AND MANAGEMENT OF SHARKS UNDERTAKEN BY THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

Paper Prepared for the Meeting to Identify and Elaborate an Option for International Cooperation on Migratory Sharks Under the Convention on Migratory Species
Mahe, Seychelles, 11-13 December 2007

Introduction

The mission of the Fisheries and Aquaculture Department of FAO is to facilitate and secure the long-term sustainable development and utilization of the world's fisheries and aquaculture. One of the functions of FAO is to promote policies and strategies aiming at sustainable and responsible development of fisheries in inland and marine waters. For this purpose, the Organization provides discussion fora, information, legal and policy frameworks, codes and guidelines, options for strategies, scientific advice, training material, and, on request of Members, technical assistance in all aspects of fisheries and aquaculture management and development.

The objective of this report is to provide a brief description of the different programs and activities being implemented by the Fisheries and Aquaculture Department of FAO which have direct relevance to the conservation and management of sharks[1].

The main overarching framework for the work of FAO on sustainable fisheries management is the Code of Conduct for Responsible Fisheries, which was adopted in 1995 by FAO member countries. The Code is a voluntary instrument that provides principles and standards applicable to the conservation, management and development of all fisheries. Article 7 of the Code, on Fisheries Management, is central for the sustainable management of capture fisheries. Compliance with the principles contained in Article 7 would adequately address many of the concerns related to the conservation and management of highly migratory stocks of sharks. It prompts States, for instance, to cooperate to ensure effective conservation and management of these resources, to avoid excess fishing capacity, to conserve biodiversity and protect endangered species, to foster the recovery of depleted stocks, to assess and mitigate adverse environmental impacts on the resources resulting from human activities, and to minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species and other impacts on associated or dependent species.

Since the adoption of the Code in 1995, complementary voluntary instruments have been elaborated within the overall framework of the Code of Conduct to strengthen its implementation on particular management issues. The instruments include four International Plans of Action[2] (IPOAs), the Strategy for Improving Information on Status and Trends of Capture Fisheries (STF) and the Guidelines on the Ecosystem Approach to Fisheries (EAF)[3]. Progress towards the implementation of the IPOA for the conservation and management of sharks is discussed in detail below.

Governments, in cooperation with their industries and fishing communities, have the responsibility to implement the Code and related instruments. FAO, in accordance with its mandate, is fully committed to assisting Member countries, particularly developing countries, in the efficient implementation of the Code. Since its inception, a number of activities have been executed to promote the implementation of the Code including the holding of meetings at international, regional and national level, the preparation and dissemination of technical guidelines, and the provision of direct assistance for the improvement of legal frameworks and technical capacity for fisheries assessment and management. The Organization is also responsible for reporting to the Committee on Fisheries (COFI) progress towards the implementation of the Code. At the Twenty-seventh

[1] For the purpose of this document the term “sharks” refers to all species of sharks, skates, rays and chimaeras (Class Chondrichthyes).

[2] International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (adopted in 1999), International Plan of Action for the Conservation and Management of Sharks (adopted in 1999), International Plan of Action for the Management of Fishing Capacity (adopted in 1999) and the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (adopted in 2001).

[3] FAO Fisheries Department. The ecosystem approach to fisheries. FAO Technical Guidelines for Responsible Fisheries. No. 4, Suppl. 2. Rome, FAO. 2003. 112 p.

session of COFI, held in 2007[4], the Committee agreed that while there had been progress in implementation of the Code, there was more that needed to be done by Members individually and collectively. The main constraints and solutions to the Code's implementation identified by COFI included, on the one hand, institutional, human resource and financial weakness, and on the other hand, the need for more training, more means and improved and stronger institutions. Developing State Members called, specifically, for more technical and financial assistance to implement fisheries management in line with the Code's guidelines.

A complementary instrument that is becoming the main reference framework for the work of FAO on fisheries management is the Guidelines on EAF. The EAF and the Code of Conduct for Responsible Fisheries both strive for the same goals of responsible fisheries, with EAF providing a systemic approach to implementing the principles contained in the Code. The EAF Guidelines published in 2003, directly addresses the issue of EAF implementation by providing guidance on how to translate the economic, social and ecological policy goals and aspirations of sustainable development of EAF into operational objectives, indicators and performance measures. Other complementary guidelines and publications that deal with the broader aspects of EAF or address and expand on specific aspects of its implementation are also available[5]. In addition, several projects and other FAO activities address EAF through concerted efforts aimed at simultaneously achieving progress in several if not most of the relevant aspects of EAF in selected locations or ecosystems[6].

The importance and relevance of EAF to the conservation and management of sharks is evident considering the overfished status of many species and their overall low resilience to fishing mortality, the importance of mortality in mixed-species fisheries and of the bycatch in fisheries targeted at other species, and the expected food web effects of removing sharks from the role of top predators in their ecosystem. In the case of highly migratory sharks, the adoption and implementation of an EAF by relevant RFMOs would represent a major step towards improving their sustainable use and conservation.

Of direct relevance to the conservation and management of species of sharks in international trade, FAO has been implementing several activities aimed at improving the understanding of the role and promoting the responsible use of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as a conservation tool for fisheries management[7]. There is a lack of consensus among Member countries on the role of CITES as an instrument complementary to traditional fisheries management, in particular whether it relates to reducing the risk of extinction, or promoting sustainable use or both. Nevertheless there is consensus that CITES has a role to play in fisheries. In practice, the potential benefits of CITES to commercially exploited aquatic species should be comprehensively evaluated on a case by case basis. Such evaluation should be based on sound scientific information, considering biological criteria, as well as, management and implementation issues and the likely effectiveness of a listing to species conservation.

Under the endorsement of COFI, FAO played an active role in the revision of the CITES listing criteria for commercially-exploited aquatic species, as well as in the evaluation of proposals to

[4] FAO. 2007. Report of the Twenty-seventh session of the Committee on Fisheries. Rome, 5–9 March 2007. FAO Fisheries Report. No. 830. Rome, FAO. 74 p.
[5] Publications available at www.fao.org.
[6] FAO. 2006. Implementing the ecosystem approach to fisheries, including deep-sea fisheries, biodiversity conservation, marine debris and lost or abandoned fishing gear. Committee on Fisheries Twenty-seventh Session, Rome, Italy, 5–9 March 2007. COFI/2007/8.
[7] The CITES Appendices currently include the following shark species: whale shark (*Rhincondon typus*), basking shark (*Cetorhinus maximus*), the white shark (*Carcharodon carcharias*) and the sawfishes (Family Pristidae). See information document UNEP/CMS/MS/Inf/12 submitted by CITES.

amend CITES Appendices with these species. The Organization held two ad hoc Panels to evaluate listing proposals submitted to the last two Conferences of the Parties to CITES (CoP13 in 2004 and CoP14 in 2007). Four of the proposals concerned shark species. The ad hoc Panel held in 2004 concluded that there were no sufficient information to confirm or exclude the possibility that for white shark, *Carcharodon carcharias,* the species as a whole meets the criteria for inclusion in CITES Appendix II. The proposal was adopted by Parties at CoP13. The second ad hoc Panel, held in 2007, evaluated three shark proposals: to include *Lamna nasus* (porbeagle shark) in Appendix II; *Squalus acanthias* (spiny dogfish) in Appendix II; and all species of the family Pristidae (sawfishes) in Appendix I. The Panel concluded that the available evidence did support the proposal to include all species of Pristidae in Appendix I and that such a listing would likely contribute to the conservation of this group of species. On the other hand, the Panel concluded that globally the porbeagle and spiny dogfish did not meet the biological criteria for listing on Appendix II and it did not support those two proposals. The Panel did recommend that sustainable management requires that, where they had not done so, range States develop and implement National Plans of Action for the two species. Decisions adopted by Parties at the CoP14 were all in line with the FAO ad hoc Panel recommendations.

The activities being implemented by FAO under the Code of Conduct for Responsible Fisheries, the Guidelines on EAF and CITES have directly and indirectly enabled the Organization to assist and improve capacity of Member countries and interested parties in the management and conservation of sharks. The single most direct program of work of FAO on sharks is implemented under the International Plan of Action for the Conservation and Management of Sharks, which is described in more detail below.

International Plan of Action for the Conservation and Management of Sharks

Noting the increased concern about the expanding catches of sharks and their potential negative impacts on shark populations, a proposal was made at the Twenty-second session of COFI, in March 1997, that FAO organize an expert consultation to develop Guidelines leading to a Plan of Action to be submitted at the next Session of the Committee aimed at improved conservation and management of sharks. The International Plan of Action for Conservation and Management of Sharks (IPOA-Sharks) was developed through the meeting of the Technical Working Group on the Conservation and Management of Sharks in Tokyo, in April 1998 and the Consultation on Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries held in Rome in October 1998 and its preparatory meeting held in Rome in July 1998. The text of the IPOA-Sharks was endorsed at the 23rd Session of COFI held in Rome in 1999.

The IPOA-Sharks is a voluntary instrument elaborated within the framework of the Code of Conduct for Responsible Fisheries. The objective of the IPOA-Sharks is to ensure the conservation and management of sharks, including species that are target and non-target of fisheries, and their long-term sustainable use. It applies to all States that contribute to fishing mortality on a species or stock of sharks. According to the IPOA-Sharks, States should adopt a national plan of action for conservation and management of shark stocks (Shark-plan) if their vessels conduct directed fisheries for sharks or if their vessels regularly catch sharks in non-directed fisheries. Specific guidelines with suggested contents of the Shark-plan were developed by FAO[8].

[8] FAO. 2000. Fisheries management. 1. Conservation and management of sharks. FAO Technical Guidelines for Responsible Fisheries. No. 4, Suppl. 1. Rome, FAO. 37 p.

Guidelines on the implementation of the IPOA-Sharks

According to the guidelines, each State is responsible for developing, implementing and monitoring its Shark-plan. The Shark-plan should aim to:

- ensure that shark catches from directed and non-directed fisheries are sustainable;
- assess threats to shark populations, determine and protect critical habitats and implement harvesting strategies consistent with the principles of biological sustainability and rational long-term economic use;
- identify and provide special attention, in particular to vulnerable or threatened shark stocks;
- improve and develop frameworks for establishing and coordinating effective consultation involving all stakeholders in research, management and educational initiatives within and between States;
- minimize unutilized incidental catches of sharks;
- contribute to the protection of biodiversity and ecosystem structure and function;
- minimize waste and discards from shark catches in accordance with the Code of Conduct for Responsible Fisheries (for example, requiring the retention of sharks from which fins are removed);
- encourage full use of dead sharks;
- facilitate improved species-specific catch and landings data and monitoring of shark catches;
- facilitate the identification and reporting of species-specific biological and trade data.

Where transboundary, straddling, highly migratory and high seas stocks of sharks are exploited by two or more States, the IPOA calls upon the States concerned to ensure effective conservation and management of the stocks. States are also encouraged to cooperate through regional and subregional fisheries organizations or arrangements, and other forms of cooperation, with a view to ensuring the sustainability of shark stocks, including, where appropriate, the development of subregional or regional shark plans.

FAO, in accordance with its mandate, is committed to encourage and facilitate the implementation of the IPOA-Sharks, including the preparation and publication of field guides and other information resources to assist in the monitoring and management of shark fisheries. The Organization has also been providing technical assistance to a number of Member countries and regions to develop sustainable fisheries management plans for shark fisheries[9]. Progress towards the implementation of the IPOA is regularly reported to COFI. At the Twenty-seventh session of COFI, held in 2007, many Members referred to their efforts to develop National Plans of Action (NPOAs) to implement the IPOA-Sharks, including reporting on policies and practices in place to ban the catching of some shark species and other measures prohibiting finning and carcass dumping as a means of promoting sustainability. Notwithstanding these initiatives and the progress made in recent years, the Committee concurred that further intensive work was required to improve the implementation of the IPOA-Sharks.

[9] An updated list of Shark-plans and relevant publications are available at www.fao.org.

Improving the implementation of the IPOA-Sharks

The FAO Expert Consultation on the Implementation of the IPOA-Sharks[10], held in December 2005, reviewed the available information and national, institutional and personal experiences in relation to factors governing the success of the IPOA-Sharks. Some of the conclusions of the Consultation are reported here since they are of direct relevance to the discussions about ways to improve the implementation of the program and about other options for international cooperation on migratory sharks.

The view of the Consultation was that the IPOA-Sharks was a beneficial endeavor and that efforts to improve its effectiveness should be strengthened. The Consultation concluded that consideration should be given to re-launching the initiative to re-invigorate the Plan and provide fresh impetus to its activities, considering that there was a concern that the plan was losing importance in relevant agendas.

The voluntary nature of the IPOA was viewed as major concern, but no agreement was reached on how this might be changed. There was little support, for instance, for some form of implementation arrangement along the lines of the FAO Compliance Agreement[11].

It was noted that while a few countries had made excellent progress in the implementation of national plans, the majority of the countries had not made progress in implementing effective management and conservation of their elasmobranch resources. A number of possible reasons for that were identified, including:

- the economic importance of shark fisheries in many countries is low and, correspondingly, they are given low priority in the allocation of management resources (funds and experts);
- the political will to insist that management jurisdictions address the problems of elasmobranch population is often weak or lacking;
- management regimes lack the expertise needed to determine which management actions are required and how to rank their importance and expedite their implementation;
- insufficient funding and/or human resources are available to address the problems posed by the management requirements of national elasmobranch resources;
- national initiatives often depend on resources provided by a donor or donors: when the donor programme ceases, so do the programme's activities. A consequence of this is the failure of both recipients of aid and donors to ensure that means are developed to ensure sustainable management once programme assistance stops.

Other particular concerns identified as factors hampering the implementation of effective management of elasmobranch fisheries included:

- the lack of appropriate taxonomic guides to identify species;
- the lack or insufficient information on the population biology of elasmobranch species, both targeted and bycatch species;
- scarce or lacking data, particularly for catch and fishing effort, to inform management decision making.

[10] FAO. 2006. Report of the FAO Export Consultation on the Implementation of the FAO International Plan of Action for the Conservation and Management of Sharks. Rome, 6–8 December 2005. FAO Fisheries Report No. 795. Rome, FAO. 24 p.

[11] Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas.

To illustrate the above point, the Consultation reviewed the available elasmobranch catch statistics reported to FAO and evaluated to what extent catches are reported at the level of species or genus. This level of reporting would be the required minimum to allow the assessment and monitoring of the status and trends of stocks. Despite the noticeable improvement in the reporting of elasmobranch catches since 1996 (which was recognized as an indicator of the increased level of awareness and attention of member countries and RFMOs to shark fisheries), at present catches reported at the genus/species level still represent between one quarter and one third of the total global elasmobranch catches.

Finally, the Consultation noted a number of requirements that would be needed to improve the level of implementation of the IPOA-Sharks, including:

- the need to address the lack of sustained funding – a critical and widespread issue that constrains management of elasmobranch fisheries;
- the need for countries and institutions that possess particular skills and expertise in management of elasmobranch fisheries to share their expertise with management regimes that would benefit;
- the need to identify international organizations that may fund activities, especially on a regional basis;
- the opportunity to increase industry participation in, and support for, management of elasmobranch fisheries;
- the need for greater recognition of the potential of regional fisheries management organizations (RFMOs) to contribute to management of elasmobranch; their support and involvement in addressing this problem should be sought.

The Way Ahead

FAO is committed to following-up on the COFI conclusion that more intensive work is required for implementation and, within the means and resources available, it will continue to provide assistance to Member countries and regions to strengthen the implementation of the IPOA-Sharks at national, regional and international levels. One such example is through extra-budgetary funds provided by the Government of Japan under the Trust Fund project on "CITES and commercially exploited aquatic species", which the Organization is currently undertaking a study that aims to assess the biological status and main threats to shark species in international trade. The project is expected to provide the basis and some means to strengthen the activities of the Organization on the development of capacity for the conservation and management of shark species, specially those affected by international trade.

In the view of FAO, international cooperation to fund similar efforts can be a concrete and sound option for improving the conservation status and management of shark fisheries globally. Means to improve progress towards implementation of the IPOA will be discussed at the forthcoming COFI Sub-Committee on Fish Trade, 2–6 June 2008.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 5

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION
INTERNATIONAL COOPERATION ON MIGRATORY SHARKS
UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

UNEP/CMS/MS/1/4

BACKGROUND PAPER ON THE CONSERVATION STATUS OF MIGRATORY SHARKS AND POSSIBLE OPTIONS FOR INTERNATIONAL COOPERATION UNDER THE CONVENTION ON MIGRATORY SPECIES

(Prepared by the Shark Specialist Group of the IUCN Species Survival Commission on behalf of the CMS Secretariat)

Abbreviations

ACAP	Agreement on the Conservation of Albatrosses and Petrels
ACCOBAMS	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area
ASEAN	Association of Southeast Asian Nations
CCAMLR	Commission on the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on Migratory Species
COFI	Committee on Fisheries of the FAO
CR	Critically Endangered (in the IUCN Red List of Threatened Species)
DEFRA	Department for Environment, Food and Rural Affairs (UK)
DD	Data Deficient (in the IUCN Red List of Threatened Species)
EEZ	Exclusive Economic Zone (usually extends 200 nautical miles from the coast)
EN	Endangered (in the IUCN Red List of Threatened Species)
FAO	United Nations Food and Agriculture Organization
GFCM	General Fisheries Commission for the Mediterranean
GROMS	Global Register of Migratory Species
HMFS MP	Highly Migratory Fish Species Management Plan
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas (Atlantic)
ICES	International Council for the Exploration of the Seas (Northeast Atlantic)
IOSEA MoU	Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia
IOTC	Indian Ocean Tuna Commission
IPOA	International Plan of Action
IUCN	World Conservation Union
LC	Least Concern (in the IUCN Red List of Threatened Species)
MEA	Multi-lateral Environmental Agreement
MoU	Memorandum of Understanding
MSY	Maximum Sustainable Yield
NAFO	Northwest Atlantic Fisheries Organization
NE	Not Evaluated (in the IUCN Red List of Threatened Species)
NEAFC	North East Atlantic Fisheries Commission
NPOA	National Plan of Action
NT	Near Threatened (in the IUCN Red List of Threatened Species)
RAC/SPA	Regional Activity Centre for Specially Protected Areas (UNEP, Mediterranean)
RFO	Regional Fisheries Organization
RFMO	Regional Fisheries Management Organization
SAR	Shark Assessment Report
SEAFO	South-east Atlantic Fisheries Organization
SPA	Specially Protected Area
SSC	Species Survival Commission (of IUCN–the World Conservation Union)
SSG	Shark Specialist Group
SWOT	Strengths, Weaknesses, Opportunities, Threats
TAC	Total Allowable Catch
TRAFFIC	The trade monitoring partnership of IUCN and WWF
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Program
UNFSA	United Nations Fish Stock Agreement
VU	Vulnerable (in the IUCN Red List of Threatened Species)
WCPFC	Western and Central Pacific Fisheries Commission
WSSD	World Summit on Sustainable Development

Contents

Acknowledgements

This IUCN Species Survival Commission Shark Specialist Group review was prepared by Sarah Fowler (NatureBureau and SSG co-chair) and Helen Scales. It drew heavily upon a database of migratory sharks created for the CMS Secretariat by Sarah Valenti, SSG Red List Officer, with considerable assistance from Claudine Gibson, SSG Programme Officer, and the many experts in the Shark Specialist Group volunteer network who have contributed to the development of shark Red List assessments and who helped with the identification of migratory shark species for inclusion in the database.

Important source documents included papers by Jules Colomer on “The Convention on Migratory Species’ role in the conservation and management of Migratory Sharks” and “Frequently asked questions”, and a study on the merits of a CMS instrument for migratory raptors by Paul Goriup and Graham Tucker (2005). Extracts from these documents have been used in this review.

The Department for Environment, Food and Rural Affairs (Defra UK) funded the preparation of the initial shark database and an extension to cover batoid fishes (skates and rays), the preparation of this report, and Sarah Fowler’s travel to the CMS shark meeting in the Seychelles (December 2007) and the Scientific Council Meeting in Bonn (March 2007). The CMS Secretariat is funding an associated review of the cartilaginous fishes for the latter meeting. Sarah Fowler’s attendance at the Seychelles and Bonn meetings is made possible by the Pew Marine Fellows Program.

1 Introduction

1.1 Background

A wide range of human activities directly and indirectly affect shark populations around the world (Stevens *et al.* 2005), chief among these being fisheries. The K-selected life history strategies of sharks, which include slow growth, late maturity, the production of small numbers of large well-developed young, longevity, and low natural mortality, are characteristic of species with few natural predators and are highly successful under natural conditions. Unfortunately, they also make sharks particularly vulnerable to population depletion if mortality rates increase, and slow to recover even if conservation and management measures are introduced. Many stocks are now depleted and some species are now considered to have a heightened risk of extinction, mostly as a result of the rapid and largely unregulated growth of target and bycatch fisheries in State waters and on the high seas. Other threats to shark stocks include depletion of their prey species and habitat loss or degradation through coastal development and pollution (Camhi *et al.*1998).

Despite early warnings that shark stocks required special management attention and that fisheries might not be sustainable (e.g. Holden 1973), and the listing of oceanic shark species on Annex 1, Highly Migratory Species, of the 1982 UN Convention on the Law of the Sea (UNCLOS), very few States and no Regional Fisheries Organisations had introduced shark fisheries management measures prior to the 1990s. The vulnerability of sharks to unregulated fishing activities, declining shark stocks and increasing trade demand for their products did not really attract international attention until 1994, when the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), adopted Resolution Conf. 9.17 'The Status of International Trade in Shark Species'. This noted the lack of specific management or conservation measures for sharks at multilateral or regional level and, *inter alia*, asked Parties to CITES, the UN Food and Agriculture Organization (FAO) and other international fisheries management organisations to establish programmes to provide biological and trade data. Subsequently, shark conservation, management and data collection programmes have received greatly increased attention within CITES, FAO, regional fisheries organisations, at least some shark fishing States, and through the Convention on Migratory Species.

A significant proportion of threatened shark species are migratory, some of them undertaking very large scale movements across and around ocean basins. These extensive migrations mean that conservation efforts in one State can be undermined by actions in the waters of other States or on the high seas. Such species therefore require conservation and management action across their entire range. Although a number of international management measures include, in theory, provisions for the conservation and management of migratory sharks (see section 4), these have generally failed so far to deliver practical improvements in the conservation status of the species, or may be too recently adopted to have taken effect.

The highly migratory white shark *Carcharodon carcharias*, whale shark *Rhincodon typus* and basking shark *Cetorhinus maximus* are already included in Appendices of the Convention on Migratory Species (CMS) as well as in Annex I of UNCLOS and Appendix II of the Convention on International Trade in Endangered Species (CITES) due to their unfavourable conservation status, which is mainly caused by target and bycatch fisheries mortality that is partly driven by international trade demand. CMS has recognised through its Recommendation 8.16 on "Migratory sharks" (Annex 1) that these and potentially other shark species could likely benefit

from conservation measures delivered through CMS in cooperation with other partners. Since the greatest threats to shark stocks arise from target and bycatch fisheries, it follows that CMS may have greatest impact if it is able to develop measures that complement the activities of the fisheries management bodies that are already engaged in national, regional and international shark conservation and management, for example by identifying and addressing the gaps left by the implementation of traditional fisheries measures and the potential for synergistic efforts. This paper seeks to highlight some of the major gaps that might benefit from CMS action by identifying all currently known migratory shark species with an unfavourable conservation status, their global and regional distribution, and the national, regional and international fisheries or conservation management actions that are already in place.

1.2 Objectives

This study was commissioned from the IUCN Species Survival Commission Shark Specialist Group (IUCN SSG) by the UK Department for Environment, Food and Rural Affairs and the CMS Secretariat, with the following brief.

1.2.1 Phase 1

The initial objectives of this study are to prepare a migratory shark species database, and to use the database to develop a resource paper (this document) that will provide a contextual basis for the 2007 Seychelles Meeting to Identify and Elaborate an Option for International Cooperation on Migratory Sharks under the Convention on Migratory Species. The three primary agenda items to be supported by this paper are:

i) an analysis of the conservation status of sharks defined as migratory under CMS (agenda item 4);

ii) a review of existing international, regional and other initiatives to improve the conservation status of migratory sharks (agenda item 5); and

iii) options for international cooperation on migratory shark conservation and management under CMS (agenda item 6).

1.2.2 Phase 2

The second phase of the study expanded the database to include migratory batoids, reviewed all the cartilaginous fish species in order to identify outstanding candidate species for listing in CMS Appendix I and II on the basis of their conservation and migratory status, and clarified the level of completion required with respect to populations or partial listings. The results of this phase of the study were prepared for presentation to the 14th Meeting of the CMS Scientific Council (ScC) in March 2007.

2 Methods, definitions and datasets

2.1 Methodology

The IUCN Shark Specialist Group (SSG) Secretariat, in consultation with the SSG's volunteer network, developed the migratory shark species database from information collated over the past decade during the SSG's programme of undertaking Red List Assessments for all species of Chondrichthyan fishes (the sharks, skates, rays and chimaeras). The published, submitted and draft IUCN Red List assessments of migratory sharks were used as the basis for determining whether these species are of unfavourable conservation status as defined by CMS (Annex 4), and hence to identify potential candidate species in addition to those already listed for conservation action through CMS (Section 3).

The database was also used to identify those range States with a significant number of migratory species with unfavourable conservation status. This list of States was compared with the list of States identified in FAO data that report the largest shark landings (including from high seas stocks) and which therefore appear to have the greatest international impact upon shark stocks (Lack and Sant 2006) . These two criteria are suggested for the identification of likely important partners in any CMS initiative on sharks. The SSG maintains a watching brief on developments in international, regional and national conservation and management initiatives for sharks, and used this information to summarise existing initiatives to improve the conservation status of migratory sharks. The membership and engagement of the above States in relevant shark conservation and management initiatives was reviewed (Section 4).

A SWOT analysis (Section 5, Table 11) was used to clarify the options for international cooperation on migratory shark conservation and management under CMS.

2.2 Definition of migratory species

Species included in this analysis were those that fall under the definition given in Article I of CMS i.e. "the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members *cyclically and predictably* cross one or more national jurisdictional boundaries".

Under this definition:

i) The word "cyclically" in the phrase "cyclically and predictably" relates to a cycle of any nature, such as astronomical (circadian, annual etc.), life or climatic, and of any frequency.

ii) The word "predictably" in the phrase "cyclically and predictably" implies that a phenomenon can be anticipated to recur in a given set of circumstances, though not necessarily regularly in time.

iii) National jurisdictional boundaries include national land borders and the outer 200 mile EEZ boundary of each nation.

While it is easy to identify many shark species that are clearly migratory as defined above, data are currently inadequate to identify conclusively all migratory sharks. Several species are considered to be 'possibly migratory' where there is evidence suggesting that migrations occur

but their nature remains uncertain. The GROMS database was consulted and found to include a subset of the shark species identified by this study, but also some sharks that are apparently not migratory but likely restricted to very small home ranges.

It should be noted that while a species that occurs in more than one ocean basin may undertake seasonal migrations of similar length in different regions, it is possible in one region for the entire migration to be undertaken without crossing a national boundary, whereas in another the migrating stock may cross several, where States have shorter coastal fringes.

Since many migratory shark species are listed on Annex I 'Highly Migratory Species' of UNCLOS and potentially covered by the UN Fish Stock Agreement (FSA), which also has a remit for 'straddling fish stocks' it is useful to note the FAO definitions (or application) of these terms from Maguire *et al*. (2006).

'Highly migratory species' are simply defined (legally) as those listed in Annex I of UNCLOS (see section 4). In practical terms, however, these species "*are in general capable of migrating relatively long distances, and stocks of these species are likely to occur both within exclusive economic zones and on the high seas*". They are important for fisheries "*in all oceans and semi-enclosed seas, except for polar regions*".

There is no formal definition of 'straddling fish stocks' in either UNCLOS or FSA, but article 63, clause 2 of the former refers to: "*the same stock or stocks of associated species* [which] *occur both within the exclusive economic zone and in an area beyond and adjacent to the zone*", while the FSA refers to "*stocks occurring both within and beyond the exclusive economic zone*". These stocks may be much more localized and not necessarily migratory but many, particularly in temperate waters, will undertake seasonal or breeding migrations. They primarily occur in a few regions where continental shelves extend beyond the 200 mile exclusive economic zone (EEZ) limit, or in high productivity areas where predominantly coastal stocks extend into the high seas, or high seas stocks are attracted into the EEZ. Straddling stocks can also be transboundary stocks, which occur within more than one State EEZ, although transboundary stocks do not always extend into the high seas. Transboundary stocks frequently are migratory, particularly in temperate seas.

Finally, the term 'high seas stocks' is used to specify those fish stocks that are not found in EEZs and are neither 'highly migratory' nor 'straddling'. The latter are, therefore, excluded from the CMS definition of migratory species because, although they may potentially travel long distances, they do not cross national boundaries and enter EEZs. Most commercially important high seas stocks, as defined by Maguire *et al*. (2006), are deep-water species that are fished at depths of 500 to 1,000 m or more, but there are also some pelagic species. Many deepwater shark stocks occupy a relatively small range in their stable low energy environment and do not migrate, being confined to narrow depth bands on continental and island slopes, oceanic rises and sea mounts. At least a few deepwater sharks, however, show marked segregation by age and sex, suggesting that they probably carry out long distance migrations around or across ocean basins but probably without crossing State boundaries into EEZs.

2.3 Taxonomy and nomenclature

Class Chondrichthyes, the cartilaginous fishes, is comprised of the sharks, batoids (including skates, stingrays, guitarfishes and sawfishes) and chimaeroid fishes, including about 60

families, 189 genera and about 1,200 living species (Compagno *et al*. 2005, Compagno 2001 and in preparation). Chondrichthyan fishes occur in almost every marine habitat and a few species are found in some rivers and lakes. The chimaeras fall in Subclass Holocephalii and the sharks and rays in Subclass Elasmobranchii. Although traditional classifications divided the elasmobranchs into sharks (Squalii, Pleurotremata) and rays (Batoidea, Hypotremata), current taxonomic research has demonstrated that the elasmobranchs should be subdivided into two Superorders, Squalomorphii (squalomorph sharks, containing the batoids in Order Rajiformes) and Galeomorphii (galeomorph sharks). The smaller bottom-living species tend not to be strong swimmers and to have a limited range, but some of the larger pelagic species undertake regular, even continuous migrations that may cross ocean basins.

2.4 Data sources

Much of the quantitative analysis presented in this document draws upon published IUCN Red List data, the Red List data sheets submitted in 2006 but not yet published and, to a lesser extent, draft Red List assessments still in preparation by the IUCN Species Survival Commission Shark Specialist Group (SSG). These data sheets include all key literature identified for each species, and have been compiled during the Shark Specialist Group's Global Assessment of Chondrichthyan Fishes, which is scheduled for completion at the end of 2007.

The FAO Catalogue of Sharks of the World (Compagno 1984, 2001 and in preparation) has been a particularly important source of information, both for published Red List assessments and for those species not yet reviewed for the Red List. Information on the major shark fishing nations is derived from the FAO database, with this information extracted from a recent TRAFFIC review by Lack and Sant (2006). Finally, SSG members were also consulted and asked for their feedback on the provisional list of migratory species prepared during this study.

2.5 Database structure

No database specification was provided for this project. Excel was therefore used for the construction of the prototype migratory shark species database since this can easily be exported into more complex database formats. Annex 5 describes the structure of the database prepared for this study and the fields included.

The database includes information, where available, on CMS migratory status, global and regional Red List (threatened) status, legal and management status, range States, and a bibliography. This information is not comprehensive. In particular, information on the national legal and management status of sharks is not readily available and likely incomplete (much of this was obtained in the form of 'personal communications' from the members of the IUCN SSC Shark Specialist Group network who kindly assisted with research for this study).

Summing the columns for each State in the 'Range' section of the database provides an index of the number of CMS migratory shark species occurring in each State. This can be sorted to show the range States by the number of shark species occurring in their waters. When these data are amalgamated, the range States can be identified in whose waters the largest number of species of migratory shark occur (see section 3.3, Table 5).

3 Conservation status of migratory sharks

3.1 Global conservation status of sharks

The CMS definition of favourable conservation status is given in Annex 4. Migratory sharks whose conservation status is not favourable generally fail to meet the definition in Article 1(c)4: "*the distribution and abundance of the migratory species approach historic coverage and levels to the extent that potentially suitable ecosystems exist and to the extent that is consistent with wise wildlife management*". Many shark species' abundance is greatly reduced below historic levels and the majority of these do not benefit from any wildlife (or in their case fisheries) management. These species qualify for inclusion in Threatened or Near Threatened IUCN Red List Categories using Criterion A (population decline).

Examination of the global status of all shark species published in the 2006 Red List and summarised in Table 1 (about two thirds of all living sharks), reveals that a much higher percentage of migratory species are of unfavourable conservation status (48.89% are assessed as Threatened: Critically Endangered, Endangered or Vulnerable, and 28.89% as Near Threatened), than non-migratory species (11.3% and 12.9% respectively). The degree of threat to the small number of possibly migratory species (that may meet CMS criteria) is also high. Their status is primarily affected by depletion in unsustainable target and bycatch fisheries.

Correspondingly, therefore, a much smaller proportion of migratory species than non-migratory species are Data Deficient or Least Concern. The latter arises partly from the large proportion of Data Deficient and/or Least Concern deepwater species that are not known to be migratory and/or are out of range of fisheries, and partly by the high proportion of Australian endemics that are in favourable conservation status because they are largely unfished or well managed.

The 22 migratory and three possibly migratory shark species that have so far been evaluated as threatened globally using the IUCN Red List categories and criteria are listed in Table 3 with details of their migratory behaviour. A further 13 migratory and 12 possibly migratory species are listed as 'Near Threatened', because they are close to meeting the qualifying level of decline for a Vulnerable IUCN Red List classification. This may also qualify them for consideration by CMS as species with an unfavourable status.

This is not a complete review of the status of shark species, since the Red List programme for the chondrichthyan fishes is still incomplete, with Red List assessments not yet undertaken, incomplete, or in need of review for a number of the pelagic shark species that are likely to be of concern to CMS. This review should, therefore, be updated in 2007 when all Red List assessments for migratory species have become available. These additional assessments are unlikely to result in major changes to this overall picture, although several of the migratory species currently classified as Data Deficient may prove to qualify for Threatened status.

It is interesting to compare these results with the conclusions of Maguire *et al*. (2006), which are broadly similar to the results of the IUCN Red List Programme for migratory shark species presented here. These authors describe the state of highly migratory fish stocks (species listed in UNCLOS Annex I - see Table 6), straddling fish stocks, and stocks of other high-seas fishery resources, based on an FAO classification presented in Table 2. Formal assessments are lacking for most of the stocks examined and analysis is hampered because catches and landings from straddling and highly migratory fish stocks are not reported separately.

Nevertheless, the compilation of available assessments and FAO's analyses indicate that about 30 percent of the stocks of highly migratory tuna and tuna-like species, more than 50 percent of the highly migratory oceanic sharks and nearly two-thirds of the straddling stocks and the stocks of other high-seas fishery resources are overexploited or depleted (in other words below or significantly below 50% of their unfished biomass).

Table 1. Comparison of the global Red List status of non-migratory, migratory and possibly migratory shark species (published and pending publication assessments).

Category	Non-migratory		Migratory		Possibly migratory	
	Number	Percentage*	Number	Percentage*	Number	Percentage*
Critically Endangered	6	2.3%	2	4.44%	0	0.00%
Endangered	8	3.1%	3	6.67%	0	0.00%
Vulnerable	15	5.9%	17	37.78%	3	13.64%
Near Threatened	33	12.9%	13	28.89%	12	54.55%
Data Deficient	118	46.1%	6	13.33%	5	22.73%
Least Concern	75	29.3%	4	8.89%	2	9.09%
Not Evaluated	6	2.3%	2	4.44%	3	13.64%
LR/cd	1	0.4%	0		0	
Total	262		47		25	
Total evaluated	256		45		22	
Total threatened	29	11.3%	22	48.89%	3	13.64%

* The percentage of the total number of species evaluated.

Table 2. FAO classification of fish stock status (from Maguire *et al*. 2006)

Classification	Definition	Highly migratory shark stocks	All straddling fish stocks
Depleted	Catches are well below historical optimal yields, irrespective of the amount of fishing effort exerted	15%	6%
Overexploited	The fishery is being exploited above the optimal yield/effort which is believed to be sustainable in the long term, with no potential room for further expansion and a higher risk of stock depletion/collapse	40%	58%
Fully exploited	The fishery is operating at or close to optimal yield/effort, with no expected room for further expansion	35%	19%
Moderately exploited	Exploited with a low fishing effort. Believed to have some limited potential for expansion in total production	10%	12%
Not known	Not much information is available to make a judgment, but stocks are at least fully exploited.	39%	0%
Underexploited	Undeveloped or new fishery. Believed to have a significant potential for expansion in total production	0%	4%
Recovering	Catches are again increasing after having been depleted or a collapse from a previous high	0%	1%

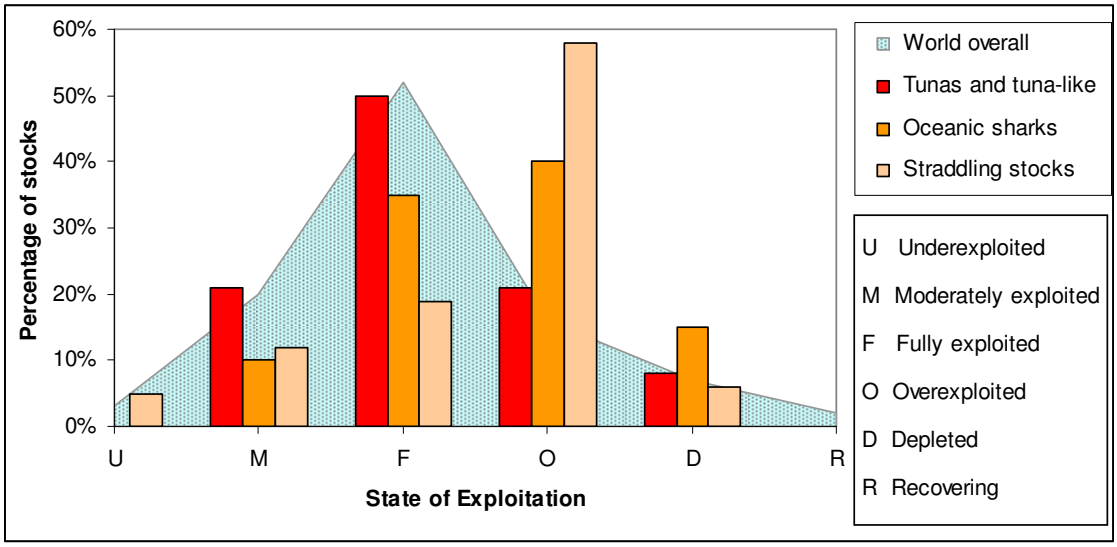
Focusing on shark stocks alone (many of these are species group/area combinations): only 10% of the highly migratory oceanic sharks are assessed as moderately exploited (exploited with a low fishing effort; believed to have some limited potential for expansion in total production), while 35% are fully exploited, 40% are overexploited, 15% depleted and 39% unknown (but at least fully exploited). No highly migratory oceanic shark stocks are reported as underexploited or recovering (Maguire *et al*. 2006). Fully exploited stocks are considered to be around maximum sustainable yield (MSY), or 50% of unfished biomass, but it is important to note that the MSY for many large shark species is higher than 50% (Cortes in press).

Furthermore, as noted by Clarke *et al*. 2006, "the MSY reference point is the highest possible catch that could theoretically be sustainable, and thus any catch that approaches or exceeds this level is of concern". Based on this FAO analysis, therefore, at least the 55% of overexploited and depleted stocks is below MSY, and likely up to 90% of all highly migratory shark stocks are being unsustainably exploited.

The status of straddling shark stocks is not distinguished from that of other straddling fish stocks, but straddling stocks (these are present and exploited both within and beyond State waters) are generally more seriously depleted than those of the highly migratory oceanic stocks. Overall, 4% of all straddling fish stocks are underexploited, 12% moderately exploited, 19% fully exploited, 58% overexploited, 6% depleted and 1% recovering (Maguire *et al*. 2006). The biology of sharks and widespread lack of management for most straddling shark stocks indicates that the overall status of straddling shark stocks is likely to be worse than the average for all straddling stocks, although some Northwest Atlantic straddling shark stocks may now be classified as 'recovering' under management.

Straddling stocks are stocks that are present and exploited both within and beyond State waters. Those shark species listed in Maguire *et al*. (2006) from information provided by NEAFC include the Iceland catshark (*Apristuris* spp.), gulper shark (*Centrophorus granulosus*), leafscale gulper shark (*Centrophorus squamosus*), black dogfish (*Centroscyllium fabricii*), Portuguese dogfish (*Centroscymnus coelolepis*), longnose velvet dogfish (*Centroscymnus crepidater*), rabbit fish (rattail) (*Chimaera monstrosa*), frilled shark (*Chlamydoselachus anguineus*), kitefin shark (*Dalatias licha*), birdbeak dogfish (*Deania calceus*), greater lanternshark (*Etmopterus princeps*), velvet belly (*Etmopterus spinax*), blackmouth dogfish (*Galeus melastomus*), mouse catshark (*Galeus murinus*), bluntnose six-gilled shark (*Hexanchus griseus*), large-eyed rabbit fish (ratfish) (*Hydrolagus mirabilis*), sailfin roughshark (*Oxynotus paradoxus*), round skate (*Raja fyllae*), Arctic skate (*Raja hyperborea*), Norwegian skate (*Raja nidaroensis*), straightnose rabbitfish (*Rhinochimaera atlantica*), knifetooth dogfish (*Scymnodon ringens*), and Greenland shark (*Somniosus microcephalus*) in the Northeast Atlantic. The straddling shark stocks that occur in other regions are not identified by species.

Figure 1. Summary of the state of exploitation of highly migratory tuna and tuna-like species, highly migratory oceanic sharks, and straddling stocks. From Maguire *et al*. 2006.



3.2 Conservation status of sharks listed on CMS

Three threatened shark species are currently included in the Appendices of the Convention on Migratory Species (CMS), in recognition of their unfavourable conservation status and need for concerted international conservation measures. Whale shark *Rhincodon typus* was listed on Appendix II in 1999, white shark *Carcharodon carcharias* on Appendices I and II in 2002, and basking shark *Cetorhinus maximus* on Appendices I and II in 2005. Several other highly migratory shark species exhibit similar characteristics to those described below. Those that require concerted international conservation measures may in future be nominated for inclusion in the CMS Appendices.

All three CMS listed species have been assessed as Vulnerable globally on the IUCN Red List of Threatened Species on the basis of recorded population declines. Some regional populations are also assessed as Threatened (see Table 4) and several range States legally protect these species. Population data are scarce and generally sourced from fisheries records. Records from fisheries targeting basking sharks in the Northeast Atlantic, Ireland, Scotland, Japan and Norway all show catch declines of 90% or more, with fisheries in the Canadian Pacific and California showing declines of at least 30%; some recorded declines occurred in as little as ten years. Catch of whale shark in targeted fisheries in the Philippines declined by an average of 27% per year between 1990 and 1997, and in Taiwan by 60-70% between 1995 and 2002. Reductions in catch per unit effort of great white sharks of over 70% have been reported in the US pelagic longline fishery, in tuna traps and other fishing gear in the Adriatic Sea, and in game fisheries in Australia. Fishing activity, particularly target fisheries, has usually been focused on aggregations of these species where effort is more profitable. Many of these aggregations may no longer exist.

The biology of these species, particularly their low intrinsic rate of population increase, mean that they will be very slow to recover from such depletion and may not recover if even small levels of exploitation continue. Other threats include changes in predator/prey abundance due to fisheries interactions, boat strike, entanglement in marine debris, and pollution. Potential threats to the species include habitat modification and climate change, but the latter is generally considered of less immediate importance than direct mortality from anthropogenic causes. Non-consumptive uses such as tourism can provide significant economic benefits and a major incentive for conservation, if well managed, and is already underway for all three species in various regions.

Maguire *et al*. (2006) also reviewed the status of these species, concluding that the basking shark “is probably overexploited globally with some areas being depleted”; that “unless demonstrated otherwise, it is prudent to consider the [whale shark] as being fully exploited globally”; and that the white shark is sensitive to harvest.

The three species have global distributions that overlap in places – distribution maps are included in Annex 8. Their distribution also overlaps with many other large migratory pelagic and coastal sharks. Records of long distance migration exist for all three species, sometimes crossing oceans (see Table 3). All three species aggregate at key feeding and possibly mating or pupping grounds (centres of abundance for these species are broadly indicated in Annex 8),

with individuals recorded as returning regularly to some of these sites. These aggregations make these species vulnerable to target fisheries, particularly if mature females are taken.

3.3 Regional status and distribution of other migratory sharks

Regional assessments of threat have also been produced for other species of migratory shark, although these are still incomplete. Table 4 provides a summary of the distribution by subdivision of ocean basin of all known migratory shark species, and those for which a regional threat assessment is available. The database has also been used to extract a list of those States and other entities in whose waters the largest numbers of migratory shark species are reported to occur, and where aggregations or significant records of CMS-listed species have been reported (Table 5). Note that these data are dependent at least partly upon the survey effort that has been undertaken in these waters, including observations of their catches and landings, and may not be an accurate reflection of their migratory shark biodiversity or relative abundance of listed species.

Table 5. States and entities in whose waters most migratory shark species are reported.

Australia [1, 2]	Egypt	Mozambique [2]
Bahamas	India [2]	Nicaragua
Brazil	Indonesia	South Africa [1,2]
China [1]	Japan [1,3]	Spain [3]
Colombia	Madagascar	Taiwan Province of China [1,2]
Costa Rica	Mexico [1,2]	USA [1,3]
Cuba	Morocco	Viet Nam

Key: Aggregations reported of 1) white sharks, 2) whale sharks, 3) basking sharks (now largely extirpated by fisheries in Japan and northern Spain).

Significant records of white sharks are also reported from New Zealand, Chile, Korea, and in the Western Central Mediterranean and Tyrrhenian Sea.

Whale shark aggregations are also reported from Malaysia (Borneo), Philippines, Sri Lanka, Maldives, Seychelles, Iran, Belize and Honduras.

Basking shark aggregations are primarily reported from higher latitudes where overall shark biodiversity is fairly low: Norway, UK, Ireland, France and Italy.

There are likely other unreported aggregation areas, for example for whale sharks in Indonesia and other locations in Southeast Asia.

Table 3. Migratory behaviour of Threatened and Near Threatened migratory and possibly migratory shark species. (**Published** and pending publication assessments. CR: Critically Endangered, EN: Endangered, VU: Vulnerable, NT: Near Threatened.)

Species name	English name	Global status	Summary of migratory behaviour	Ref
Isogomphodon oxyrhynchus	Daggernose shark	**CR**	Makes seasonal migrations. More common in landings samples from north Brazil fish markets in the second half of the year. Believed to migrate north towards Central America and the Caribbean as the discharge from the Amazon River increases in the first half of the year.	1
Squatina squatina	Angelshark	**CR**	Seasonally migratory in the northern parts of its European range, making northwards incursions in summer.	3
Carcharias taurus	Sand tiger	EN	Migrations are well studied in the western North Atlantic and also occur or are thought to occur in Australia, the Southwest Atlantic and off South Africa. Migratory patterns seem to differ between regions and cannot be generalised, but the synchronicity of movements in each country suggests a high degree of philopatry and possibly natal homing. Migrations are probably governed by strong environmental cues such as water temperature.	2
Sphyrna lewini	Scalloped hammerhead	EN	Circum-global in warm temperate and tropical seas. Highly mobile and aggregating in large schools, sometimes segregated by age and sex. Seasonally migratory in parts of its range; resident in other areas.	14
Sphyrna mokarran	Great hammerhead	EN	Apparently nomadic and migratory. Some populations (e.g. off Florida and in the South China Sea) moving to higher latitudes in summer. (The global assessment for this species is submitted and will be published later in 2007).	3
Carcharhinus longimanus	Oceanic whitetip shark	**VU**	Population dynamics and structure are little known. Exhibits size and sexual segregation. Could potentially undertake long-distance oceanic movements. Longline catches in the Central Pacific show it definitely increases in abundance with increasing distance from land, and it does not congregate around land masses. Most abundant in the tropics from 20^{o}N to 20^{o}S, but can occur far beyond its normal range with movements of warm-water masses.	3
Carcharhinus obscurus	Dusky shark	VU	Strongly migratory in temperate and subtropical areas in the Eastern North Pacific and Western North Atlantic, moving north during warmer summer months and retreating south when the water cools. Off the southern coast of Natal, South Africa newborn sharks are found in a nursery area, larger immature sharks over 90 cm move out of this area, with females tending to move north and males south, but there is some overlap in this partial sexual segregation. This pattern is complicated by seasonal, temperature-related migrations as elsewhere in the range of these sharks, going southwards in spring and summer and northwards in winter, and also a tendency for the sharks to move into deeper water during cooler months. There may be other factors affecting the distribution of these young sharks. The young form large feeding schools or aggregations.	4
Carcharhinus plumbeus	Sandbar shark	VU	Some stocks migrate seasonally, often in large schools, as water temperatures change. Young form mixed-sex schools on shallow coastal nursing grounds, moving into deeper, warmer water in winter.	4
Carcharhinus signatus	Night shark	**VU**	Possibly seasonal geographic migrations within its tropical Atlantic distribution.	4
Carcharodon	White shark	**VU**	Capable of swimming long distances and for extended periods; long distance migrations of 3,500km recorded. While	5

1 Charvet-Almeida, P. pers. comm., Lessa *et al.* (1999)
2 Bass *et al.* (1975), Gilmore (1983), Gilmore (1993), Branstetter and Musick (1994), Pollard *et al.* (1996), Otway and Parker (1999), Lucifora *et al.* (2003), Bass *et al.*(1975), Dudley (2000), Hueter (1998), Gilmore (1993), Otway and Parker (1999), Allen and Peddemors (2000), Otway *et al.* (2004), Otway *et al.* (1999), Stow *et al.* (2006).
3 Compagno in preparation
4 Compagno in prep., Compagno *et al.* 2005
5 Fergusson (1996), Pardini et. al. (2001), Bonfil *et al.* (2005), Barrull and Mate (2001), Bonfil *et al.* (2005), Chen (1996), Dewar *et al.* (2004).

Species name	English name	Global status	Summary of migratory behaviour	Ref
carcharias*			white sharks are also considered to be a migratory species within their home range, it is possible that they may also move in and out of these areas on a seasonal basis. Equatorial waters may deter large-scale movement but are not a complete barrier since sharks are recorded from very deep water in the tropics. Genetic and tagging research indicates exchange between populations worldwide.	
Cetorhinus maximus*	Basking shark	**VU**	Seasonal migrations occur, from deep to shallow water and/or from lower to higher latitudes in summer (of distances up to 3,000 km). Most records are from a narrow range of water temperature: 8°–14°C in the UK, Japan and Newfoundland, up to 24°C in New England, USA. Records in warmer waters are generally of moribund or stranded specimens, but healthy sharks may occur in deep cold water. At least some populations are migratory and possibly seasonally segregated by sex; their winter distribution and locations used by pregnant females are unknown, although it seems likely that wintering sharks occur mainly in deep shelf or shelf edge water.	6
Galeorhinus galeus	Tope shark	**VU**	Migrations of 16,000km recorded. At least in some areas (Northeast Atlantic, Tasman Sea) they also extend offshore up to 1,610 km from the coast.	7
Hemipristis elongatus	Snaggletooth shark	**VU**	Poorly known behaviour, may migrate in parts of its Indo-West Pacific shelf range.	3
Isurus oxyrinchus	Shortfin mako	VU	May be the fastest shark and one of the swiftest and most active fishes. Highly migratory and has a tendency to follow movements of warm water masses polewards in the summer, in the extreme northern and southern parts of its range. Catches in the KwaZulu-Natal shark nets indicate inshore movements from deeper water over the continental slopes off South Africa. Long-range movements are being studied by conventional tagging in the North Atlantic.	9
Isurus paucus	Longfin mako	**VU**	Possibly worldwide in tropical oceanic waters. Likely migratory, but may be slower and less active than its better-known relative, the shortfin mako.	8
Lamna nasus	Porbeagle shark	**VU**	Occurs singly and in schools and feeding aggregations. May come inshore and to the surface in summer, but will winter offshore and beneath the surface. Fisheries catches in Europe indicate population segregation by size (age) and sex. Porbeagle seem to constitute a single population in the Northwest Atlantic that undertakes extensive migrations between southern Newfoundland (Canada) in summer to at least Massachusetts (USA) in the winter. Longterm tagging data suggests limited mixing between populations on either side of the Atlantic.	9
Nebrius ferrugineus	Tawny nurse shark	**VU**	Possible seasonal or breeding migrations in its coastal tropical Indo-Pacific range. Occurs off South Africa and is possibly a summer migrant from Mozambique.	11
Negaprion acutidens	Sharptooth lemon shark	**VU**	Probably a seasonal visitor from Mozambique to northern KwaZulu-Natal, South Africa.	10
Rhincodon typus*	Whale shark	**VU**	Highly migratory, making long-distance, long-term migrations. Tagging and photo-identification studies indicate regular visits to favoured feeding sites to feed at annual, seasonal or lunar fish and invertebrate spawning events.	11
Odontaspis ferox	Smalltooth	VU	Poorly known biology and behaviour, but an active offshore swimmer which may carry out seasonal migrations.	15

6 Sims *et al*. (2003), Sims *et al*. (2005), Skomal (2005).
7 Brown et al. (2000), Duarte *et al*. (2002), Dudley, S. (pers. comm.), Fitzmaurice (1979), Lucifora *et al*. (2004), Olsen (1990), Peres and Vooren (1991), West and Stevens (2001)
8 Compagno (2001)
9 Campagna and Joyce (2004).
10 Dudley, S. pers. comm.
11 Heyman *et al*.(2001) Wilson *et al*. (2001), CMS listing proposal.

Species name	English name	Global status	Summary of migratory behaviour	Ref
	sand tiger			
Alopias pelagicus	Pelagic thresher	VU	A little-known, active, strong-swimming species, probably migratory but with movements little-known. In the eastern North Pacific there is a possible population centre off central Baja California, which tends to shift northwards (along with other oceanic sharks) during strong El Niño events.	15
Alopias superciliosus	Bigeye thresher	VU	Little is known of migratory movements, but inferred migrator based on behaviour of other thresher sharks. Listed as a highly migratory oceanic shark.	16
Alopias vulpinus	Thresher shark	VU	In the northwestern Indian Ocean and off the west coast of North America they show spatial and depth segregation by sex. Off the west coast of North America (and probably elsewhere) the species is seasonally migratory, and moves northwards from Baja California into California waters during the spring, with adult males tending to travel farther northwards than females and reaching the coast of British Columbia. Juveniles are mostly found in shallow warm-temperate inshore waters, particularly off southern California where an important nursery area occurs. Juveniles may be less cold-tolerant than adults, and seldom range north of Central California. Both adults and juveniles congregate in inshore waters of southern California, primarily during spring and summer.	15
Sphyrna tudes	Smalleye hammerhead	**VU**	May migrate seasonally along its southwest Atlantic coastal range. Little known but inferred migrator on basis of distribution and beahaviour other hammerheads. Listed as a highly migratory oceanic shark.	16
Squalus acanthias	Piked dogfish	**VU**	Usually coastal and demersal, they migrate north and south as well as nearshore and offshore travelling in large, dense "packs", segregated by size and sex. Apparently make latitudinal and depth migrations to stay within their optimum range. Movements seem to be correlated to water temperature; the sharks favour a temperature range with a minimum of 7 to 8°C and maximum of 12 to 15°C.	12
Hexanchus griseus	Bluntnose sixgill shark	**NT**	Further data are required on long-range movements, but this powerful swimmer is probably migratory in temperate areas where it occurs. Tagging studies off South Africa and Namibia show movements of 0-530km from the tagging site. There was no exchange between Namibian and South African sharks, and Namibian sharks travelled less than the latter, 0 to 130 km *vs* 7 to 539 km[13]. Tagging studies and colouration suggest that adjacent breeding bays may have separate populations or subpopulations that return to their breeding grounds each year. Time-lapse video observations in the Strait of Georgia, British Columbia, recorded more sharks in summer than in other months.	14
Somniosus microcephalus	Greenland shark	**NT**	At higher latitudes, this species may migrate seasonally into warmer near shore waters.	15
Pseudocarcharias kamoharai	Crocodile shark	**NT**	Offshore oceanic species that may migrate through offshore areas of EEZs.	9
Leptocharias smithii	Barbeled houndshark	**NT**	Possibly seasonally migratory within its west African coastal range. Pregnant females occur July to October off Senegal, which may perhaps be evidence that they seasonally migrate.	15
Mustelus canis	Dusky smoothhound	**NT**	Northern population migrates inshore and north in summer, south and offshore in winter.	14
Carcharhinus	Silvertip shark	NT	May not disperse widely between sites. Young are restricted to shallower water closer to shore while adults are more	15

12 Hjertenes (1980), Ketchen (1986), McFarlane and King (2003), Compagno (1984a and b), Compagno in prep.
13 Ebert (1994), Compagno in prep., Dunbrack and Zielinski (2003).
14 Compagno in prep., Compagno 2001, Compagno *et al.* 2005
16. Maguire (2006).

Species name	English name	Global status	Summary of migratory behaviour	Ref
albimarginatus			wide ranging, with little overlap with the young. They have a strong preference for offshore islands, coral reefs and banks. Ranges from inside lagoons and near dropoffs to well offshore, but is not truely oceanic.	
Carcharhinus amblyrhynchoides	Graceful shark	**NT**	Poorly known tropical inshore and offshore shelf coastal-pelagic Indo-Pacific shark. Migrations not described.	15
Carcharhinus amblyrhynchos	Gray reef shark	**NT**	Active, strong-swimming social coastal-pelagic and inshore Indo-Pacific species that forms daytime schools or aggregations in favoured areas such as reef passes, lagoons, or near passes and drop-offs. Sonic-tagged individuals have ventured several kilometres offshore at depths less than 100 m. Migrations not described.	15
Carcharhinus brachyurus	Bronze whaler	**NT**	Apparently migratory in the northern parts of its range, moving northwards in the spring and summertime and southwards in fall and winter. Uses inshore bays and open coastline for nursery grounds in South Africa, and neonates occur there during spring (October-December); Namibian sharks have a later breeding period, during summer (December to March), and may form a separate breeding population from South African sharks.	15
Carcharhinus brevipinna	Spinner shark	**NT**	Highly migratory off Florida and Louisiana in the Gulf of Mexico, moving inshore in spring and summer to reproduce and feed, but possibly moving southwards and into deeper water during the fall and winter. Young are born in spring to early summer here; in summer off Senegal. There is a nursery ground for one population on the Natal coast; adult females occur there year-round, males seasonally in summer. Tagging studies off South Africa suggest that young sharks prefer slightly lower temperatures than adults, moving south from Natal when temperatures rise.	15
Carcharhinus dussumieri	Whitecheek shark	**NT**	Tropical inshore Indo-west Pacific shark with poorly known behaviour.	15
Carcharhinus falciformis	Silky shark	NT	An active shark species, found with tuna schools in the eastern Pacific. Population dynamics and structure are poorly known. Longline sampling in the Eastern and Central Pacific shows this shark to be much more abundant offshore near land than in the open ocean, unlike the blue shark (*Prionace glauca*) and the oceanic whitetip shark, (*Carcharhinus longimanus*), which occur with it.	15
Carcharhinus galapagensis	Galapagos shark	**NT**	Circumtropical. Mostly known from around islands, although it does occur off coasts of continents in a few places (mostly in the tropical Eastern Pacific, but possibly also Spain in the Eastern Atlantic). Capable of crossing considerable distances of open ocean between islands. Juveniles seem to be restricted to shallower water, in 25 m or less, which they apparently use as nursery grounds, while the adults range well offshore.	15
Carcharhinus leucas	Bull shark	**NT**	A northwards movement along the West Atlantic coast during summer from its tropical stronghold, and a southwards retreat when the water cools. Commonly migrates into fresh water.	3
Carcharhinus limbatus	Blacktip shark	**NT**	Off Florida these sharks are seasonally migratory and absent during winter months. There is evidence of population segregation off Natal, South Africa, where mostly adult males and non-pregnant females occur, with the addition of few young and adolescent sharks and periodic influxes of pregnant females during the spring. Pregnant females mostly do not pup there but apparently migrate elsewhere, possibly to nursery grounds in southern Mozambique.	15
Carcharhinus macloti	Hardnose shark	**NT**	Forms large aggregations in Indian and North Australian waters. In Bombay waters over 95% of the individuals caught are males, the rest females, indicating strong sexual segregation within its populations.	15
Carcharhinus melanopterus	Blacktip reef shark	**NT**	Thought to penetrate into brackish lakes and estuaries in Madagascar and into fully fresh water in Malaysia, but its ability to tolerate fresh water for any length of time is uncertain. At the northern and southern extremes of its range the blacktip may be a migrant, but this is uncertain.	15
Carcharhinus perezi	Caribbean reef shark	**NT**	Poorly studied. Different life-history and reproductive stages may be segregated to some extent within its Western Atlantic range. For example, there may be a pupping ground off the northern coast of Brazil.	15
Carcharhinus sealei	Blackspot shark	**NT**	Small, common, coastal Indo-west Pacific shark. Abundance varies seasonally off Natal, South Africa.	15

Species name	English name	Global status	Summary of migratory behaviour	Ref
Galeocerdo cuvier	Tiger shark	**NT**	Tiger sharks in continental waters are believed to migrate into higher latitudes in summer[15], but evidence for this is largely anecdotal. It is unclear whether these migrations are in response to thermal conditions and physiological constraints, or are the result of changes in prey abundance or distribution. In general, the influence of prey availability on tiger shark movements has been overlooked although they can move relatively large distances[16], including across ocean basins and to oceanic islands, and appear to take advantage of seasonally abundant food resources. For example, tiger sharks are only present in large numbers at the Houtman Abrolhos Islands,Western Australia, during the Western rock lobster fishing season, when discarded bait is an abundant food source.	17
Negaprion brevirostris	Lemon shark	**NT**	Some populations migrate seasonally, moving into deeper water or lower latitudes in winter.	15
Prionace glauca	Blue shark	**NT**	Highly migratory species, migrating continuously across and around ocean basins, including between State EEZs and across the high seas.	15
Eusphyra blochii	Winghead shark	**NT**	Shallow water tropical Indo-West Pacific continental and insular shelf species. No information on migrations and biology poorly known, but inferred migrator on basis of distribution and beahaviour of other hammerheads. Listed as a highly migratory oceanic shark.	18
Sphyrna corona	Mallethead shark	**NT**	Very poorly known East Pacific continental shelf species. No information on possible migrations and biology poorly known, but inferred migrator on basis of distribution and beahaviour other hammerheads. Listed as a highly migratory oceanic shark.	18
Sphyrna zygaena	Smooth hammerhead	**NT**	Young sharks sometimes occur in huge migrating schools.	15

**** Species already listed on CMS***

[15] Bigelow & Schroeder 1948, Stevens 1984, Randall 1992
[16] Kohler *et al*. 1998, Holland *et al*. 1999, Simpfendorfer *et al*. 2001
[17] Heithaus 2001
[18] Maguire *et al*. 2006

Table 4. The regional status and regional distribution of migratory sharks. (Dark grey boxes indicate that the species is absent. Light grey boxes indicate possible occurrence. White boxes indicate confirmed distribution. Published (**bold**) and draft regional IUCN Red List assessments are given if available.)

		Regional/Subpopulation Status by Ocean Basin															
Species name	Global Categ-ory	NE Atlantic	NW Atlantic	CE Atlantic	CW Atlantic	SE Atlantic	SW Atlantic	Med. Sea	Southern Ocean	E Indian Ocean	W Indian Ocean	NE Pacific	NW Pacific	CE Pacific	CW Pacific	SE Pacific	SW Pacific
Alopias pelagicus	DD**/VU																
Alopias superciliosus	DD**/VU		EN		EN		NT	DD		VU				VU			
Alopias vulpinus	DD/VU	NT	EN					VU		VU		NT					
Carcharhinus acronotus	NE		LC				DD										
Carcharhinus albimarginatus	DD**/NT									LC							LC
Carcharhinus altimus	DD**/DD									LC							LC
Carcharhinus amblyrhynchoides	NT																
Carcharhinus amblyrhynchos	NT																
Carcharhinus amboinensis	DD										NT						
Carcharhinus brachyurus	NT									LC	LC	DD	VU			DD	LC
Carcharhinus brevipinna	NT		VU/LC		VU						LC						
Carcharhinus dussumieri	NT									LC							LC
Carcharhinus falciformis	LC/NT		VU		VU		NT	DD		NT	NT			VU	NT	VU	NT
Carcharhinus galapagensis	NT										DD						DD
Carcharhinus isodon	NE																
Carcharhinus leucas	NT		LC	VU	NT						VU						

		Regional/Subpopulation Status by Ocean Basin															
Species name	Global Categ-ory	NE Atlantic	NW Atlantic	CE Atlantic	CW Atlantic	SE Atlantic	SW Atlantic	Med. Sea	Southern Ocean	E Indian Ocean	W Indian Ocean	NE Pacific	NW Pacific	CE Pacific	CW Pacific	SE Pacific	SW Pacific
Carcharhinus limbatus	NT		VU/LC		VU						VU						
Carcharhinus longimanus	VU		CR														
Carcharhinus macloti	NT									LC							LC
Carcharhinus melanopterus	NT																
Carcharhinus obscurus	NT/VU		EN		VU		NT	DD		NT							NT
Carcharhinus perezi	NT																
Carcharhinus plumbeus	NT/VU		LR/cd/VU				EN	EN		NT	DD		NT				NT
Carcharhinus porosus	DD						VU										
Carcharhinus sealei	NT																
Carcharhinus signatus	VU					DD											
Carcharhinus sorrah	DD**									LC					NT		LC
Carcharias taurus	VU		EN	CR			CR	CR		NT	NT						CR
Carcharodon carcharias*	VU							EN									
Cetorhinus maximus*	VU	EN						VU				EN	EN				
Eusphyra blochii	NT																
Galeocerdo cuvier	NT		NT	VU													
Galeorhinus galeus	VU	DD				DD	CR	VU				LC				DD	VU
Hemipristis elongatus	VU																

		Regional/Subpopulation Status by Ocean Basin															
Species name	Global Categ-ory	NE Atlantic	NW Atlantic	CE Atlantic	CW Atlantic	SE Atlantic	SW Atlantic	Med. Sea	Southern Ocean	E Indian Ocean	W Indian Ocean	NE Pacific	NW Pacific	CE Pacific	CW Pacific	SE Pacific	SW Pacific
Hexanchus griseus	NT																
Isogomphodon oxyrhynchus	CR																
Isurus oxyrinchus	NT	VU	VU					CR				NT			VU		
Isurus paucus	VU																
Lamiopsis temmincki	NE																
Lamna ditropis	DD/LC																
Lamna nasus	VU	CR	EN			NT	NT	CR	NT							NT	NT
Leptocharias smithii	NT																
Megachasma pelagios	DD																
Mustelus asterias	LC	LC						VU									
Mustelus canis	NT																
Mustelus mustelus	LC	DD						VU									
Nasolamia velox	NE																
Nebrius ferrugineus	VU									LC							LC
Negaprion acutidens	VU									LC					EN		LC
Negaprion brevirostris	NT			CR			VU					DD		DD		DD	
Notorynchus cepedianus	DD																
Odontaspis ferox	DD/VU							EN			VU						VU
Odontaspis noronhai	DD																
Prionace glauca	NT	VU	VU					VU				NT	NT				
Pseudocarcharias kamoharai	NT																

		Regional/Subpopulation Status by Ocean Basin															
Species name	Global Categ-ory	NE Atlantic	NW Atlantic	CE Atlantic	CW Atlantic	SE Atlantic	SW Atlantic	Med. Sea	Southern Ocean	E Indian Ocean	W Indian Ocean	NE Pacific	NW Pacific	CE Pacific	CW Pacific	SE Pacific	SW Pacific
Rhincodon typus *	VU		LC	DD	LC					VU	VU			VU	VU	VU	VU
Rhizoprionodon acutus	LC																
Rhizoprionodon terraenovae	LC																
Somniosus antarcticus	DD																
Somniosus microcephalus	NT																
Somniosus pacificus	NE																
Sphyrna corona	NT																
Sphyrna lewini	NT/EN		EN		EN	VU	EN			LC		VU		EN		NT	LC
Sphyrna media	DD																
Sphyrna mokarran	EN		EN	CR	EN					DD	EN						DD
Sphyrna tiburo	LC																
Sphyrna tudes	VU																
Sphyrna zygaena	NT							VU		LC							LC
Squalus acanthias	VU	CR	EN				VU	EN		LC	LC	VU	EN			VU	LC
Squalus megalops	DD									LC							LC
Squalus mitsukurii	DD									EN							NT
Squatina squatina	CR																

* Species already listed on CMS.

4 Legal and management status of migratory sharks

4.1 Global legal and management status

The main global measures adopted to date at least partly in order to deliver the conservation and management of migratory shark populations (or hopefully having significant potential to do so in the medium to long-term) are fisheries initiatives; these are considered first below. They have generally not performed well in delivering their shark conservation and management objectives, indeed the lack of implementation of these shark fisheries conservation and management measures has been highlighted at every recent UN General Assembly (see Annex 6). Shark fisheries are a relatively low priority for fisheries managers because catch volumes and value (fins are the exception) are generally low. When resources are limited, species with a high economic value or species of high priority for food security will naturally receive management attention before sharks. Reasons for the lack of a detectable beneficial impact on fish stocks arising from the Fish Stock Agreement are reviewed by Maguire *et al*. (2006). They include shortage of data and the relatively short period since this agreement entered into force, when recovery of fish stocks requires several decades; reasons which are equally valid for most of the following initiatives. Global biodiversity measures for sharks, which include the listing of three species on appendices of CMS and CITES, are also too recent to have been implemented.

4.1.1 United Nations Convention on the Law of the Sea (UNCLOS)

UNCLOS was adopted in 1982 and came into force in 1994 (www.un.org/Depts/los/). It provides a framework for the conservation and management of fisheries and other uses of the seas by giving coastal States rights and responsibilities for the management and use of fishery resources within their national jurisdictions and enabling the establishment of EEZ. These responsibilities include having due regard to the rights and duties of other States (Article 56).

For stocks that occur within the exclusive economic zones of two or more coastal States, or both within the exclusive economic zone and in an area beyond and adjacent to it (Article 63), UNCLOS calls upon the coastal States and States fishing in the high seas to seek agreement upon the measures necessary for the conservation and development of those stocks in the adjacent high seas area, either directly or through appropriate subregional or regional organizations. Such stocks are likely to include the highly migratory species listed in UNCLOS Annex 1 (see Table 6) and other species that fall within the CMS definition of migratory. UNCLOS also calls upon the coastal States and other States fishing highly migratory species to cooperate in ensuring conservation and promoting the optimum utilization of those resources in their whole area of distribution. With respect to the high seas, UNCLOS recognizes the free access and the freedom of fishing to all States, calling upon all States and particularly upon fishing States to cooperate in the conservation and management of fishery resources occurring in the high seas Maguire *et al*. 2006).

Article 64 on Highly Migratory Species reads: "*The coastal State and other States whose nationals fish in the region for the highly migratory species listed in Annex I shall cooperate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone. In regions for which no appropriate international organization exists, the coastal State and other States whose nationals harvest these species in the region shall cooperate to establish such an organization and participate in its work*." Annex I lists the following shark taxa: *Hexanchus griseus*; *Cetorhinus maximus*; Family Alopiidae (three species); *Rhincodon typus*; Family Carcharhinidae (over 50 species, not all of which are migratory and/or oceanic);

Family Sphyrnidae (eight species, several of which are not oceanic and may not be migratory); and Family Isurida (currently Family Lamnidae). Coastal States are also required, under UNCLOS, to consider the effects of fishing on associated and dependent species (Article 61(4)), which is directly relevant to shark bycatch.

Other important provisions affecting the conservation and management of migratory sharks arise from the 1995 Agreement for the Implementation of the Provisions of UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. The UN Fish Stock Agreement (UNFSA) amplifies and facilitates the implementation of UNCLOS provisions relating to the conservation and management of high seas fish stocks, by setting out detailed mechanisms for co-operation between coastal and fishing States, including the establishment of regional fisheries arrangements or organisations. Adopted in 1995, it received its 30th ratification and came into force in 2001, thus establishing firm rules and conservation measures for high seas fishery resources. Unfortunately, to date, there are only a very few such management initiatives in evidence and the impact upon any listed fish species has been minimal (e.g. Maguire *et al*. 2006).

Table 6. Migratory/possibly migratory sharks included on UNCLOS Annex 1, Highly Migratory Species

Hexanchus griseus

Cetorhinus maximus
(CMS Appendix I & II, 2005. CITES Appendix II, 2002)

Family Alopiidae
- *Alopias pelagicus*
- *Alopias superciliosus*
- *Alopias vulpinus*

Rhincodon typus
(CMS Appendix II, 1999. CITES Appendix II, 2004)

Family Carcharhinidae
- *Carcharhinus acronotus*
- *Carcharhinus albimarginatus*
- *Carcharhinus altimus*
- *Carcharhinus amblyrhynchoides*
- *Carcharhinus amblyrhynchos*
- *Carcharhinus amboinensis*
- *Carcharhinus brachyurus*
- *Carcharhinus brevipinna*
- *Carcharhinus dussumieri*
- *Carcharhinus falciformis*
- *Carcharhinus galapagensis*
- *Carcharhinus isodon*
- *Carcharhinus leucas*
- *Carcharhinus limbatus*
- *Carcharhinus longimanus*
- *Carcharhinus macloti*
- *Carcharhinus melanopterus*
- *Carcharhinus obscurus*
- *Carcharhinus perezi*
- *Carcharhinus plumbeus*
- *Carcharhinus porosus*
- *Carcharhinus sealei*
- *Carcharhinus signatus*
- *Carcharhinus sorrah*
- *Galeocerdo cuvier*
- *Isogomphodon oxyrhynchus*
- *Lamiopsis temmincki*
- *Nasolamia velox*
- *Negaprion acutidens*
- *Negaprion brevirostris*
- *Prionace glauca*
- *Rhizoprionodon acutus*
- *Rhizoprionodon terraenovae*

Family Isurida (currently Family Lamnidae)
- *Carcharodon carcharias*
  (CMS Appendix I & II, CITES Appendix II, 2002)
- *Lamna ditropis*
- *Lamna nasus*
- *Isurus oxyrinchus*
- *Isurus paucus*

Family Sphyrnidae
- *Eusphyra blochii*
- *Sphyrna corona*
- *Sphyrna lewini*
- *Sphyrna media*
- *Sphyrna mokarran*
- *Sphyrna tiburo*
- *Sphyrna tudes*
- *Sphyrna zygaena*

UNFSA calls for Parties to protect marine biodiversity, minimise pollution, monitor fishing levels and stocks, provide accurate reporting of and minimise by-catch and discards, and gather reliable, comprehensive scientific data as the basis for management decisions. It mandates a precautionary, risk-averse approach to the management of straddling and highly migratory stocks and species in cases where scientific uncertainty exists. States are directed to pursue co-operation for such species through subregional fishery management organisations or arrangements.

The Agreement specifically requires coastal States and fishing States to co-operate to ensure the conservation and optimum utilisation of the species listed on Annex I (Table 6). Other species and populations may qualify as 'straddling stocks' under Article 63(2) of the Convention, particularly in areas where jurisdiction has not been extended to the 200 mile limit (e.g. Mediterranean). Coastal and fishing States are also required to agree measures to ensure the conservation of qualifying chondrichthyan species or stocks that straddle coastal waters and high seas.

Finally, UNFSA does not explicitly address fisheries for other high seas fisheries resources (those that are neither straddling nor migratory stocks – for example the fisheries for deepsea species on continental shelf slopes outside EEZs that have arisen since UNCLOS. Thus, for chondrichthyans that occur only on the high seas, fishing States must take measures themselves and/or in co-operation with other fishing States to ensure that these stocks are conserved. It should be noted that some of these high seas species may be highly migratory, even undertaking regular movements across ocean basins, but if they never enter State EEZs (i.e. do not cross a national jurisdictional boundary), may technically not qualify as migratory under CMS.

4.1.2 International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks)

The UNFSA is complemented by the voluntary FAO Code of Conduct for Responsible Fisheries, which sets out principles and international standards of behaviour for responsible practices. The FAO Conference that adopted the Code of Conduct in 1995 also requested FAO *inter alia* to elaborate appropriate technical guidelines in support of the implementation of the Code, in collaboration with members and interested organisations. The voluntary IPOA-Sharks and its associated technical guidelines (FAO 2000) were developed by FAO within the framework of the Code of Conduct for Responsible Fisheries, probably in response to the request to FAO made in CITES Conf. Res. 9.17 (see Introduction).

The IPOA-Sharks, adopted in 1999, highlights the action required for sharks within the context of the Code of Conduct for Responsible Fisheries. Its overall objective is to ensure the conservation and management of sharks and their long-term sustainable use. It embraces the precautionary approach and encompasses all chondrichthyan fisheries, whether target or bycatch, industrial, artisanal or recreational, within the context of four main elements: species conservation, biodiversity maintenance, habitat protection and management for sustainable use (see Annex 3 for full text). It called upon all States to produce a Shark Assessment Report (SAR) and, if they have shark fisheries, to develop and implement National Plans of Action (NPOA) by the COFI session of early 2001. The NPOA should identify research, monitoring and management needs for all chondrichthyan fishes that occur in their waters. In implementing the IPOA, States are also urged to ensure effective conservation and management of sharks that are transboundary, straddling, highly migratory and high seas stocks. The Technical Guidelines (FAO 2000) provide general advice and a framework for States to use when developing Shark Assessment Reports, National Shark Plans and joint Shark Plans for shared transboundary species of sharks.

Progress with implementation of the IPOA–Sharks has, however, been disappointing and there appears to have been little improvement in practical shark fisheries management, whether in State waters or on the High Seas. The majority of National and Regional Fisheries Management Organisations also appear not to be implementing the IPOA-Sharks effectively, if at all. This situation arises from a combination of lack of resources, lack of technical support, a primary focus on other more pressing fisheries management priorities, and because the IPOA-Sharks is wholly voluntary: States and Fisheries Management Organisations are not obliged to undertake any of the actions urged by FAO in the IPOA and it appears that few consider it to be a sufficiently high priority. The latest FAO review of progress with the IPOA–Sharks prepared for the 27th meeting of FAO's Committee on Fisheries, 5–9 March 2007, confirmed the slow progress with implementation; fewer than 20% of FAO COFI Members have implemented an NPOA-Shark.

This lack of implementation of FAO IPOAs extends beyond sharks to far more pressing fisheries issues. Although over 80% of FAO Members have identified illegal, unreported and unregulated (IUU) fishing as a problem, less than half of COFI's Members have developed NPOAs for IUU fishing. Fishing capacity is recognised globally as a key underlying cause of IUU fishing and a major reason why Members of Regional Fisheries Bodies have failed to agree on and implement effective management measures for overfished stocks, but fewer than 10% of Members have developed an NPOA on fishing capacity. Finally, 40% of Members have yet to implement an NPOA for seabirds – another issue of particular concern for CMS Parties because of high bycatch levels.

Both COFI and the UNGA, among others, have repeatedly called for States to implement these voluntary instruments, but it appears that these non-binding requests are falling on deaf ears.

4.1.3 Convention on International Trade in Endangered Species (CITES)

CITES was established in recognition that international cooperation is essential for the protection of certain species of wild fauna and flora from over-exploitation through international trade. It came into force in 1975, creating the international legal framework for the prevention of trade in endangered species of wild fauna and flora and for the effective regulation of international trade in other species which may become threatened in the absence of such regulation (www.cites.org). Three shark species are listed on Appendix II of CITES: basking shark *Cetorhinus maximus*, whale shark *Rhincodon typus*, and white shark *Carcharodon carcharias*, and CITES maintains an active involvement in shark conservation issues under the Resolution on the Conservation and Management of Sharks (see Annex 2). Other migratory shark species that are in unfavourable condition and depleted as a result of international trade demand are currently under consideration for debate by the Conference of Parties in mid 2007, including porbeagle shark *Lamna nasus* (also listed on Annex I of UNCLOS) and spiny dogfish *Squalus acanthias*, while a wider range of species may be discussed as a result of the work of the CITES Animals Committee's Intercessional Shark Working Group and a document submitted by Australia. The FAO has also commissioned a background study, building on the IPOA sharks and the recommendations of the CITES Shark WG, to identify weaknesses and opportunities for improving fisheries management of species considered most threatened by international trade. A discussion paper is being prepared for use during an FAO workshop planned for 2007.

4.1.4 Convention on Migratory Species

The Convention on the Conservation of Migratory Species (CMS), adopted in 1979 and whose entry into force was in 1983 is, like CITES, one of the five global biodiversity-related conventions, with over 100 Parties. CMS espouses a migratory range approach to migratory species conservation, encouraging national level species- and ecosystem-based actions to conserve migratory species, including research. It then provides the basis for them to be coordinated across a migratory range through the development and implementation of international cooperative tools such as conservation agreements. The cooperative instruments – ranging from stand alone action plans to informal and formal international agreements with integral action plans – can be tailored to the specific needs of individual or groups of species and their habitats.

CMS is a global framework convention whose operational tools can be global or regional in scope. Its Appendices largely drive the Convention's activities, with listing on these Appendices triggering certain obligations on the part of its Parties. Thus, Parties must adopt strict protection measures for endangered migratory species (listed under Appendix I), while CMS provides a framework within which to conclude formal (legally binding) Agreements for the conservation and management of migratory species with an unfavourable conservation status and that would benefit significantly from international cooperation (listed in Appendix II). They may also cover any species that would benefit significantly from international co-operation. These Agreements are open to accession by all Range States of the species concerned, not just to the CMS Parties.

CMS's flexible nature also allows it to catalyze the development of formal or less formal (e.g. Memoranda of Understanding) international cooperative instruments for any population or any geographically separate part of the population of any species or lower taxon of wild animals, members of which periodically cross one or more national jurisdictional boundaries (Article IV (4)). The important points here being that action is neither limited to migratory species listed on Appendix II, nor by the Convention's definition of migratory species.

Many marine species are already the subject of action under CMS, through six formal Agreements for species listed on the Appendices and ten less formal MoUs developed under Article IV (4). The former include the first CMS Agreement on Wadden Sea Seals, the Agreement on Small Cetaceans of the Baltic and North Sea (ASCOBANS), Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), and Agreement on the Conservation of Albatrosses and Petrels (ACAP). The latter include the MoU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia, the African Atlantic Coast Marine Turtles MoU, and the recent Pacific Islands Cetaceans MoU.

The whale shark *Rhincodon typus*, white shark *Carcharodon carcharias* and basking shark *Cetorhinus maximus* are listed on CMS (all on Appendix II, white shark and basking shark also on Appendix I). The Sixth Meeting of the CMS Conference of the Parties (1999, Cape Town) called for co-operative actions to be undertaken for the whale shark. At the Eighth CMS Conference of the Parties (November 2005, Nairobi), Australia, New Zealand and the Seychelles successfully co-sponsored a Recommendation calling for the development of a global conservation instrument for migratory sharks. Recommendation 8.16 "Migratory Sharks" (see Annex 1) was adopted by the Conference of the Parties, and strongly supported by, among other Parties, India, Philippines, Mauritania and the United Kingdom.

4.2 Regional legal and management status

Table 9 summarises the regional and national legal and management status of migratory shark species, based on a request for information to the IUCN Shark Specialist Group. This is not comprehensive, but identifies those nationally protected species and management measures at species level in various States and Regional Fisheries Bodies and Regional Agreements that were identified through this survey and from other sources.

4.2.1 Regional Fisheries Management Organisations

Regional Fisheries Bodies (RFBs) are usually (but not invariably) established under the mandate of FAO (www.fao.org/fi/body/rfb/index.htm). They include management, advisory and scientific fisheries bodies. There are currently some 16 Regional Fisheries Management Organizations (RFMOs) with a mandate to establish binding management measures for fisheries resources. They serve as fora through which States meet and cooperate to manage fisheries for the conservation and sustainable use of marine living resources. Others are still to be established as additional conventions come into force. Additionally, 18 fisheries advisory bodies and four scientific organisations deal with specified marine resources in particular geographic areas.

Most RFBs were established before the UN Fish Stock Agreement (1995) and the FAO Compliance Agreement (1993) were adopted. Several even predate the adoption in 1982 of the UN Convention on the Law of the Sea. This means that the terms of reference of many RFBs are generally not as precautionary in their approach as that mandated by the UNFSA and do not incorporate the relatively recent introduction of the precautionary approach to fisheries management. Many RFBs also fall short in areas such as enforcement and flag-state responsibilities, which receive particular attention from the UNFSA. Two recent reviews have criticised their performance (Willock and Lack 2006) and recommended improvements (IUCN 2006).

Willock and Lack (2006) concluded that "*RFMOs have generally failed to prevent over-exploitation of straddling and highly migratory fish stocks, to rebuild overexploited stocks and to prevent degradation of the marine ecosystems in which fishing occurs. Not only have broader, international expectations not been met but RFMOs have also largely failed to meet the objectives of their own governing conventions, generally characterized as conservation and sustainable utilization of target stocks under their mandate. It is difficult to identify examples of sustainable management of target stocks by RFMOs*."

IUCN (2006) notes "*it is time to consider necessary changes to the way RFMOs promote the conservation and sustainable and equitable use of marine living resources. As appropriate to the individual circumstances of each RFMO, these steps should eliminate gaps in the management of marine living resources, should include changes to institutional arrangements for RFMOs, should focus on changes with respect to conservation and sustainable use management measures, should provide for closer linkages between scientific advice and conservation and management measures, and should provide for reforms in enforcement measures*."

Those RFBs in existence or currently being formed will address most fisheries targeting straddling stocks (Maguire *et al*. 2006), but only a few organisations cover whole ocean basins, leaving some high seas fish stocks unmanaged. Even the largest RFMOs tend to have only some 15 to 30 members (see Annex 7). There is considerable geographical overlap between many RFBs, but overlap in species responsibilities doesn't generally occur and not all fisheries resources

(particularly not high seas species) fall within the mandate of existing RFBs. Recommendations in IUCN (2006) include establishing new or expanded RFMOs to cover geographic and species gaps.

Furthermore, RFMOs with jurisdiction over fisheries that take a large bycatch of oceanic and highly migratory sharks (whether utilised or discarded) are aware of these bycatch issues and may be undertaking data collection programmes. Most have, however, failed to regulate it (Maguire *et al*. 2006), other than through the shark finning bans that have now been adopted by many of the tuna RFMOs. (See Annex 7 for some examples of these, their membership and oceanic coverage.)

Chondrichthyan fish species are not usually included within the species-specific marine resource management remit of most RFMOs, which were often established to manage defined taxa (such as tunas and billfishes), although some (e.g. ICCAT) do already include sharks and many more could choose to do so, particularly if the fisheries within their remits have significant impacts on or catches of sharks (RFBs often have a mandate enabling conservation and management measures to be implemented for related or bycatch species). Only a few, however, have actually implemented specific measures for sharks beyond basic catch reporting requirements and finning bans. With the exception of finning bans, if others follow suit by expanding their remit to sharks, this is most likely to be within the context of RFB data collection and monitoring duties, rather than as a subject of targeted fisheries management activities. This is because, perhaps understandably, RFBs tend to focus their limited resources on management efforts for the most important, valuable and high volume target fisheries within their remit.

IUCN SSG and TRAFFIC (2002a&b) summarised the potential for a selection of RFBs and advisory bodies to cover the monitoring and management of shark species. This review is updated (not comprehensively) here.

- The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) has prohibited directed fishing on shark species in the Convention Area, other than for scientific research purposes, and is encouraging the live release of shark bycatch. The prohibition will apply until advice from the Scientific Committee is that such fishing may occur in the Convention Area (Conservation Measure 32-18 (2006) on the conservation of sharks).
- The Commission for the Conservation of Southern Bluefin Tuna (CCSBT) Ecologically Related Species Working Group has developed an identification guide for shark species incidentally caught in SBT fishing grounds, to assist in developing abundance indices for these species.
- The International Commission for the Conservation of Atlantic Tunas (ICCAT) has conducted stock assessments for the two highly migratory shark species (blue shark *Prionace glauca* and shortfin mako *Isurus oxyrinchus*) that are most regularly caught as bycatch in its fisheries, may make similar efforts for porbeagle *Lamna nasus*, is encouraging the collection and submission of shark catch data, and has adopted a shark finning ban.
- The Inter-American Tropical Tuna Commission (IATTC) is estimating catches and incidental fishing mortality on sharks, promotes live release of sharks from purse seines, and has adopted a shark finning ban.
- The Indian Ocean Tuna Commission (IOTC) records nominal catch and discards of non-target species and has adopted a shark finning ban, the latter partly in response to reports of a large shark finning fleet active in the Commission's area.
- The Northwest Atlantic Fisheries Organisation (NAFO) has adopted a shark finning ban.

- The Northeast Atlantic Fisheries Commission (NEAFC) has adopted a shark finning ban and is beginning to regulate deepwater shark fisheries (straddling, transboundary and high seas stocks).
- The Western Central Pacific Fish Commission adopted a Resolution "Conservation and Management Measure for Sharks in the Western and Central Pacific Ocean". Since this applies only to vessels of over 24m in length, it excludes the majority of vessels taking sharks.

4.2.2 Regional Agreements, Conventions and management bodies

The remit of the many Regional Seas Conventions (generally established under the auspices of the United Nations Environment Programme's Regional Seas Programme, www.unep.ch/seas/) usually includes, *inter alia*, protected areas and the protection and management of biodiversity (wild animals and plants). They generally oblige States to take appropriate measures for the conservation and management of listed species, including the establishment of co-operation programmes to assist with protected species management and conservation, and the development of regional recovery programmes. Only one Regional Seas Convention (the Barcelona Convention) is known to list chondrichthyan fishes but all could potentially do so.

The Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention) was adopted in 1976, and entered into force in 1978. It was revised in 1995 and renamed the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean. The Barcelona Convention 'Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean' lists eight species of chondrichthyan fish: white shark *Carcharodon carcharias*, basking shark *Cetorhinus maximus* and giant devil-ray *Mobular mobular* on Annex II (Endangered or Threatened species), and shortfin mako *Isurus oxyrinchus*, porbeagle *Lamna nasus*, blue shark *Prionace glauca*, white skate *Raja alba* and angel shark *Squatina squatina* on Annex III (Species whose exploitation is regulated). This legally binding instrument was adopted in 1995 and came into force in 1999 - even though the revised text of the Convention has yet to enter into effect, but only a very few Parties have used their national legislation to implement it by providing legal protection to Annex II species. All of the shark species (and possibly both rays) listed on these Annexes are migratory (see Table 3).

At the request of the Contracting Parties to the Barcelona Convention, the Mediterranean Regional Activities Centre for Specially Protected Areas (RAC/SPA) prepared an Action Plan for the conservation of Mediterranean species of cartilaginous fish, focusing on species and habitat protection; improved monitoring and data collection; education and sustainable management for adoption by the Contracting Parties.

Other examples of regional seas conventions which could potentially include chondrichthyan fish within their remit include the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean, the East African Regional Convention and the Convention for the Protection of the Natural Resources and Environment of the South Pacific. To date, very few marine species, none of them chondrichthyans, are listed, even though many species clearly qualify for inclusion and could benefit from appropriate management within the State EEZs.

The OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic considers shark conservation issues, but has no competence to adopt programmes or measures on questions relating to fisheries management; it can only draw these matters to the attention of

the authority or international body competent for that question. The OSPAR Strategy on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area includes provisions for producing a list of threatened and/or declining species and habitats. This list has no legal status but is intended to guide the OSPAR Commission in setting priorities for its further work on the conservation and protection of marine biodiversity. The basking shark is included on OSPAR's initial list for all OSPAR regions and additional species, some of which are migratory, are under consideration for addition to this list.

The Association of Southeast Asian Nations (ASEAN) Agreement on the Conservation of Nature and Natural Resources (1985) covers Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand and was at the time considered to be one of the most modern, comprehensive and forward-looking of all conservation treaties. Its Parties were required to give special protection to threatened and endemic species, to preserve the critical habitats of endangered or rare species, species that are endemic to a small area, and migratory species, and to implement sustainable management plans for harvested species. It has, therefore, the potential to be applied to the conservation and management of threatened, rare, migratory and or harvested chondrichthyan fishes of the ASEAN region. Unfortunately, it seems unlikely to enter into force (Koh 2003).

The new African Biodiversity Convention also has potential for application to the conservation and management of sharks.

4.3 National legal and management status of migratory sharks

4.3.1 National Shark conservation and management measures

The guiding principles of the FAO IPOA–Sharks (section 4.1.2 and Annex 3) are that States contributing to fishing mortality of a species or stock should participate in its conservation and management, and that shark resources should be used sustainably. Although wholly voluntary, the IPOA called upon all States to produce a Shark Assessment Report (SAR) and, if they have shark fisheries, to develop and implement National Plans of Action (NPOAs, or Shark Plans). In implementing the IPOA, States are also urged to ensure effective conservation and management of sharks that are transboundary, straddling, highly migratory and high seas stocks.

Progress with implementation has been disappointing. Only a small proportion of shark fishing nations have produced National Shark Plans, and many of the Shark Plans that have been drawn up are weak and/or unlikely to be implemented effectively. On the other hand, some States without Shark Plans (e.g. New Zealand and Canada) have more effective shark fisheries management measures in place than do States with draft or formally adopted Shark Plans.

Several States have made more progress with the protection and management of sharks under biodiversity conservation legislation than through shark fisheries management. Table 9 presents the legal and management status of migratory sharks by species in the relatively small number of range States that are known to be implementing some form of species-specific management. This list is certainly incomplete since new regulations are continually being introduced, but it provides a broad overview of the type of national management that is currently being applied to the conservation and management of migratory sharks.

It is helpful, in addition to focusing on management initiatives for individual migratory shark species, to summarise activities by the most important migratory shark range States. The States with highest reported migratory shark biodiversity have already been identified in section 3 and Table 5. The other very important consideration is the relative impact of States upon migratory shark stocks through fisheries mortality. While it is not easy to determine the precise levels of catches and landings of migratory sharks, FAO landings data have been used by Lack and Sant (2006) to identify the top 20 shark catching countries in 2003. These are most likely also the major fishers of migratory sharks, since the largest shark fishing nations tend to catch large numbers of highly migratory coastal and pelagic shark species, either in target fisheries or as a utilised or discarded bycatch, particularly from tuna and billfish fisheries. These States are listed in Table 7.

Table 7. Top twenty shark catching countries in 2003 (Lack and Sant 2006).

Country	% of world shark catch	Country	% of world shark catch
1. Indonesia	14.09	11. Thailand	2.89
2. Taiwan, Prov. of China	7.87	12. France	2.63
3. India	7.38	13. Sri Lanka	2.49
4. Spain	7.19	14. United Kingdom	2.29
5. USA	4.13	15. New Zealand	2.15
6. Pakistan	3.88	16. Portugal	1.98
7. Argentina	3.7	17. Iran	1.86
8. Mexico	3.6	18. Nigeria	1.77
9. Malaysia	3.26	19. Brazil	1.47
10. Japan	2.91	20. Korea	1.47

Table 8 combines the list of 20 major shark fishing nations from Table 7, and the States with highest migratory shark biodiversity (Table 5). Those range States appearing on both lists and which are presumed therefore potentially to have a particularly important contribution to make to migratory shark conservation and management are Indonesia, Taiwan Province of China, India, Spain, USA, Mexico, Japan and Brazil. Also included in this table are their membership of RFMOs, CMS, and whether they have a Shark Plan or shark fisheries management activity underway.

Table 8. Priority Range States and Fishing States for migratory shark management

State	Major fisher[19]	Centre of biodiversity[20]	CMS Party/ Signatory	RFMO Contracting/ Cooperating Party	Shark Plan
Argentina	X		X		
Australia		X	X	IOTC	X
Bahamas		X			
Brazil	X	X			X
China		X		IOTC, IATTC, ICCAT	
Colombia		X			
Costa Rica		X		IATTC	
Cuba		X			
Egypt		X	X		
France	X		X	IOTC, IATTC, ICCAT	
India	X	X	X	IOTC	
Indonesia	X	X			X
Iran	X				
Japan	X	X		IOTC, IATTC, ICCAT	X
Korea	X			IOTC, ICCAT	
Madagascar		X		IOTC	
Malaysia	X			IOTC	
Mexico	X	X		IATTC, ICCAT	X
Morocco		X	X		
Mozambique		X			
New Zealand	X		X		management
Nicaragua		X		IATTC, ICCAT	
Nigeria	X		X		
Pakistan	X		X	IOTC	
Portugal	X		X		
South Africa		X	X	ICCAT	X
Spain	X	X	X	IATTC	
Sri Lanka	X		X	IOTC	
Taiwan, Prov. China	X	X		IATTC	X
Thailand	X			IOTC	
United Kingdom	X		X	IOTC, ICCAT	X
USA	X	X		IATTC, ICCAT	X
Viet Nam		X			

[19] As defined in Table 7
[20] As defined in Table 5

Table 9. The regional and national legal and management status of migratory sharks.
(This table was drawn up with the assistance of the IUCN Shark Specialist Group network and is not comprehensive. National species-specific conservation and management initiatives may apply to EEZ in more than one ocean basin. RFO initiatives focus on sea areas – ICCAT is Atlantic, IATTC Pacific.)

Species	Africa	Australasia	Central America & Caribbean	Central & South America	Europe	North America (US HMSF MP covers Atlantic only)
Alopias pelagicus	**SA:** bycatch limit. Recreational bag limit.					
Alopias superciliosus	**SA:** bycatch limit. Recreational bag limit.					
Alopias vulpinus	**SA:** bycatch limit. Recreational bag limit.					Pelagic species on U.S. Highly Migratory Species Fishery Management Plan (HMSFMP)
Carcharhinus acronotus						Small Coastal Shark on U.S. HMSFMP
Carcharhinus albimarginatus	**SA:** Recreational bag limit.					
Carcharhinus altimus	**SA:** Recreational bag limit.					Prohibited Species on U.S. HMSFMP
Carcharhinus amboinensis	**SA:** Recreational bag limit.					
Carcharhinus brachyurus	**SA:** Recreational bag limit.					
Carcharhinus brevipinna	**SA:** Recreational bag limit.					Large Coastal Shark on U.S. HMSFMP
Carcharhinus falciformis	**ICCAT** finning ban. **SA:** bycatch limit. Recreational bag limit.		**ICCAT and IATTC:** finning ban.	**ICCAT and IATTC:** finning ban.	**ICCAT:** finning ban.	**ICCAT:** finning ban. Large Coastal Shark on U.S. HMSFMP
Carcharhinus galapagensis		**NZ:** Protected in Kermadec Islands Marine Reserve.				Prohibited Species on U.S. HMSFMP
Carcharhinus isodon						Small Coastal Shark on U.S. HMSFMP
Carcharhinus leucas	**SA:** Recreational bag limit.					Large Coastal Shark on U.S. HMSFMP
Carcharhinus limbatus	**SA:** Recreational bag limit.					Large Coastal Shark on U.S. HMSFMP
Carcharhinus longimanus	**ICCAT:** finning ban. **SA:** Recreational bag limit.		**ICCAT and IATTC:** finning ban.	**ICCAT and IATTC:** finning ban.	**ICCAT:** finning ban.	**ICCAT:** finning ban. Pelagic Shark on U.S. HMSFMP
Carcharhinus melanopterus	**SA:** Recreational bag limit.					
Carcharhinus obscurus	**SA:** Recreational bag limit.					Prohibited Species on U.S. HMSFMP
Carcharhinus plumbeus	**SA:** Recreational bag limit.					Large Coastal Shark on U.S. HMSFMP
Carcharhinus signatus						Prohibited Species on U.S. HMSFMP
Carcharias taurus	**SA:** Prohibited species commercial line fishery. Recreational bag limit.	**Australia:** Protected Species. National Recovery Plan.			**Mediterranean Sea:** UNEP Action Plan urges legal protection.	Prohibited Species on U.S. HMSFMP

Species	Africa	Australasia	Central America & Caribbean	Central & South America	Europe	North America (US HMSF MP covers Atlantic only)
Carcharodon carcharias	**SA and Namibia**: Protected.	**Australia:** Protected in commonwealth waters including EEZ and coastal waters of all States. Recreational catch and release permitted. **NZ:** Protected **Maldives:** Protected			**Mediterranean sea:** Barcelona Convention **Malta:** Protected	Pelagic Shark on U.S. HMSFMP **California:** Protected. **Canada:** COSEWIC: Assessed as At Risk. Considering listing on Sched. 1 of the Species at Risk Act. Research programme. **USA, Pacific Ocean:** Limited entry, mandatory logbooks, and specific time-area closures.
Cetorhinus maximus	**SA:** Prohibited species commercial line fishery. Recreational bag limit.	**NZ:** Partial protection through NZ's Fisheries Act. Commercial target fishing banned, bycatch may be utilised. Being considered for full protection.			**ICES areas IV-VI-VII:** TAC **Mediterranean sea:** Barcelona Convention **UK, Isle of Man, Guernsey, Malta:** Protected	Pelagic Shark on U.S. HMSFMP
Galeocerdo cuvier	**SA:** Recreational bag limit.					Large Coastal Shark on U.S. HMSFMP
Galeorhinus galeus	**SA:** Recreational bag limit.	**Australia:** Limited entry for gillnets and longlines, net length limit, TAC, nursery closed seasons, minimum gillnet meshsize. Closed areas to shark gillnets and longlines. Recreational bag limits.				
Hemipristis elongatus	**SA:** Recreational bag limit.					
Hexanchus griseus					**Mediterranean sea:** General ban on bottom trawling below 1000m.	**San Francisco Bay:** recreational fishery quota set for fish per person-pole – problematic.
Isogomphodon oxyrhynchus				**Brazil:** Protected		

Species	Africa	Australasia	Central America & Caribbean	Central & South America	Europe	North America (US HMSF MP covers Atlantic only)
				on Federal regulation of Endangered species.		
Isurus oxyrinchus	**SA:** bycatch limit. Recreational bag limit.	**NZ:** Managed under QMS	**ICCAT and IATTC:** finning ban	**ICCAT and IATTC:** finning ban. **Chile:** gear regulations for artisanal fishery.	**ICCAT:** finning ban. ICCAT shark stock assessment workshop (ICCAT 2005) recommended that directed monitoring and research investments for sharks. Bern & Barcelona Conventions	Prohibited Species on U.S. HMSFMP. **Atlantic Canada:** COSEWIC Assessed At Risk. Active research. Catch limits. License limitation, finning ban, gear restrictions, area and seasonal closures, bycatch limits, hook and release in recreational fisheries (Hurley 1998) **Pacific Canada:** Limited entry, mandatory logbooks, and specific time-area closures. **Atlantic US:** Commercial quotas. Recreational bag limits. **ICCAT:** Finning ban. Limited entry, mandatory logbooks, specific time-area closures. **Pacific US:** Closure of targeted longline fishery. Recreational fishery bag limits in California. Harvest guidelines for Ca, Or, Wa. US west coast swordfish longline fishery closed, may reopen.
Isurus paucus	**SA:** bycatch limit. Recreational bag limit.		**ICCAT and IATTC:** finning ban	**ICCAT and IATTC:** finning ban	**ICCAT:** finning ban.	Prohibited Species on U.S. HMSFMP **ICCAT:** finning ban.
Lamna ditropis						Commercial fishing banned. Recreational bag limit. Bycatch permitted.
Lamna nasus	**SA:** Recreational bag limit.	**NZ:** small regulated fishery with TAC.			Bern Convention. **ICES area 1-XIV:** TAC. **Norway, Faeroe Islands:** quota in EC waters. Quotas exceed total landings.	Prohibited Species on U.S. HMSFMP. **COSEWIC:** Assessed as At Risk but not placed on Sched. 1 of the Species at Risk Act. Quota. Ongoing monitoring programme.
Megachasma pelagios	**SA:** Recreational bag limit.					
Negaprion acutidens	**SA:** Recreational bag limit.					
Negaprion brevirostris						Large Coastal Shark on U.S. HMSFMP
Notorynchus cepedianus						Prohibited Species on U.S. HMSFMP

Species	Africa	Australasia	Central America & Caribbean	Central & South America	Europe	North America (US HMSF MP covers Atlantic only)
Odontaspis ferox	**SA:** Recreational bag limit.	**Australia:** Protected in NSW waters since 1984. **NZ:** Being considered for legal protection.				
Odontaspis noronhai	**SA:** Recreational bag limit.					Prohibited Species on U.S. HMSFMP
Prionace glauca	**SA:** bycatch limit. Recreational bag limit.	**NZ:** Managed under QMS	**ICCAT and IATTC:** finning ban	**ICCAT and IATTC:** finning ban	**ICCAT:** finning ban. Bern & Barcelona Conventions	Prohibited Species on U.S. HMSFMP. **COSEWIC:** Assessed as At Risk. Considering listing on Sched. 1 of the Species at Risk Act. Active research.
Pseudocarcharias kamoharai	**SA:** Recreational bag limit.					
Rhincodon typus	**SA:** Prohibited species in commercial line fishery. Research programme. **Seychelles:** Protected. **Mozambique:** Research Programme.	**Australia:** Protected in Commonwealth waters and Queensland, Tasmania and Western Australia. **NZ:** Being considered for legal protection **Maldives, Philippines, Malaysia:** Protected. Research Programme. **India, Thailand:** Protected **Taiwan:** recently reduced quota.	**Caribbean: Honduras, Mexico, Belize (small area):** Protected. Research Programme.			Prohibited Species on U.S. HMSFMP
Rhizoprionodon acutus	**SA:** Recreational bag limit.					
Rhizoprionodon terraenovae						Small Coastal Shark on U.S. HMSFMP
Somniosus antarcticus		**Australia:** bycatch in toothfish fishery released - survival rates unknown.				

Species	Africa	Australasia	Central America & Caribbean	Central & South America	Europe	North America (US HMSF MP covers Atlantic only)
Somniosus microcephalus						**Canada:** monitoring commercial bycatch through fishery observer data.
Somniosus pacificus						Prohibited Species on U.S. HMSFMP
Sphyrna lewini	**SA:** Recreational bag limit.		**ICCAT and IATTC:** finning ban	**ICCAT and IATTC:** finning ban		Large Coastal Shark on U.S. HMSFMP
Sphyrna mokarran	**SA:** bycatch limit. Recreational bag limit.		**ICCAT and IATTC:** finning ban	**ICCAT and IATTC:** finning ban		Large Coastal Shark on U.S. HMSFMP
Sphyrna tiburo						Small Coastal Shark on U.S. HMSFMP
Sphyrna zygaena	**SA:** bycatch limit. Recreational bag limit.		**ICCAT and IATTC:** finning ban	**ICCAT and IATTC:** finning ban		Large Coastal Shark on U.S. HMSFMP
Squalus acanthias	**SA:** bycatch limit.				**ICES Area IIa and IV:** TAC. ICES recommended a zero quota in 2006, but advice not heeded by EU.	**Atlantic:** 1999/2000 US federal dogfish rebuilding plan – not yet effective. **Pacific:** quotas, landings appear sustainable. Trip limits (NMFS) for the last 9 months of 2006. Gear-specific and depth-based closed areas designed to protect rockfish stocks. **Canada:** quota, population assessment by 2007.
Squatina squatina					Annex III of Bern Convention. **UK:** Proposed for UK Wildlife and Countryside Act in 2001 - no decision. 2001 proposal for OSPAR listing failed. OSPAR proposal again in 2006.	

4.3.2 Lessons learned from current management of migratory sharks

To summarise from the above sections, management of migratory sharks appears to be a very low priority for the majority of range States and regional fisheries bodies:

- The management of migratory sharks (and indeed the majority of shark species) is inadequate, if not completely lacking, in most of the world's oceans.
- Very few fishing States have developed national shark fisheries management plans; even fewer are actually actively applying shark fisheries management measures.
- FAO (which is not a fisheries management body) has largely failed to persuade its Members or Regional Fisheries Bodies to assign a high priority to shark fisheries management.
- The shark finning resolutions adopted by Regional Fisheries Management Organisations for pelagic/oceanic sharks are not necessarily binding. They do not apply to the fleets of non-Parties. In one case (Western Central Pacific) most Party flagged vessels taking sharks are excluded from implementing a finning ban.
- The number of species-level shark conservation actions already adopted indicates that range States consider sharks to be as high, if not a higher biodiversity conservation priority than they are a fisheries management priority.

Despite the fairly large number of fisheries and biodiversity instruments potentially available to deliver the conservation and management of migratory sharks (albeit largely under utilised), there are still gaps in many of the international regimes for managing fisheries that directly or incidentally catch sharks and rays, including migratory species. Where there is a framework for managing shark fisheries, management measures have generally not been applied and such application is likely to be a low priority compared with other more pressing fisheries management priorities.

It is unclear whether the Fish Stock Agreement has yet had an impact on the status of any of the high seas and migratory fish stocks that it covers (Maguire *et al*. 2006), including those species that are of a higher commercial value and a higher management priority than sharks.

It is also too early to determine whether CITES listings for migratory sharks has improved the regulation of trade in shark products and the sustainable management of the stocks that provide these products. CMS has not yet taken any direct action to improve the management of its listed shark species, although an Appendix I listing automatically triggers a requirement for each Party Range State to protect the species, which applies to their flagged vessels inside and outside their waters, and some States have taken action to implement these listings. These and other biodiversity instruments currently cover only a very limited number of species.

However, there certainly is a wide range of potential international instruments and agreements available to encourage or deliver improved management of chondrichthyan fish populations, both in territorial waters and EEZs and on the high seas, should the political will exist to take such steps. It unfortunately appears lacking at present for fisheries management, despite frequent reminders from FAO COFI and UNCLOS of the urgency of introducing management measures for sharks.

There appears to be scope for migratory shark management performance to improve significantly if biodiversity and fisheries instruments are used together.

Most national and regional fisheries organisations would, however, highly likely prefer to see shark management (particularly for commercially-fished species) remain within their remit and operating under fisheries agreements, such as the UN Fish Stock Agreement and FAO IPOA–Sharks, even though shark fisheries management appears to be a very low priority for these bodies. There has certainly been considerable resistance from some fisheries management bodies to the involvement of CITES in shark management matters. In addition to the lack of convincing management effort from fisheries bodies, however, the membership of RFMOs is also generally restricted to a much smaller number of Contracting and/or collaborating Parties (CPs) than is the equivalent regional membership of the international natural resource management conventions (CITES and CMS) that now list some species of migratory sharks and may shortly be considering adding additional species.

It is possible that some biodiversity instruments may even be able to provide a stronger framework within which to deliver shark conservation or trade management than do voluntary fisheries codes or agreements, or RFMOs with a tightly defined remit for the active management only of certain listed species or that understandably choose to focus on the most important commercial species within their region.

There appears to be considerable potential for CMS' and CITES' interventions to stimulate the political will necessary to make shark conservation and management a higher priority. The Contracting Parties to RFMOs, who should be playing a key role in improving the collaborative management of migratory and shared shark stocks, seem unlikely under current circumstances to take up the challenge of widening their remit to more active management for sharks. Biodiversity instruments should, after all, ideally result in their Parties mainstreaming conservation measures into their fisheries policies.

The best available option, though, is to seek ways to combine the strengths of biodiversity and fisheries instruments in order to achieve the more effective management and recovery of migratory shark populations, particularly in the key range States identified in Table 8, which are important both for shark fisheries and shark biodiversity conservation. Fisheries and biodiversity agreements do not cover completely different natural resource management priorities, but overlap significantly within the area of sustainable resource utilisation. They can complement each other and the thoughtful use of both types of instruments will yield an important synergy, equipping fisheries and natural resource managers to reverse current population declines and promote sustainable use more effectively than would be the case if only a single form of management is applied. After all, Paragraph 25 of the IPOA-Sharks notes that 'States, within the framework of their respective competencies and consistent with international law, should strive to cooperate through regional and subregional fisheries organizations or arrangements, and other forms of cooperation, with a view to ensuring the sustainability of shark stocks'. This complementarity may be particularly important for addressing the difficult issue of shark bycatch.

The case for improved management of threatened and commercially exploited species of sharks and rays is so urgent that it is important for managers and policy-makers to promote the use of all relevant management tools available to them.

5 Options for international cooperation under CMS

Key questions identified for the consideration of the Migratory Sharks Meeting include the following.

- Possible options for the development of instruments or other forms of cooperation under CMS and the types of measure that might be included;
- Potential for greater engagement with RFMOs, particularly newly established RFMOs that are applying the precautionary and ecosystem approaches to fisheries management, or for contributing to the current RFMO review;
- Most effective taxonomic coverage (listed species only, or other migratory sharks in unfavourable status driven by the same factors and facing the same management challenges); and
- geographic coverage (global or regional, by species or by population/stock).

Some of these are considered in more detail below, others may be more usefully discussed during the meeting, drawing upon this resource paper for background.

5.1 Species and/or population considerations

The co-ordinated management and assessment of shared migratory populations (or stocks) of chondrichthyan fishes would certainly promote an understanding of the cumulative impacts of fishing effort on the status of shared populations and greatly improve management actions for chondrichthyans. It would, however, most logically be undertaken at a regional level, not globally, and for a wide range of species, not solely for the three species listed on CMS Appendices to date (although agreements or other measures that are established for the listed species could also be used to address common problems affecting many other migratory sharks).

Unfortunately, however, a general lack of information regarding the structure and dynamics of migratory shark species hampers a comprehensive assessment of options for international cooperation under the CMS. This is even the case for two of the three listed species. Table 10 summarises the range of threatened migratory and possibly migratory sharks, current information on subpopulations, and the range States that might cooperate for the protection of those species.

For four unlisted migratory shark species (highlighted below) information exists regarding the subdivision of populations into major regions within which cooperation between nations would be important for the conservation of the species and likely more effective than a global approach. It is likely that, with further research, other subdivisions may be discovered as well as divisions at smaller scale than those currently known, that could also be addressed by CMS. This approach may be worth considering for the conservation of migratory sharks.

While CMS has traditionally focused upon collaboration between States in order to achieve the conservation of migratory species, with additional input from NGOs and IGOs, in the case of marine species it will be particularly important to seek to secure the collaboration of regional fisheries bodies. The geographic coverage of these bodies is presented in Annex 7. These RFMO areas may present a useful starting point for regional collaborative agreements or arrangements for the conservation of migratory sharks.

Table 10. Ranges of threatened migratory and possibly migratory sharks with details, where known, of subdivision of populations and nations that could cooperate for the protection of those species. (Please refer also to management information in Table 9.)

Species name	**Range**	**Possible subdivision of populations and nations bordering those populations**
Rhincodon typus	Cosmopolitan in tropical and warm temperate waters	Unknown population structure and dynamics.
Carcharodon carcharias	Cosmopolitan, mostly antitropical	Largely unknown population structure and dynamics.
Cetorhinus maximus	North Atlantic, South Africa, Australia, New Zealand, Japan to Taiwan, Alaska to Mexico, Peru to southern Brazil	Two known subpopulations: **Pacific** and **Atlantic** possibly with NE and NW split within both. More detailed population structure unknown.
Carcharhinus signatus	Delaware to Cuba, southern Brazil and Argentina, Senegal to Angola, ?Panama	**East Atlantic** subpopulation isolated - Senegal, Gambia, Guinea, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Guinea Bissau, Gabon, Congo, Angola, Sierra Leone. **SW Atlantic** unclear if separate from NW Atlantic.
Lamna nasus	North Atlantic and Southern Ocean	Four known subpopulations: **1. NE Atlantic** UK, Ireland, Norway, Denmark, Netherlands, Sweden, France, Spain, Portugal, Russia, Namibia? South Africa? [Iceland] **2. NW Atlantic** US [Bermuda, Canada, Greenland] **3. Mediterranean** Spain, France, Italy, Malta, Slovenia, Croatia, Albania, Greece, Macedonia, Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Lebanon, Syria, Cyprus, Monaco, Serbia and Montenegro [Turkey, Bosnia and Herzegovina] **4. Southern Hemisphere** unknown structure of populations within southern hemisphere.
Squalus acanthias	Global in temperate waters	Nine known subpopulations: **1. Australasian** Australia, NZ [PNG] **2. Black Sea** Russia, Ukraine, Romania, Bulgaria, Georgia [Turkey] **3. Mediterranean** Spain, France, Italy, Malta, Croatia, Albania, Greece, Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Lebanon, Syria, Cyprus, Monaco, Slovenia, Serbia and Montenegro [Turkey, Bosnia and Herzegovina] **4. NW Atlantic** US [Bahamas, Canada, Cuba, Greenland] **5. NE Pacific** US [Canada, Mexico] **6. NE Atlantic** Belgium, Denmark, Faeroe Islands, Germany, Mauritania, Netherlands, Norway, Russian Federation, Senegal, Sweden, UK, Ireland, France, Portugal, Spain, Morocco [Iceland, Western Sahara] **7. NW Pacific** China, Russia [China, Japan, People's Democratic Republic of Korea, Republic of Korea] **8. South America** Chile **9. Southern Africa** South Africa, Namibia, Angola?
Negaprion acutidens	Tropical indo-west and central pacific	**Southeast Asia** subpopulation thought to be isolated - Indonesia, Thailand, Vietnam, Cambodia.
Carcharias taurus	Gulf of Maine to Gulf of Mexico, southern Brazil to Argentina, Mediterranean and northwest Africa, South Africa, Red Sea, Vietnam to Japan, Australia	Two subpopulations in Australia: western and eastern. Division of remaining populations unclear.
Galeorhinus galeus	Cosmopolitan in temperate waters (except northwest Pacific)	Mixing occurs widely within NE Atlantic region. Mixing within southern half of Australian continent. Movements within SW Atlantic population between Brazil and Argentina – unclear if isolated from SE Pacific population. Unknown movements of South African population.

Species name	Range	Possible subdivision of populations and nations bordering those populations
Carcharhinus longimanus	Circumglobal in tropical and warm temperate waters	Unknown population structure and dynamics.
Hemipristis elongatus	South Africa and Madagascar to the Yellow Sea, Philippines, Papua New Guinea, Australia	Unknown population structure and dynamics.
Isogomphodon oxyrhynchus	Trinidad, Guyana, Surinam, French Guinea, ?Brazil	Unknown population structure and dynamics.
Isurus paucus	Cosmopolitan in tropical waters	Unknown population structure and dynamics. Atlantic and Indo Pacific populations may be isolated.
Nebrius ferrugineus	South Africa to Taiwan, Malaysia, Indonesia, Papua New Guinea, Australia, New Caledonia, Palau, Marshall Is., Tahiti	Unknown population structure and dynamics.
Sphyrna tudes	Venezuela to southern Brazil	Unknown population structure and dynamics.
Squatina squatina	Norway to West Sahara, including the Mediterranean	Unknown population structure and dynamics.

Square brackets […] indicate countries that are not Party to CMS

5.2 CMS Instruments and partnership arrangements

Various options are available for shark conservation and management through CMS. While the CMS COP8 Recommendation on Migratory Sharks (Annex I) refers specifically to a global instrument (e.g. an Action Plan, Treaty or MoU), the briefing for developing this paper and the scope of the Migratory Shark meeting agenda include the consideration of other options for cooperation under CMS, such as the possible application of a WSSD Partnership. Goriup and Tucker (2005) undertook a SWOT analysis for a similar study on migratory raptors, which (while not considering WSSD Partnerships) is also relevant to migratory sharks and has therefore been adapted for consideration in this study. As noted by these authors, action through CMS has a number of distinctive features and advantages compared with those possible through other Multi-lateral Environmental Agreements (MEA). The same advantages are apparent when comparing action through CMS to the potential for action through existing fisheries management frameworks. In general, CMS may:

1) focus attention on a discrete set of migratory species within any given geographic area;
2) specify and engage the range States most appropriate for these species;
3) more easily facilitate joint action (including by drawing together the existing legislation), information exchange and integration, and best practice development across the geographical area of the instrument, whether through a formal, binding Agreement, an MOU, a stand-alone AP or a WSSD-type partnership; and
4) provide the possibility for better access to other types of assistance, including other biodiversity-related conventions and international organisations, and integration into the entire world of environment and development.

However, there are also disadvantages that have to be borne in mind, including:

5) the additional administrative and financial burden for under-resourced environmental ministries, even when actions are closely correlated with obligations under other MEAs;

6) if a legally binding Agreement, rather than an MoU or partnership is adopted, the considerable time likely to be needed to negotiate, adopt and ratify a new instrument, and for the first meeting of Signatories to convene and begin to pursue implementation; and

7) continued reliance on national conservation priorities.

An alternative to the CMS instrument option is to consider a less formal, voluntary partnership arrangement for promoting dialogue, cooperation and collaboration between stakeholders. Indeed, a Type II Partnership model endorsed by the World Summit on Sustainable Development (WSSD, Johannesburg, 2002) is now being developed for the Conservation of Migratory Waterbirds in the East Asian-Australian Flyway. This is considered by CMS to meet the key requirements for a species agreement under Article IV of the Convention because of the international cooperation framework that it embodies. It may well serve as a bridge to a more formal instrument under its auspices. Advantages are that the partners are not confined to governments, but can include international non-governmental and inter-governmental organisations (such as regional fisheries bodies), and the business sector, potentially including the fishing and processing industry.

Table 11. Strengths, weaknesses, opportunities and threats (SWOT) of potential CMS instruments or partnership arrangements for migratory sharks (adapted from Goriup and Tucker 2005)

Type of CMS Instrument	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
1. WSSD Type II Partnership Arrangement	An informal voluntary framework to promote dialogue, cooperation and collaboration between a range of stakeholders, from all levels of government to non-governmental organisations, industry, community groups and local people. Requires a Secretariat for effective functioning. Ideally associated with an Action Plan (see below) and would act as the institutional umbrella to support AP implementation. The species covered do not have to be listed in Appendix II of CMS.	Meets the key requirements for a regional species agreement under Article IV of the Convention. May serve as a bridge to a more formal instrument under CMS auspices. Membership not restricted. Partners are not confined to governments, but can include international non-governmental and inter-governmental organisations (e.g. RFOs), the fishing and processing industry Can be developed quickly with little formal procedure (no need for formal ratification).	Not legally binding and therefore depends for effectiveness entirely on the goodwill of the partners, and the willingness of government partners to establish national partnership networks, and to support and provide resources to the Secretariat. Might be ineffective if established without an accompanying Action Plan (see below), or unless coordination functions are outsourced.	Relatively quick and simple to negotiate and establish and potentially expedient. Any relevant potential partners may become engaged in the process. The Partnership could serve as a bridge to a more formal arrangement, potentially including a new MoU or a formal Agreement.	The CMS COP will not provide the CMS Secretariat with the additional financial and/or manpower resources needed to coordinate the Partnership, and *ad hoc* voluntary financial contributions are probably not sustainable over the longer term. Participants in the Partnership will not give sufficient support because it is not legally binding.

Type of CMS Instrument	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
2. Action Plan	A non-binding stand-alone instrument. May be associated with a partnership arrangement, MoU or Agreement that can act as the institutional umbrella to support its implementation (see above and below). May also be recommended as part of a Concerted Action by the CMS COP to the Ranges States of a migratory species listed in Appendix I if individual national level actions have not improved its conservation status so that they take further coordinated measures considered appropriate to benefit the species under Article III(6).	Can be developed quickly with little formal procedure (no need for signatures by the participating agencies). Enjoys the international legitimacy of CMS along with the benefits derived from the Convention's close partnership with the United Nations Environment Programme (UNEP). Provides a stable and long-term political frame-work for initial implementation and later evolution (e.g. to an MoU or Agreement). There are no regular administrative duties or financial contributions to be paid: the CMS Secretariat usually does the administrative work.	Not legally binding and therefore depends for effectiveness entirely on the goodwill of the participating States. No organisational structure created for its implementation, so the CMS Secretariat has to coordinate it, unless associated with a partnership arrangement and/or coordination functions are outsourced.	The material for an Action Plan is readily available and any Range State willing to participate could do so quickly. Interested conservation IGOs and NGOs can contribute to its implementation through their on-the-ground activities. The Action Plan could serve as a forerunner to and be integrated within the institutional provided by an MoU or eventually a new formal Agreement.	The CMS COP will not provide the CMS Secretariat with the additional financial and/or manpower resources needed to coordinate the Partnership, and *ad hoc* voluntary financial contributions are probably not sustainable over the longer term. Participants in the Action Plan will not give sufficient support because it is not legally binding.

Type of CMS Instrument	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
3. Memorandum of Understanding (under Article IV(4))	A non-binding (soft law) legal and institutional framework for the delivery of an integral Action Plan. Usually aims to co-ordinate short-term measures across the range of one or more seriously endangered migratory species. Operates until conservation status improves, or a more elaborate instrument (i.e. a formal Agreement under Article IV(3) or IV(4)) is prepared, adopted by Range States and enters into force. Geographical coverage does not need to extend to the entire migratory range of the species concerned. Species covered do not have to be listed in Appendix II of CMS.	Can be developed and agreed on relatively short notice. Geographical coverage does not need to extend to the entire migratory range of the species concerned. Enjoys the international legitimacy of CMS along with the benefits derived from the Convention's close partnership with the United Nations Environment Programme (UNEP). Provides a stable and long-term legal and/or political framework for initial implementation and later evolution. Parties and other signatories must make regular reports on implementation. No regular administrative duties or financial contri-butions to be paid though voluntary contributions are encouraged; the CMS Secretariat usually does the administration. Higher standing than an Action Plan alone because it at minimum requires Ministerial (or equivalent) signatures, and embodies political commitments, but usually does not need ratification. Their simplicity allows MoUs (and/or their integral comprehensive action plans) to be fairly easily re-opened for re-negotiation or amendment.	Not legally binding and therefore depends for effectiveness entirely on the goodwill of the participating States. No organisa-tional structure created for implementation so the CMS Secretariat has to coordinate it unless coordination is outsourced. Typically has a much less substantive content than an Agreement because it must not create any new commitment for the signatory Range States however the integral action plan is comprehensive and tailored to particular the species' needs. As an MoU does not create any organisational structure of its own, it arguably may not be as dynamically implemented as an Agreement with the daily engagement of a secretariat (unless this function is outsourced).	The material for an MoU and Action Plan is readily available and any Range State willing to participate could do so provided the government signs the MoU. The MoU could serve as a forerunner for a new formal Agreement.	CMS COP will not provide the CMS Secretariat with the additional financial and/or manpower resources needed to coordinate the MoU and Action Plan and hold regular meetings of the signatories to monitor implementati on Signatories to the MoU will not give sufficient support because it is not legally binding. The MoU itself could provide a poor substitute for a higher level formal Agreement.

Type of CMS Instrument	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
4. Article IV Agreement[21]	A legally binding multilateral treaty (N.B. Article IV (3) agreements may also be legally binding). They may be concluded for species listed on Appendix II (Article IV(4)) or any population, members of which periodically cross one or more national boundaries (Article IV(3)). While initially developed for species listed on CMS Appendices, they may later be expanded to cover additional species.	A self-standing treaty with its own institutions for implementing an integral Action Plan. The legally binding nature of this instrument could unlock resources that would not be released for a stand alone Action Plan or MoU. Decision and policy making bodies, serviced by a Secretariat, meet on a regular basis. Has the potential to create a dynamic environment to address the particular needs of the species covered, and Range States. Provides long term legal stability for the Range States, their authorities and scientific bodies, as well as the international community of governmental and non-governmental organisations involved. Parties must make regular reports on implementation. Has flexibility in coverage of species and geographic range, and can develop organically from an MoU.	Needs to be ratified in accordance with the internal law making or decision making procedures of every Range State. This can take consider-able time. The legal and institutional framework of the Agreement means the Signatories may have to stretch limited re-sources to a further MEA requiring regular contributions and national personnel for meetings and reporting.	The material for an Agreement and Action Plan is readily available and any Range State willing to be-come a Party could do so provided it ratifies the Agreement. The agreement could focus on the most threatened species and key range States in order to minimise delays and costs. The Agreement could be amalgamated later with another existing Agreement if appropriate.	Agreement Parties might not contribute sufficient resources to make it effective as an independent instrument.

[21] May be negotiated under Article IV (3) or (4).

Table 12. Strengths, weaknesses, opportunities and threats (SWOT) of existing management frameworks for migratory sharks

	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
1. Regional Fisheries Management Organisations	Fora through which States meet and cooperate to manage fisheries for the conservation and sustainable use of marine living resources. Usually established by FAO (which is not itself a fishery management body). Some 16 RFMOs have a mandate to establish binding management measures for fisheries resources (see Annex 7). Some have a mandate enabling conservation and management measures to be implemented for related or bycatch species), many have used this to implement shark finning bans. Species-specific remit may be limited (e.g. to billfish and tunas) and not include sharks.	RFMOs in existence or currently being formed will address most fisheries targeting straddling stocks. There is considerable geographical overlap between many RFBs, but overlap in species responsibilities doesn't generally occur. Some already include sharks within their remit; more could do so if they chose. Several have introduced shark finning bans. Some have basic catch reporting requirements.	Only a few RFMOs cover whole ocean basins, leaving some high seas fish stocks unmanaged. Mandate does not include all fisheries resources (particularly not high seas species). Membership is small (some 15 to 30 at most – see Annex 7). Have generally failed to prevent over-exploitation or to rebuild overexploited stocks within their remit. Most were established before adoption of UNFSA. Several even predate UNCLOS. TOR generally not as precautionary as mandated by UNFSA and do not incorporate the precautionary approach to fisheries management. Many fall short in enforcement and flag-state responsibilities stressed by UNFSA. Some tend not to adopt scientific management advice.	Currently under review. Potential through this review to improve institutional arrangements, enforcement measures, application of scientific advice, geographic and species coverage and to eliminate gaps in the management of living marine resources.	RFBs tend to focus their limited management resources on the most important, valuable and high volume target fisheries within their remit and are unlikely to devote much effort to sharks.

	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
2. FAO International Plan of Action for the Conservation and Management of Sharks	Developed within the framework of the FAO Code of Conduct for Responsible Fisheries. Adopted in 1999. Highlights the action required for sharks. Overall objective to ensure the conservation and management of sharks and their long-term sustainable use. Calls upon all States to produce a Shark Assessment Report (SAR) and, if they have shark fisheries, to develop and implement National Plans of Action (NPOA) by 2001. Backed by detailed Technical Guidelines.	Embraces the precautionary approach. Encompasses all chondrichthyan fisheries, whether target or bycatch, industrial, artisanal or recreational,. Considers species conservation, biodiversity maintenance, habitat protection and sustainable management.	Wholly voluntary. States and Fisheries Management Organisations are not obliged to undertake any of the actions urged by FAO in the IPOA. It appears that few consider it a high priority. Implemented by only 40% of the top 20 shark fishing countries and fewer than 20% of all FAO COFI Members. Not implemented by RFMOs. Has so far had little impact upon shark fisheries management.	Urges States to ensure the effective conservation and management of transboundary, straddling, highly migratory and high seas shark stocks. Technical guidelines include a framework for developing joint Shark Plans for shared transboundary species of sharks.	Used widely as the major reason why there is no need for intervention in shark conservation or management by biodiversity departments, bodies or instruments, Has no Secretariat support and is under-resourced.

	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
3. United Nations Fish Stock Agreement (FSA)	Mandate is to promote effective implementation of the provisions of UNCLOS on straddling fish stocks and highly migratory fish stocks (including many sharks). Embraces the precautionary approach. Entered into force in 2001. Intended to become a blueprint for the management of high seas fisheries for the above stocks. Too short a time since ratification to enable its impact to be assessed. Has potential to be beneficial to fish stocks in the medium to long-term.	The backing and authority of a UN Convention, which was developed under the direction of a UN General Assembly Resolution and adopted by consensus (without a vote) in 1995. Based on unanimous agreement of fishing nations on the importance of establishing, reinforcing and implementing effective means and mechanisms for achieving responsible fishing on the high seas. Has led to the implementation of management measures that are intended to improve the status of species fished on the high seas.	Does not explicitly address high seas fishery resources not included on UNCLOS Annex I Exclusions include stocks that are located entirely in the high seas (e.g. migratory deepwater and oceanic sharks that may never enter EEZs); there is reportedly resistance to extending the FSA to include them. Does not specifically call for an ecosystem approach to fisheries, although this concept is embodied in Article 5. Ratification has been poor. Performance so far is disappointing.	UNCLOS Annex I lists many migratory shark species whose management should be addressed under FSA. FSA calls upon coastal States and other States fishing highly migratory species to cooperate in ensuring conservation and promoting the optimum utilization of those resources in their whole area of distribution. Recently reviewed by UN Secretary General (May 2006). Current potential for improvements arising from this review.	May not have the desired uptake by fishing States and hence beneficial impact upon fish stocks that was envisaged when it was developed and adopted. It will take decades to find out whether the rebuilding process for depleted fish stocks has been effective under the FSA.

6 Considerations for the Migratory Sharks meeting

6.1 Fisheries management versus *biodiversity management*

Despite its shortcomings and largely poor track record in shark population management, there is already a well-established fisheries management framework that has the potential to be applied to the conservation and management of migratory sharks. This includes national fisheries management measures and regional fisheries management through Regional Fisheries Bodies, both of which are guided by the over-arching voluntary International Plan of Action for the Conservation and Management of Sharks and the Code of Conduct for Responsible Fisheries. Furthermore, the UN Fish Stock Agreement is intended to deliver management of highly migratory species and straddling fish stocks, including the three shark species that are already listed on CMS and many other migratory shark species with unfavourable status.

The IPOA-Sharks is voluntary (and eight years after adoption apparently largely ineffective), and the UNFSA has yet to demonstrate whether it will deliver improved fisheries management. In contrast, most national and many regional fisheries management measures are mandatory and are (at least in theory) capable of being enforced. The resources and political will to introduce and implement shark fisheries management measures are, however, apparently limited to a small minority of shark fishing nations. Critics have commented that RFMOs have largely failed to meet the objectives of their governing Conventions.

In contrast to the shark fisheries management track record under the IPOA–Sharks, however, CMS has managed to develop a track record in marine species management that includes six formal Agreements and ten MoUs. Its record for terrestrial migratory species is even stronger. This indicates that it should be possible for CMS to make a difference if it engages in migratory shark conservation, because of its well-developed and flexible approach to engaging range States (whether or not Party to CMS), and other stakeholders and tailoring its activities depending upon need and circumstances.

In its traditional biodiversity field, however, CMS is generally not perceived to be challenging the statutory remit of other management bodies. Unfortunately, there is a strong possibility that this may be the perception of some stakeholders as CMS begins to take up its remit for the conservation and management of listed shark species, even more so with regards the potentially broader role outlined in its Recommendation on Migratory Sharks (Annex 1). This has certainly been the case as CITES has become engaged in issues of shark conservation and sustainable management.

For the engagement of CMS in migratory shark conservation and management to be successful, it is essential that there is, from the outset, full consultation and engagement with FAO, Regional Fisheries Management Bodies and CMS Party Fisheries Departments. If such consultation is undertaken and opportunities are pursued for developing synergies between these two schools of living natural resource management, then there is considerable potential for CMS engagement to reinvigorate the shark fisheries management measures that appear at present to be inactive or ineffective in most regions.

6.2 Potential discussion points

The following points are identified as possible subjects for consideration by CMS when developing measures for improving the status of and collaborative actions for migratory sharks. It is not suggested that all of these are of equal importance or that they should all necessarily be reviewed and debated.

6.2.1 Taxonomic coverage

- Should CMS only consider the three listed migratory shark species, or should it also consider action under Recommendation 8.16 for other migratory shark species with unfavourable status that appear to require collaborative action to address the threats operating within their range?
- Can/should CMS focus on addressing the taxonomic gaps in RFMO coverage?

6.2.2 Regional/global coverage

- Can a CMS instrument/agreement operate effectively worldwide, even if the shark species is potentially capable of worldwide movements, or should it focus at a regional level? If the latter, which regions are highest priority and how should development proceed?
- Can the problem of high seas migratory species that probably never or only rarely cross administrative boundaries between the high seas and EEZs be addressed through CMS?
- Is there scope for developing synergies between the regional activities of RFMOs and CMS; if so, which RFMOs offer greatest potential for collaborative action?
- Can/should CMS step in where there are geographic gaps in RFMO coverage?
- How can (or should) CMS contribute to the current reviews of RFMOs?

6.2.3 Threats

- It is widely agreed that where migratory sharks are in unfavourable status, this is primarily caused by unsustainable exploitation in fisheries (although other threats may contribute to unfavourable status). Can CMS help to address this major problem, and if so how?
- When bycatch fisheries for migratory sharks are a significant threat, whether retained or discarded, can this be addressed through the CMS initiative on bycatch?
- Can CMS most usefully address non-fisheries issues, e.g. the deliberate persecution or problems of reckless disturbance through ecotourism operations (diving and catch and release)?
- How important is habitat conservation and the protection of critical areas where sharks aggregate to feed or breed?

6.2.4 Conservation and management measures

- Which bodies take or should take the lead responsibility for shark conservation and management, within governments and within international intergovernmental organizations, particularly for species that are commercially exploited and which also qualify for attention under biodiversity instruments?
- What are the opportunities for maximising potential for synergies between biodiversity conservation and fisheries management measures?
- What are the strengths and weaknesses of voluntary *versus* legally binding actions?

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ANNEX 1. Convention on Migratory Species Recommendation 8.16 "Migratory sharks"

MIGRATORY SHARKS

Adopted by the Conference of the Parties at its Eighth Meeting (Nairobi, 20-25 November 2005)

Acknowledging the obligations of the global community to conserve, protect and manage migratory sharks as underpinned by, *inter alia*, the Convention on Biological Diversity, CMS, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the United Nations Convention on the Law of the Sea, the United Nations 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 and the FAO International Plan of Action for the Conservation and Management of Sharks, and FAO's Committee on Fisheries;

Recognising that under CMS, Range States should take action to conserve, protect and manage migratory species, and endeavour to conclude Agreements to promote the conservation and management of migratory species;

Noting that several shark species are already listed in Appendices I and II;

Aware of the vital ecosystem role played by sharks, and the significant and continuing mortality of sharks listed on Appendix I and II through a range of impacts, including habitat destruction, target fisheries, illegal, unreported and unregulated (IUU) fishing, and as fisheries by-catch; and

Noting the importance of cooperation between Range States in furthering research, awareness raising, trade monitoring and by-catch reduction of migratory sharks, and that these activities could greatly strengthen conservation outcomes for migratory sharks;

The Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals

1. *Requests* all Parties to strengthen measures to protect migratory shark species against threatening processes, including habitat destruction, IUU fishing and fisheries by-catch;

2. *Encourages* the FAO Committee on Fisheries to promote greater uptake of the International Plan of Action for the Conservation and Management of Sharks as a matter of urgency;

3. *Calls* upon Range States of migratory sharks listed on Appendix I or II to develop a global migratory sharks conservation instrument, in accordance with Articles III and V of the Convention, noting that discussions on the development of the instrument could, *inter alia*:

(a) consider the potential value of developing subsidiary regional and/or species specific conservation management plans to the instrument;

(b) involve, to the greatest extent possible, governments, intergovernmental organisations, non-governmental organisations and local communities;

(c) identify, as appropriate, effective mechanisms to mitigate threats such as by-catch, entanglement in marine debris, and IUU fishing;

(d) identify viable and practical alternatives to consumptive uses of migratory sharks while recognising the cultural and economic importance of these species for some communities; and

(e) develop mechanisms to facilitate developing country participation in the implementation of the future instrument; and

4. *Requests* the Secretariat to bring this recommendation to the attention of the FAO Committee on Fisheries, and CITES, and to explore future avenues of cooperation with these organisations as well as with Range States of migratory sharks that will lead to enhanced protection, conservation and management of these sharks.

ANNEX 2. CITES Resolution Conf. 12.6: Conservation and management of sharks

RECOGNIZING that sharks are particularly vulnerable to overexploitation owing to their late maturity, longevity and low fecundity;

RECOGNIZING that there is a significant international trade in sharks and their products;

RECOGNIZING that unregulated and unreported trade is contributing to unsustainable fishing of a number of shark species;

RECOGNIZING the duty of all States to cooperate, either directly or through appropriate sub-regional or regional organizations in the conservation and management of fisheries resources;

NOTING that IUCN – The World Conservation Union's Red List of Threatened Species (2000) lists 79 shark taxa (from the 10 per cent of taxa for which Red List assessments have been made);

RECOGNIZING that the International Plan of Action on the Conservation and Management of Sharks (IPOA-sharks) was prepared by FAO in 1999 and that all States whose vessels conduct directed fisheries or regularly take sharks in non-directed fisheries are encouraged by COFI to adopt a National Plan of Action for the Conservation and Management of Shark Stocks (NPOA-Sharks);

NOTING that, through the adoption of Resolution Conf. 9.17 and Decisions 10.48, 10.73, 10.74, 10.93, 10.126, 11.94 and 11.151, Parties to CITES have previously recognized the conservation threat that international trade poses to sharks;

NOTING that two shark species are currently listed in Appendix III of CITES;

WELCOMING the report adopted at the 18th meeting of the Animals Committee that noted that CITES should continue to contribute to international efforts to address shark conservation and trade concerns;

NOTING that States were encouraged by FAO to have prepared NPOAs for sharks by the COFI 24th session held in 2001;

NOTING that there is a significant lack of progress with the development and implementation of NPOAs;

CONCERNED that insufficient progress has been made in achieving shark management through the implementation of IPOA-Sharks except in States where comprehensive shark assessment reports and NPOA-Sharks have been developed;

CONCERNED that the continued significant trade in sharks and their products is not sustainable;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

AGREES that a lack of progress in the development of the FAO IPOA-Sharks is not a legitimate justification for a lack of further substantive action on shark trade issues within the CITES forum;

INSTRUCTS the CITES Secretariat to raise with FAO concerns regarding the significant lack of progress in implementing the IPOA-Sharks, and to urge FAO to take steps to actively encourage relevant States to develop NPOA-Sharks;

DIRECTS the Animals Committee to continue activities specified under Decision 11.94 beyond the 12th meeting of the Conference of the Parties, and to report on progress at the 13th meeting of the Conference of Parties;

DIRECTS the Animals Committee to critically review progress towards IPOA-Sharks implementation (NPOA-Sharks) by major fishing and trading nations, by a date one year before the 13th meeting of the Conference of the Parties to CITES;

DIRECTS the Animals Committee to examine information provided by range States in shark assessment reports and other available relevant documents, with a view to identifying key species and examining these for consideration and possible listing under CITES;

ENCOURAGES Parties to obtain information on implementation of IPOA-Sharks from their fisheries departments, and report directly on progress to the CITES Secretariat and at future meetings of the Animals Committee;

URGES FAO COFI and Regional Fisheries Management Organizations to take steps to undertake the research, training, data collection, data analysis and shark management plan development outlined by FAO as necessary to implement the IPOA-Sharks;

ENCOURAGES Parties to contribute financially and technically to the implementation of the IPOA-Sharks;

DIRECTS the Animals Committee to make species-specific recommendations at the 13th meeting and subsequent meetings of the Conference of the Parties if necessary on improving the conservation status of sharks and the regulation of international trade in these species;

RECOMMENDS that Parties continue to identify endangered shark species that require consideration for inclusion in the Appendices, if their management and conservation status does not improve; and

REQUESTS Management Authorities to collaborate with their national Customs authorities to expand their current classification system to allow for the collection of detailed data on shark trade including, where possible, separate categories for processed and unprocessed products, for meat, cartilage, skin and fins, and to distinguish imports, exports and re-exports. Wherever possible these data should be species-specific.

ANNEX 3. UN FAO International Plan of Action for the Conservation and Management of Sharks (IPOA–Sharks)

Food and Agriculture Organization of The United Nations
Rome, 26-30 October 1998

Introduction

1. For centuries artisanal fishermen have conducted fishing for sharks sustainably in coastal waters, and some still do. However, during recent decades modern technology in combination with access to distant markets have caused an increase in effort and yield of shark catches, as well as an expansion of the areas fished.

2. There is concern over the increase of shark catches and the consequences which this has for the populations of some shark species in several areas of the world's oceans. This is because sharks often have a close stock-recruitment relationship, long recovery times in response to over-fishing (low biological productivity because of late sexual maturity; few off-spring, albeit with low natural mortality) and complex spatial structures (size/sex segregation and seasonal migration).

3. The current state of knowledge of sharks and the practices employed in shark fisheries cause problems in the conservation and management of sharks due to lack of available catch, effort, landings and trade data, as well as limited information on the biological parameters of many species and their identification. In order to improve knowledge on the state of shark stocks and facilitate the collection of the necessary information, adequate funds are required for research and management.

4. The prevailing view is that it is necessary to better manage directed shark catches and certain multispecies fisheries in which sharks constitute a significant bycatch. In some cases the need for management may be urgent.

5. A few countries have specific management plans for their shark catches and their plans include control of access, technical measures including strategies for reduction of shark bycatches and support for full use of sharks. However, given the wide-ranging distribution of sharks, including on the high seas, and the long migration of many species, it is increasingly important to have international cooperation and coordination of shark management plans. At the present time there are few international management mechanisms effectively addressing the capture of sharks.

6. The Inter-American Tropical Tuna Commission, the International Council for the Exploration of the Sea, the International Commission for the Conservation of Atlantic Tunas, the Northwest Atlantic Fisheries Organization, the Sub-regional Fisheries Commission of West African States, the Latin American Organization for Fishery Development, the Indian Ocean Tuna Commission, the Commission for the Conservation of Southern Bluefin Tuna and the Oceanic Fisheries Programme of the Pacific Community have initiated efforts encouraging member countries to collect information about sharks, and in some cases developed regional databases for the purpose of stock assessment.

7. Noting the increased concern about the expanding catches of sharks and their potential negative impacts on shark populations, a proposal was made at the Twenty-second Session of the FAO Committee on Fisheries (COFI) in March 1997 that FAO organize an expert consultation, using extra-budgetary funds, to develop Guidelines leading to a Plan of Action to be submitted at the next Session of the Committee aimed at improved conservation and management of sharks.

8. This International Plan of Action for Conservation and Management of Sharks (IPOA-SHARKS) has been developed through the meeting of the Technical Working Group on the Conservation and Management of Sharks in Tokyo from 23 to 27 April 1998[22] and the Consultation on Management of

22 See: "Report of the FAO Technical Working Group on the Conservation and Management of Sharks". Tokyo, Japan, 23-27 April 1998. FAO Fisheries Report No. 583.

Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries held in Rome from 26 to 30 October 1998 and its preparatory meeting held in Rome from 22 to 24 July 1998[23].

9. The IPOA-SHARKS consists of the nature and scope, principles, objective and procedures for implementation (including attachments) specified in this document.

Nature and Scope

10. The IPOA-SHARKS is voluntary. It has been elaborated within the framework of the Code of Conduct for Responsible Fisheries as envisaged by Article 2 (d). The provisions of Article 3 of the Code of Conduct apply to the interpretation and application of this document and its relationship with other international instruments. All concerned States[24] are encouraged to implement it.

11. For the purposes of this document, the term "shark" is taken to include all species of sharks, skates, rays and chimaeras (Class *Chondrichtyes*), and the term "shark catch" is taken to include directed, bycatch, commercial, recreational and other forms of taking sharks.

12. The IPOA-SHARKS encompasses both target and non-target catches.

Guiding principles

13. *Participation.* States that contribute to fishing mortality on a species or stock should participate in its management.

14. *Sustaining stocks*. Management and conservation strategies should aim to keep total fishing mortality for each stock within sustainable levels by applying the precautionary approach.

15. *Nutritional and socio-economic considerations*. Management and conservation objectives and strategies should recognize that in some low-income food-deficit regions and/or countries, shark catches are a traditional and important source of food, employment and/or income. Such catches should be managed on a sustainable basis to provide a continued source of food, employment and income to local communities.

Objective

16. The objective of the IPOA-SHARKS is to ensure the conservation and management of sharks and their long-term sustainable use.

Implementation

17. The IPOA-SHARKS applies to States in the waters of which sharks are caught by their own or foreign vessels and to States the vessels of which catch sharks on the high seas.

18. States should adopt a national plan of action for conservation and management of shark stocks (Shark-plan) if their vessels conduct directed fisheries for sharks or if their vessels regularly catch sharks in non-directed fisheries. Suggested contents of the Shark-plan are found in Appendix A. When developing a Shark-plan, experience of subregional and regional fisheries management organizations should be taken into account, as appropriate.

19. Each State is responsible for developing, implementing and monitoring its Shark-plan.

20. States should strive to have a Shark-plan by the COFI Session in 2001.

21. States should carry out a regular assessment of the status of shark stocks subject to fishing so as to determine if there is a need for development of a shark plan. This assessment should be guided by article 6.13 of the Code of Conduct for Responsible Fisheries. The assessment should be reported as a part of each relevant State's Shark-plan. Suggested contents of a shark assessment report are found in Appendix

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2 See Report: "Preparatory Meeting for the Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries." Rome, 22-24 July, 1998. FAO Fisheries Report No. 584.

24 In this document, the term "State" includes Members and non-members of FAO and applies *mutatis mutandis* also to "fishing entities" other than States.

B. The assessment would necessitate consistent collection of data, including inter alia commercial data and data leading to improved species identification and, ultimately, the establishment of abundance indices. Data collected by States should, where appropriate, be made available to, and discussed within the framework of, relevant subregional and regional fisheries organizations and FAO. International collaboration on data collection and data sharing systems for stock assessments is particularly important in relation to transboundary, straddling, highly migratory and high seas shark stocks.

22. The Shark-plan should aim to:

- Ensure that shark catches from directed and non-directed fisheries are sustainable;
- Assess threats to shark populations, determine and protect critical habitats and implement harvesting strategies consistent with the principles of biological sustainability and rational long-term economic use;
- Identify and provide special attention, in particular to vulnerable or threatened shark stocks;
- Improve and develop frameworks for establishing and co-ordinating effective consultation involving all stakeholders in research, management and educational initiatives within and between States;
- Minimize unutilized incidental catches of sharks;
- Contribute to the protection of biodiversity and ecosystem structure and function;
- Minimize waste and discards from shark catches in accordance with article 7.2.2.(g) of the Code of Conduct for Responsible Fisheries (for example, requiring the retention of sharks from which fins are removed);
- Encourage full use of dead sharks;
- Facilitate improved species-specific catch and landings data and monitoring of shark catches;
- Facilitate the identification and reporting of species-specific biological and trade data.

23. States which implement the Shark-plan should regularly, at least every four years, assess its implementation for the purpose of identifying cost-effective strategies for increasing its effectiveness.

24. States which determine that a Shark-plan is not necessary should review that decision on a regular basis taking into account changes in their fisheries, but as a minimum, data on catches, landings and trade should be collected.

25. States, within the framework of their respective competencies and consistent with international law, should strive to cooperate through regional and subregional fisheries organizations or arrangements, and other forms of cooperation, with a view to ensuring the sustainability of shark stocks, including, where appropriate, the development of subregional or regional shark plans.

26. Where transboundary, straddling, highly migratory and high seas stocks of sharks are exploited by two or more States, the States concerned should strive to ensure effective conservation and management of the stocks.

27. States should strive to collaborate through FAO and through international arrangements in research, training and the production of information and educational material.

28. States should report on the progress of the assessment, development and implementation of their Shark-plans as part of their biennial reporting to FAO on the Code of Conduct for Responsible Fisheries.

Role of FAO

29. FAO will, as and to the extent directed by its Conference, and as part of its Regular Programme activities, support States in the implementation of the IPOA-SHARKS, including the preparation of Shark-plans.

30. FAO will, as and to the extent directed by its Conference, support development and implementation of Shark-plans through specific, in-country technical assistance projects with Regular Programme funds and

by use of extra-budgetary funds made available to the Organization for this purpose. FAO will provide a list of experts and a mechanism of technical assistance to countries in connection with development of Shark-plans.

31. FAO will, through COFI, report biennially on the state of progress in the implementation of the IPOA-SHARKS.

Appendix A. Suggested Contents of a Shark-plan

I Background

When managing fisheries for sharks, it is important to consider that the state of knowledge of sharks and the practices employed in shark catches may cause problems in the conservation and management of sharks, in particular:

- Taxonomic problems
- Inadequate available data on catches, effort and landings for sharks
- Difficulties in identifying species after landing
- Insufficient biological and environmental data
- Lack of funds for research and management of sharks
- Little coordination on the collection of information on transboundary, straddling, highly migratory and high seas stocks of sharks
- Difficulty in achieving shark management goals in multispecies fisheries in which sharks are caught.

II Content of the Shark-plan

The Technical Guidelines on the Conservation and Management of Sharks, under development by FAO, provide detailed technical guidance, both on the development and the implementation of the Shark-plan. Guidance will be provided on:

- Monitoring
- Data collection and analysis
- Research
- Building of human capacity
- Implementation of management measures

The Shark-plan should contain:

A. Description of the prevailing state of :

- Shark stocks, populations;
- Associated fisheries; and,
- Management framework and its enforcement.

B. The objective of the Shark-plan.

C. Strategies for achieving objectives. The following are illustrative examples of what could be included:

- Ascertain control over access of fishing vessels to shark stocks
- Decrease fishing effort in any shark where catch is unsustainable
- Improve the utilization of sharks caught
- Improve data collection and monitoring of shark fisheries
- Train all concerned in identification of shark species

- Facilitate and encourage research on little known shark species
- Obtain utilization and trade data on shark species

Appendix B. Suggested contents of a shark assessment report

A shark assessment report should *inter alia* contain the following information:

- Past and present trends for:
  - Effort: directed and non-directed fisheries; all types of fisheries;
  - Yield: physical and economic
- Status of stocks
- Existing management measures:
  - Control of access to fishing grounds
  - Technical measures (including by-catch reduction measures, the existence of sanctuaries and closed seasons)
  - Others
  - Monitoring, control and surveillance
- Effectiveness of management measures
- Possible modifications of management measures

ANNEX 4. The Definition of "Favourable Conservation Status" according to the Convention on the Conservation of Migratory Species of Wild Animals

According to Article 1(c) "conservation status" will be taken as "favourable" when:

(1) population dynamics data indicate that the migratory species is maintaining itself on a long-term basis as a viable component of its ecosystems;

(2) the range of the migratory species is neither currently being reduced, nor is likely to be reduced, on a long-term basis;

(3) there is, and will be in the foreseeable future, sufficient habitat to maintain the population of the migratory species on a long-term basis; and

(4) the distribution and abundance of the migratory species approach historic coverage and levels to the extent that potentially suitable ecosystems exist and to the extent that is consistent with wise wildlife management.

Conversely, Article 1(d) states:

"Conservation status" will be taken as "unfavourable" if any of the conditions set out in sub-paragraph (c) … is not met.

ANNEX 5. Structure of the prototype CMS Migratory Shark Database

Sheet 1: CMS Species List

Column Code	Heading(s)	Contents
A	Class	This column can be ignored or hidden. The class chondrichthyes is copied to every record, to allow data in the sheet to be filtered.
B to F	Order/Suborder; Family; Species Name; Common Name	These include taxonomy and the scientific and common names of each species. (Column D provides an identification and running total of the number of species on the list).
G	CMS Migratory classification	Defined as 'Migratory' or 'Potential'. **Migratory** - indicates that the species is strongly suspected as migratory under the CMS definition. **Potential** - indicates that the species is a possible migrant under the CMS definition, but no data are available.
H	Distribution	An overview of the distribution of each species (See Sheet 3 'Range' for the full list of range States for each species).
I	Classification	Classification by zone. i.e. coastal, oceanic, deepwater, or shelf.
J	Habitat	i.e. pelagic or benthic or both.
K	Depth range	Species' approximate depth range.
L	Migration	Descriptive field with an overview of information known on the movements of each species.
M to W	Ocean Basins	Each ocean basin in which a species occurs is marked by a 1. When filtering the species list, using the Auto-filter feature in Excel, this allows you to select species based on the Ocean basins in which they occur. E.g. For all species occurring in the North Atlantic Ocean, select '1' on both of the filter's drop-down menus under NE Atlantic and NW Atlantic.
X to AB	2006 Red List Status (Global category; Year; Regional category, Region, Year)	All assessments submitted and published on the 2006 Red List to date. Columns X and Y give the published global assessment and year of publication. Columns Z, AA and AB give the regional and subpopulation assessments published to date, the region, and the year of publication. The species list can therefore be filtered by Global and regional Red List category, and by region, using the auto filter option.*
AC to AE	In Prep Red List Status (Global category; Regional category, Region)	All assessments in preparation. These assessments have not been submitted to the Red List, are not final and may be under review, therefore there are no dates of publication. These will be updated as appropriate.
AF to AH	Global Management Status	Indicates species listed on each global instrument (e.g. CMS; UNCLOS; CITES) by Annex/Appendix
AI to AV	Regional Management (Legal and Management Status by region: Africa; Australasia; Central America & Caribbean; Central & South America; Eurasia & North Africa; Europe; North America)	Regional Management (as for Range States) is classified by Biogeographic regions and Map of Parties on the CMS website. Presence on regional lists, (e.g. Barcelona and Bern Conventions in Europe) is noted under **Legal Status** and any management measures are noted under **Management Status**. These are descriptive text fields at the moment.
AW to AY	Links to FAO Factsheet; Fishbase and 2006 RL Assessment	Hyperlinks to these documents, where available

* The organisation of Global and regional Red List categories, both published and in preparation, is difficult within the Excel spreadsheet. It is hard to standardise the presentation of these, as a regional assessment can be done for any region throughout a species' range and the specific names vary widely. At present all the information within the database is organised so that it may be filtered by the global species assessment, on the same row as the species name.

Sheet 2: Regional Fisheries Bodies by CMS Region

This sheet presents the acronyms for all relevant Regional Fisheries Bodies within each CMS Region. The Ocean that each RFB applies to (Atlantic, Pacific or Indian) and the type of body (Management, Scientific, Advisory) are given next to each, under the 'Type' field. Each RFB name is also hyperlinked directly to the webpage for each body, and the full name of each body has been added to the screen tip, so just hover over the link to see the name of the body in full. Ultimately, the intention is to link this by the range States and management for each species, but this may not be workable until the database is migrated to table format in another programme.

Sheet 3: Range

In the same way as for Ocean Region, the list of range States for each species is marked by a '1', so that species may be filtered by country, to allow the total number of species occurring in each country to be calculated using the Sum feature in Excel, and to facilitate the format for transfer to an Access-based database. A '?' denotes where a species is may occur within a range State, but its presence is not confirmed. The Range States are organised according to CMS Biogeographical Region, to allow comparisons between regions. I would like to add the CMS Status (i.e. Party, Non-party, MoU, etc) of each of these countries to this sheet, and am considering the best place and way in which to record this.

Sheets 4 and 5: RL Sum ONLY Migratory sp and RL Sum Migratory & Potential

These sheets present some summaries from the Red List status data within the database. Each sheet provides a breakdown of the number and % of species in each category on the 2006 RL (Globally, regionally and by individual region, where possible).

Sheet 4 (RL Sum ONLY Migratory sp), gives this ONLY for the species strongly suspected as being migratory (i.e. those listed as Migratory under 'CMS Migratory' in Sheet 1, Column G). Sheet 5 RL Sum Migratory & Potential, gives this for all species, including those listed as 'Potential' migrators. Under both, summaries of the Global Status, and Regional status of all evaluated species are listed.

Sheet 6: Bibliography

The bibliography can be filtered by Region(s), Specie(s), Citation and Reference. This is being built on, and can be hyperlinked to the main database itself where each citation is referred to at a later stage. There is also the potential to link directly to the documents themselves from here, if these could be collected and if the database will not be published. (The Red List Assessments, for which links are provided, also give references relevant to each species).

ANNEX 6. Text from UN General Assembly reports and Resolutions

Resolution adopted by the UNGA Fifty-eighth session (2003)

58/14. Sustainable fisheries, including through the 1995 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, and related instruments

Extracts from preamble:

Recognizing further the economic and cultural importance of sharks in many countries, the biological importance of sharks in the marine ecosystem, the vulnerability of some shark species to over-exploitation and the need for measures to promote the long-term sustainability of shark populations and fisheries,

Reaffirming its support for the initiative of the Food and Agriculture Organization of the United Nations and relevant regional and subregional fisheries management organizations and arrangements on the conservation and management of sharks, while noting with concern that only a small number of countries have implemented the International Plan of Action for the Conservation and Management of Sharks, adopted by the Food and Agriculture Organization in 1999,

…

Expressing concern at the reports of continued loss of seabirds, particularly albatrosses, as a result of incidental mortality from longline fishing operations, and the loss of other marine species, including sharks and fin-fish species, as a result of incidental mortality, and noting with satisfaction the imminent entry into force of the Agreement for the Conservation of Albatrosses and Petrels under the Convention on the Conservation of Migratory Species of Wild Animals,

…

Extracts from operative paragraphs:

18. *Urges* States to develop and implement national and, as appropriate, regional plans of action to put into effect the international plans of action of the Food and Agriculture Organization of the United Nations, namely the International Plan of Action for the Management of Fishing Capacity, the International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries, the International Plan of Action for the Conservation and Management of Sharks and the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing;

…

47. *Calls upon* States, the Food and Agriculture Organization of the United Nations and subregional or regional fisheries management organizations and arrangements to implement fully the International Plan of Action for the Conservation and Management of Sharks as a matter of priority, inter alia, by conducting assessments of shark stocks and developing and implementing national plans of action, recognizing the need of some States, in particular developing States, for assistance in this regard;

48. *Urges* States, including those working through subregional or regional fisheries management organizations and arrangements in implementing the International Plan of Action for the Conservation and Management of Sharks, to collect scientific data regarding shark catches and to consider adopting conservation and management measures, particularly where shark catches from directed and nondirected fisheries have a significant impact on vulnerable or threatened shark stocks, in order to ensure the conservation and management of sharks and their long-term sustainable use, including by banning directed shark fisheries conducted solely for the purpose of harvesting shark fins and by taking measures for other fisheries to minimize waste and discards from shark catches, and to encourage the full use of dead sharks;

49. *Urges* all States to cooperate with the Food and Agriculture Organization of the United Nations in order to assist developing States in implementing the International Plan of Action for the Conservation and Management of Sharks, including through voluntary contributions to work of the organization, such as its FishCODE programme;

50. *Invites* the Food and Agriculture Organization of the United Nations, in consultation with relevant subregional or regional fisheries management organizations or arrangements, to prepare a study relating to the impact on shark populations of shark catches from directed and non-directed fisheries and their impact on ecologically related species, taking into account the nutritional and socioeconomic considerations as reflected in the International Plan of Action for the Conservation and Management of Sharks, particularly as they relate to small-scale, subsistence and artisanal fisheries and communities, as well as updating Technical Paper 389 of the Food and Agriculture Organization, entitled "Shark utilization, marketing and trade", in order to facilitate improved shark conservation, management and utilization, and to report to the Secretary-General for inclusion in a fisheries-related report as soon as practicable;

Resolution adopted by the UNGA Fifty-ninth session (2004)

59/25. Sustainable fisheries, including through the 1995 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, and related instruments

extracts from preamble:

Recognizing further the economic and cultural importance of sharks in many countries, the biological importance of sharks in the marine ecosystem, the vulnerability of some shark species to over-exploitation, the need for measures to promote the long-term sustainability of shark populations and fisheries and the relevance of the International Plan of Action for the Conservation and Management of Sharks, adopted by the Food and Agriculture Organization of the United Nations in 1999, in providing development guidance of such measures,

Reaffirming its support for the initiative of the Food and Agriculture Organization of the United Nations and relevant regional and subregional fisheries management organizations and arrangements on the conservation and management of sharks, while noting with concern that only a small number of countries have implemented the International Plan of Action for the Conservation and Management of Sharks,

……

Expressing concern, while recognizing considerable efforts to reduce by-catch in longline fishing through various regional fisheries management organizations, at the reports of continued loss of seabirds, particularly albatrosses, as a result of incidental mortality from longline fishing operations, and the loss of other marine species, including sharks, fin-fish species and marine turtles, as a result of incidental mortality,

……

Extracts from operative paragraphs:

72. *Calls upon* States, the Food and Agriculture Organization of the United Nations and subregional or regional fisheries management organizations and arrangements to implement fully the International Plan of Action for the Conservation and Management of Sharks as a matter of priority, inter alia, by conducting assessments of shark stocks and developing and implementing national plans of action, recognizing the need of some States, in particular developing States, for assistance in this regard;

73. *Urges* States, including those working through subregional or regional fisheries management organizations and arrangements in implementing the International Plan of Action for the Conservation and Management of Sharks, to collect scientific data regarding shark catches and to consider adopting conservation and management measures, particularly where shark catches from directed and nondirected fisheries have a significant impact on vulnerable or threatened shark stocks, in order to ensure the conservation and management of sharks and their long-term sustainable use, including by banning directed shark fisheries conducted solely for the purpose of harvesting shark fins and by taking measures for other fisheries to minimize waste and discards from shark catches, and to encourage the full use of dead sharks;

74. *Requests* the Food and Agriculture Organization of the United Nations to develop programmes to assist States, including developing States, in carrying out the tasks mentioned in paragraph 73 above, in particular the adoption of appropriate conservation and management measures, including the banning of directed shark fisheries conducted solely for the purpose of harvesting shark fins;

75. *Reaffirms* the requests contained in paragraph 50 of its resolution 58/14, and invites the Food and Agriculture Organization of the United Nations to report to the Secretary-General, for inclusion in his report on sustainable fisheries, on progress regarding the preparation of the study mentioned therein, as well as the programmes mentioned in paragraph 74 above, and to consider at the sixty-second session of the General Assembly whether additional action is required;

76. *Reiterates* the crucial importance of cooperation by States directly or, as appropriate, through the relevant regional and subregional organizations, and by other international organizations, including the Food and Agriculture Organization of the United Nations through its FishCODE programme, including through financial and/or technical assistance, in accordance with the Agreement, the Compliance Agreement, the Code and the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing and the International Plan of Action for the Conservation and Management of Sharks, to increase the capacity of developing States to achieve the goals and implement the actions called for in the present resolution;

….

Resolution adopted by the UNGA Sixtieth session (2005)

60/31. Sustainable fisheries, including through the 1995 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, and related instruments

Extracts from preamble:

Recognizing further the economic and cultural importance of sharks in many countries, the biological importance of sharks in the marine ecosystem, the vulnerability of certain shark species to over-exploitation and the need for measures to promote the long-term sustainability of shark populations and fisheries, and the relevance of the 1999 Food and Agriculture Organization of the United Nations International Plan of Action for the Conservation and Management of Sharks in providing development guidance of such measures,

Reaffirming its support for the initiative of the Food and Agriculture Organization of the United Nations and relevant regional and subregional fisheries management organizations and arrangements on the conservation and management of sharks, while noting with concern that only a small number of countries have implemented the 1999 Food and Agriculture Organization of the United Nations International Plan of Action for the Conservation and Management of Sharks,

Expressing concern over reports of continued losses of seabirds, particularly albatrosses and petrels, as well as other marine species, including sharks, fin-fish species and marine turtles, as a result of incidental mortality in fishing operations, particularly longline fishing, and other activities, while recognizing considerable efforts to reduce by-catch in longline fishing through various regional fisheries management organizations and arrangements,

……

Extracts from operative paragraphs:

X. Capacity-building

83. *Reiterates* the crucial importance of cooperation by States directly or, as appropriate, through the relevant regional and subregional organizations, and by other international organizations, including the Food and Agriculture Organization of the United Nations through its FishCode programme, including through financial and/or technical assistance, in accordance with the Agreement, the Compliance Agreement, the Code and the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing and the International Plan of Action for the Conservation and Management of Sharks, to increase the capacity of developing States to achieve the goals and implement the actions called for in the present resolution;

……

Report of the Secretary General on Sustainable Fisheries (A/60/189, 2005)

Extracts from: **III. Responsible fisheries in the marine ecosystem**

C. Towards ensuring the conservation and management of sharks

49. The International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks) has been developed to address widespread concern over the increase in shark fishing and its consequences for the populations of certain shark species. The goal of IPOA-Sharks is to control directed shark fisheries and fisheries in which sharks constitute a significant by-catch to ensure the conservation and management of sharks and their long-term sustainable use. To that end, States are invited to adopt national plans of action for the conservation and management of shark stocks if their vessels conduct directed fisheries for sharks or if their vessels regularly catch sharks in non-directed fisheries. National plans should contain an assessment of the prevailing state of shark stocks and populations, associated fisheries and management frameworks and their enforcement, and strategies for achieving the objective of IPOA-Sharks, including: controlling access of fishing vessels to shark stocks; decreasing fishing effort for any stock where the catch is unsustainable; improving the utilization of sharks caught; improving data collection and the monitoring of shark species; providing training in identification of shark species; facilitating and encouraging research on little known shark species; and obtaining utilization and trade data on shark species.

50. According to FAO, only about 30 per cent of States replying to a survey reported having made an assessment of the need for a national plan and only one in three, about 11 per cent, have actually developed and implemented IPOA-Sharks. These results indicate that more progress is needed in the implementation of the Plan. In its resolution 59/25, the General Assembly called on States to fully implement IPOA-Sharks and, where directed and non-directed fisheries have a significant impact on vulnerable or threatened shark stocks, to ban directed shark fisheries for the sole purpose of harvesting shark fins and to minimize discards of shark catches by encouraging the full use of dead sharks.

51. **States**: the United States and the United Kingdom reported that they have adopted national plans of action for the conservation and management of sharks. The United States has banned the practice of shark finning in areas under its

jurisdiction and by its nationals. The United States has initiated training opportunities and policy dialogues within APEC concerning shark conservation and management and is working with other partners to disseminate the manual, *Elasmobranch Fisheries Management Techniques*, which is aimed at assisting developing countries in the preparation of national shark fisheries management plans. The United Kingdom indicated that some territories have already collected catch statistics for sharks, although they have not yet introduced specific conservation and management measures for the species. The United Kingdom stressed that there are no direct shark fisheries in maritime areas under its jurisdiction, and that it does not support shark finning or other destructive practices, as a matter of policy.

52. Croatia, European Community, Myanmar, New Zealand, the Philippines and Serbia and Montenegro indicated that they have not yet adopted any national plans of action to conserve and manage sharks, although EC, New Zealand and the Philippines intend to do so in the near future. Both EC and New Zealand have legislation in line with IPOA-Sharks, EC stated that many rules in its Common Fisheries Policy are in accordance with IPOA-Sharks, including monitoring of catches; collection of scientific data on shark catches, including fishing efforts, landings and discards, biological parameters, scientific surveys and prices at the first sale, as minimum data requirements; conduct of specific research on shark biology and exploitation; adoption of catch limitations for a number of species in the Community EEZ; and prohibition of shark fisheries for the sole purpose of selling shark fins. Portugal requires that fishers who separate shark fins on board keep the remaining parts of the shark, in accordance with Community legislation. In the Philippines, the National Fisheries Research and Development Institute routinely collects scientific data regarding shark catches and the authorities are considering the banning of shark fisheries under the so-to-be adopted national plan of action. New Zealand indicated that some species of sharks are already under its Quota Management System, which makes their reporting mandatory. Myanmar stated that shark fisheries are prohibited in maritime areas under its jurisdiction and that, since May 2004, it has already declared two shark fishing protected areas. Pakistan reported that it had no direct shark fisheries in its waters and that sharks caught by other fisheries are fully utilized. Others stated that they do not have any shark fisheries, but collect scientific data on sharks (Croatia, Kuwait, Qatar and Saudi Arabia), and/or are involved in conservation measures on the advice of the competent RFMO (Cambodia and Kuwait). Morocco and Qatar encourage the full use of dead sharks taken as incidental catch and Qatar prohibits the export of sharks or any part thereof, such as shark fins.

53. FAO reported that in 2004 it had not received any requests for assistance in the implementation of IPOA-Sharks. It pointed out that in order to assist developing countries have sufficient financial and technical resources dedicated to the task. Most countries have few, if any, existing elasmobranch management activities on which to build programmes of assistance. Nonetheless, FAO has undertaken a number of activities that could benefit the conservation and management of sharks. In cooperation with APEC, it is publishing a study on elasmobranch fisheries management techniques to facilitate national management initiatives at the operational level. It is also developing a revised and expanded version of the catalogue "Sharks of the World" and a catalogue of batoids of the world (skates and rays). It is mapping elasmobranch distribution and preparing a digital archive of shark and ray illustrations and pamphlets.

54. With regard to the preparation of the study referred to in General Assembly resolutions 58/14 and 59/25, FAO indicated that it had not taken any step to update the study. This would be a major undertaking and it is not included in the FAO programme of work and budget, nor have funds been sought to support the work.

55. **RFMOs**: most RFMOs providing information indicated that they had made efforts to implement IPOA-Sharks, although they do not have a regional plan of implementation. Measures include releasing shark by-catch alive (CCAMLR, IATTC and ICCAT), distributing publicity materials to fishing vessel operators, providing advice in the formulation of management plans (CECAF), collecting bycatch data on sharks (ICCAT, IPHC and NAFO), adopting resolutions on shark fisheries that promote the full use of dead sharks, encouraging the implementation of national plans of action (ICCAT), and assessing shark populations (IATTC and ICCAT). NAFO announced that it is now regulating the conservation and management of the elasmobranch skates through TAC and quotas, thus becoming the first RFMO to manage an elasmobranch. Some RFMOs that had not taken measures indicated that they would do so in the near future (CPPS), that shark bycatch was not a problem in their convention areas (NASCO) or that insufficient resources and a lack of interest on the part of members had prevented them from doing so. Members of SPC consider that current shark catch or by-catch levels in their region are sustainable, while other fisheries are considered to be unsustainable and in need of more attention.

56. **Other competent bodies**: the UNDP/GEF YSLME[25] Programme has initiated activities associated with the conservation and management of sharks, including assessment of the status of commercially important stocks, quantification of carrying capacity, maximum sustainable yield for fisheries and the development of mechanisms for regular assessments and the protection of vulnerable and endangered species. Such mechanisms will be implemented by the adoption of best practice measures. The UNDP/GEF BCLME[26] is currently gathering baseline data on the capture of pelagic sharks by tuna longline fishing vessels in maritime areas under its purview as a first step towards assessing the severity of the problem. Follow-up recommendations will subsequently be made to mitigate the impacts of longlining

[25] YS Large Marine Ecosystem
[26] Benguela Current Large Marine Ecosystem

on sharks. In addition, because bronze whaler sharks migrate between Angola and Namibia, their joint management by the two countries is currently being implemented through the programme.

57. CITES reports that several shark species have been included in the Convention's appendices and additional species may be proposed for inclusion at the fourteenth session of the Conference of Parties in 2007. Previous CITES Conferences have adopted a number of resolutions on the conservation and management of sharks and CITES has convened a workshop on the topic.

58. Since 2002, the Southeast Asian Fisheries Development Center (SEAFDEC) has implemented a regional programme on the management of fisheries and the utilization of sharks in South-East Asia. The programme involves a regional study on the implementation of the IPOA-Sharks and includes the collection of data and information at the national level on the status of shark resources and their utilization. All members have reaffirmed their intention to develop a national plan of action on sharks in 2005 and the programme will support them in the formulation and implementation of their national plans.

59. **Non-governmental organizations**: a number of non-governmental organizations have initiated activities in various forums to promote the conservation and management of sharks, in accordance with the IPOA-Sharks. WWF has worked with ICCAT and NAFO as well as CITES to promote the adoption of measures related to sharks. In its assessment of RFMOs, WWF is gathering data on measures taken by these organizations and arrangements to conserve and manage sharks.

Resolution adopted by the UNGA Sixty-first session (2006)

61/105. Sustainable fisheries, including through the 1995 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, and related instruments

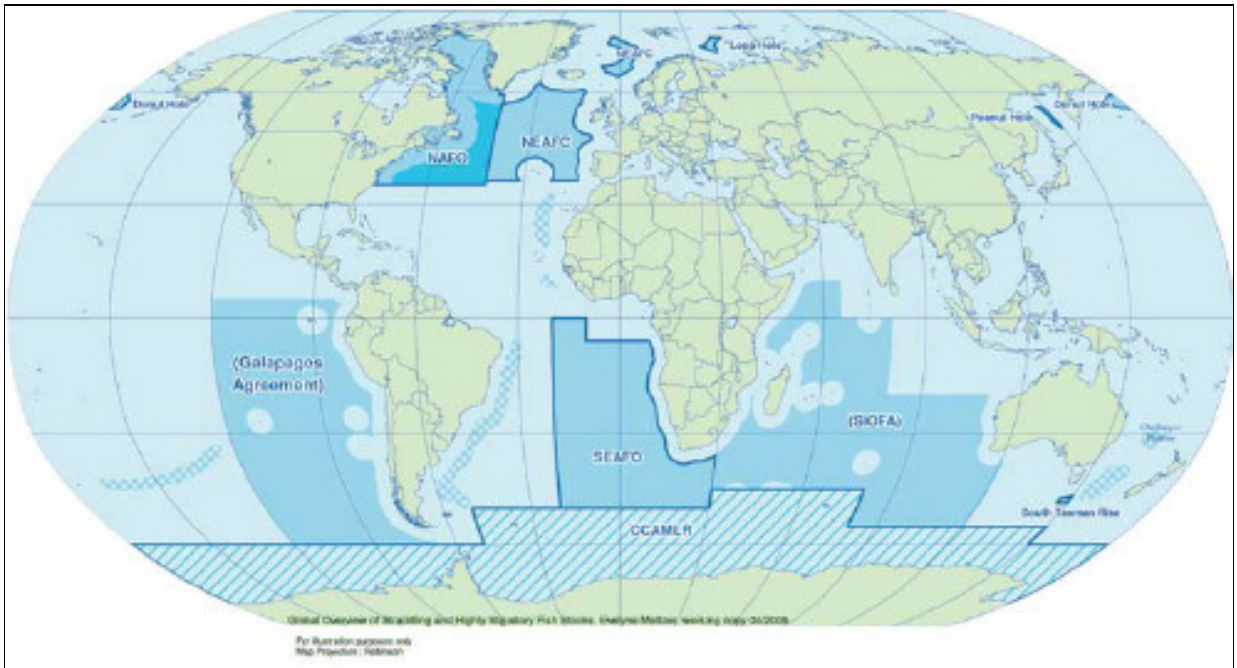
Resolution text not yet available at time of writing. Press releaseof 8th December 2006 states that the UNGA adopted consensus on 'Sustainable Fisheries' Resolution:

Deploring the fact that overfishing, illegal catches, wasteful methods and destructive techniques were leading to the rapid depletion of fish stocks and spoiling fragile marine habitats in many parts of the world, the United Nations General Assembly today called on States to take "immediate action", individually and through regional organizations, to sustainably manage fish stocks, and protect vulnerable deep sea ecosystems from harmful fishing practices. Adopting a consensus resolution on sustainable fisheries, the Assembly called on all States, directly or through regional fisheries management organizations, to apply widely, in accordance with international law, the precautionary approach and an ecosystem approach to the conservation, management and exploitation of fish stocks, including straddling fish stocks, highly migratory fish stocks and discrete high seas fish stocks. It also called on States parties to the 1995 Fish Stock Agreement to implement fully the provisions of article 6 (on the precautionary approach) of that accord, as a matter of priority.

ANNEX 7. Membership and geographic coverage of Regional Fisheries Bodies.

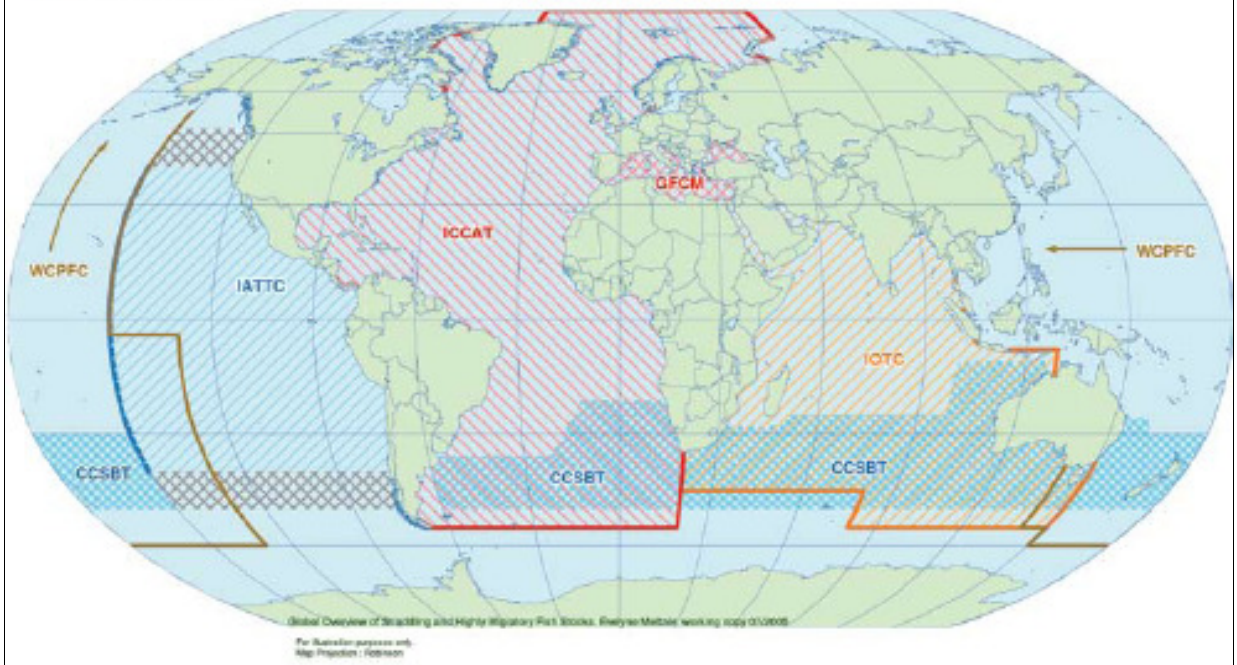
This table is not exhaustive, but lists the three RFBs responsible for fisheries that take particularly large quantities of migratory shark species and have engaged in shark fisheries management to some extent (for example through implementing finning bans and, in the case of ICCAT, attempting to undertake shark stock assessments). The map on the following page is taken from Willock and Lack (2006).

International Commission for the Conservation of Atlantic Tunas (ICCAT)		**Inter-American Tropical Tuna Commission (IATTC)**	**Indian Ocean Tuna Commission (IOTC)**
Algérie	Libya	Costa Rica	Australia
Angola	Maroc	Ecuador	China
Barbados	Mexico	El Salvador	Comoros
Belize	Namibia	France	Eritrea
Brasil	Nicaragua	Guatemala	European Community
Canada	Norway	Japan	France
Cap-Vert	Panama	Mexico	Guinea
China, People's Rep. of	Philippines	Nicaragua	India
Côte d'Ivoire	Russia	Panama	Iran, Islamic Rep, of
Croatia	São Tomé e Principe	Peru	Japan
European Union	Senegal	Spain	Kenya
France (St-Pierre et Miquelon)	South Africa	United States	Korea, Rep. of
Gabon	Trinidad & Tobago	Vanuatu	Sultanate of Oman
Ghana	Tunisie	Venezuela	Madagascar
Guatemala	Turkey		Malaysia
Guinea Ecuatorial	United Kingdom (O. Territories)	<u>Cooperating Non Parties or Fishing Entities</u>	Mauritius
Guinée-Conakry	United States	Canada	Pakistan
Honduras	Uruguay	China	Philippines
Iceland	Vanuatu	European Union	Seychelles
Japan	Venezuela	Honduras	Sri Lanka
Korea, Rep. of		Korea	Sudan
		Chinese Taipei	Thailand
			United Kingdom
			Vanuatu



Global Overview - Straddling Fish Stocks

RFMO Boundary
Proposed Regulatory Areas (not yet adopted or not yet in force)
CCAMLR
Other Unregulated High Seas Areas where Straddling Fish Stocks Occur
NAFO Regulatory Area



Global Overview - Highly Migratory Fish Stocks (Tuna and Tuna-Like)

IATTC
Antigua Convention (not yet in force)
GFCM
CCSBT
ICCAT
IOTC
WCPFC

WCPFC Note: Northern boundary and most of Western boundary for RFMO are not defined, and Area is not intended to include waters in South-East Asia which are not part of the Pacific Ocean, nor is it intended to include waters of the South China Sea.

ANNEX 8. Global distribution and aggregations of migratory sharks listed on CMS.

1. White shark

The white shark is most commonly recorded from the waters of Southern Africa (particularly from Namibia to KwaZulu-Natal and Mozambique); Eastern, Western and particularly Southern Australia; New Zealand; the Japanese archipelago; the North-eastern seaboard of North America, especially Long Island and environs; the Pacific coast of North America, primarily from Oregon to Baja; the coast of Central Chile; and the Mediterranean Sea, primarily the Western-Central region and Tyrrhenian Sea (Fergusson *et al*. 2005).

Known centres of abundance including breeding areas:

1. Eastern North Pacific off northern and southern California, **USA**, with adults of both sexes and young of the year off southern California, probably extending to the west coast of **Mexico**. No pregnant females reported.
2. Western North Atlantic coast of the **USA**, (Mid-Atlantic Bight from southern Massachusetts to New Jersey), including adults of both sexes and probably young of the year, but no pregnant females reported.
3. Eastern South Atlantic and Southwestern Indian Ocean: the southeast coast of **South Africa** from False Bay to the Eastern Cape and KwaZulu-Natal, with adults of both sexes and probably young of the year, but no pregnant females reported.
4. Southeastern Indian Ocean and Western South Pacific: Southeastern **Australia** (Western **Australia** to New South Wales and Queensland), including the Great Australian Bight, with adults of both sexes, pregnant females, and small young, possibly young of the year, reported. **New Zealand** similar with young and pregnant females but possibly contiguous with Australian area via migration.
5. Western North Pacific: **Japan** and possibly adjacent areas of **Korea** and **China**, including **Taiwan Province of China**. Pregnant females and young known, but more poorly known than other areas.
6. Mediterranean: Historically, primarily Western-Central region and Tyrrhenian Sea, mating and pregnant females recorded). Now extremely rare here.

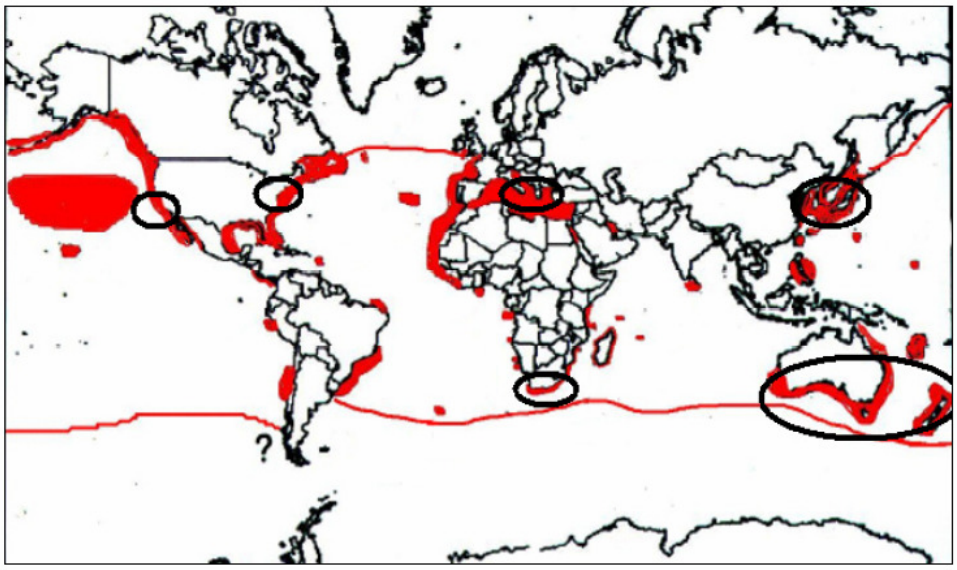


Figure E.1. Unpublished world map of the distribution and centres of abundance of white shark (derived from Compagno in preparation[2]). See Annex 1 for more information.

Sources:

Anonymous. 2002. Proposal for the inclusion of *Carcharodon carcharias* on Appendices I and II of the Convention on the Conservation of Migratory Species of Wild Animals. Prepared by the government of Australia. Proposal I/22 and II/21. URL: http://www.cms.int/.

Anonymous. 2002. Proposal to include the White shark (*Carcharodon carcharias*) in Appendix II of the convention on International Trade in Endangered Species (CITES). Prepared by the Governments of Australia and Madagascar, and presented to the 13th Meeting of the Conference of Parties to CITES, Bangkok, Thailand, 2-14 October 2004. URL: http://www.cites.org.

Anonymous, 2004. Report of the FAO ad hoc expert advisory panel for the assessment of proposals to amend Appendices I and II of CITES concerning commercially-exploited aquatic species. FAO Fisheries Report No. 748, FAO, Rome, Italy.

Fergusson, I.K., Compagno, L.J.V., and Marks, M.A. 2005. White shark *Carcharodon carcharias*. In: Fowler, S.L., Camhi, M., Burgess, G.H., Cailliet, G., Fordham, S.V., Cavanagh, R.D., Simpfendorfer, C.A. and Musick, J.A. In Press (2005). *Sharks, rays and chimaeras: the status of the chondrichthyan fishes*. IUCN SSC Shark Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.

2. Whale shark

Aggregations of whale sharks are often reported feeding on large seasonal concentrations of their planktonic prey. Examples include following synchronous coral spawning events (Ningaloo Reef, **Australia**), during lunar reef fish spawning events (**Belize**), after land crab spawning at Christmas Island, and feeding on crustacean blooms such as juvenile shrimp near estuaries in **Malaysia** (Borneo) and **Philippines**. Fisheries have targeted some of these aggregations, some of which now may be depleted.

Indian Ocean: **Australia** (Western Australia), **India** (Gujarat), **Sri Lanka**, **Maldives**, **Seychelles**, **Mozambique**, **South Africa**, **Iran (Gulf)**.

Pacific: **Mexico** (Baja California), **Philippines**, **Malaysia**, **Taiwan Province of China.**

Caribbean Sea: **Belize** and **Mexico** (Yucatan Peninsula), **Honduras** (Bay Islands).

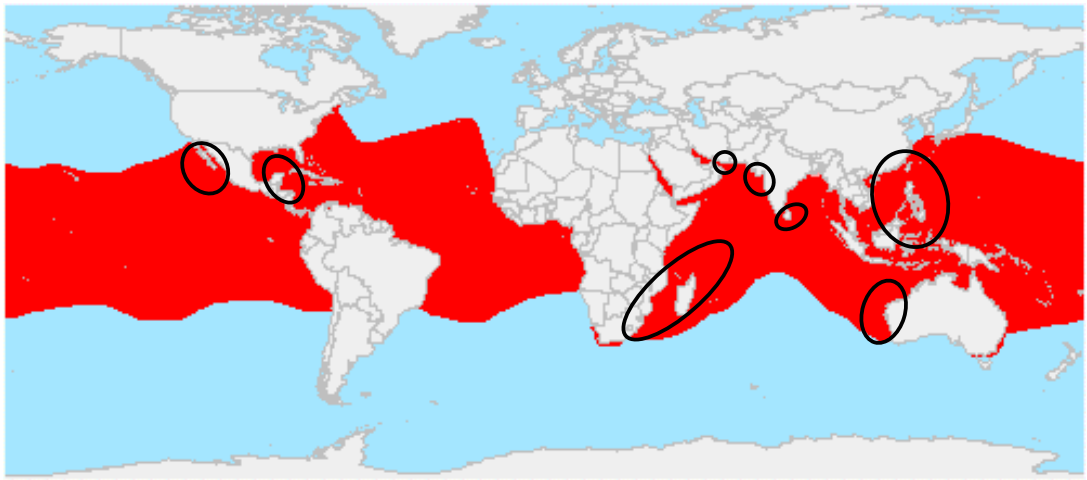


Figure 2: World map of the distribution and reported centres of abundance of whale shark adapted from FAO's Species Fact Sheet Map prepared by Leonard Compagno and Fabio Carocci.

Sources:

Anonymous. 1999. Proposal for the inclusion of *Rhincodon typus* on Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals. Prepared by the government of the Philippines. URL: http://www.cms.int/.

Anonymous. 2002. Proposal to include the Whale Shark (*Rhincodon typus*) in Appendix II of the convention on International Trade in Endangered Species (CITES). Prepared by the Governments of the Philippines

and India, and presented to the 12th Meeting of the Conference of Parties to CITES, Santiago, Chile, 3–15 November 2002. URL: http://www.cites.org.

FAO Species Fact Sheet. *Rhincodon typus*. 2007. Available at: http://www.fao.org/figis/servlet/species?fid=2801. Downloaded on 30 January 2007.

3. Basking shark

Basking sharks may aggregate to feed along deepwater or surface frontal systems, where their planktonic prey becomes concentrated by water movements. They may also aggregate to breed or also use feeding aggregations for breeding. Certain years have seen very large influxes of sharks to some **United Kingdom** areas, while in others the numbers recorded are low (Kunzlik 1988, Speedie 1998, Fairfax 1998). Some of the following aggregations have been targeted by fisheries and are now depleted.

North East Atlantic: **Norway**, West coast of **UK**, **Ireland**, Northwest **France**, **Spain** (Galicia and Balearics), **Italy**.

North West Atlantic: **USA** (New England, Gulf of Maine to Carolinas),

North East Pacific: **Canada** (British Columbia), **USA** (California, Monterey Bay)

South West Pacific: **New Zealand**

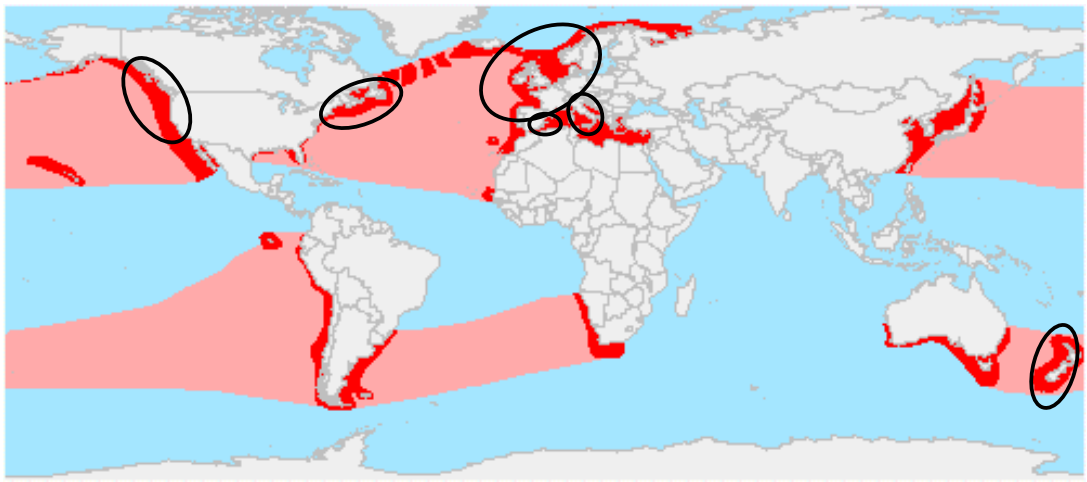


Figure 3: World map of the distribution and reported centres of abundance of basking shark adapted from FAO's Species Fact Sheet Map prepared by Leonard Compagno and Fabio Carocci.

Sources:

Anonymous. 2002. Proposal to include the Basking Shark (*Cetorhinus maximus*) in Appendix II of the Convention on International Trade in Endangered Species (CITES). Prepared by the United Kingdom, on behalf of European Community Member States, and presented to the 12th Meeting of the Conference of Parties to CITES, Santiago, Chile, 3–15 November 2002. URL: ww.cites.org.

Anonymous. 2005. Proposal for the inclusion of *Cetorhinus maximus* on Appendices I and II of the Convention on the Conservation of Migratory Species of Wild Animals. Prepared by the Government of the United Kingdom of Great Britain and Northern Ireland, and the Government of Australia URL: http://www.cms.int/.

FAO Species Fact Sheet. *Cetorhinus maximus*. 2007. Available at: http://www.fao.org/figis/servlet/species?fid=2005. Downloaded on 30 January 2007.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 6

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

REPORT OF WORKING GROUP 1

WORKING GROUP 1: INSTITUTIONAL FRAMEWORK

Chairman: Mr. Richard Cowan

Rapporteur: Mr. Randall Arauz

The purpose of this working group was to discuss the following:

- Institutional framework including the involvement of RFMOs and CITES
- Issues concerning: research, monitoring, compliance, value addition and time frame

1. Institutional Framework

- There was agreement that RFMOs must be involved in the production of the instrument from the start
- That it would be a good idea to have a scientific committee tied to the developed instrument
- There was suggestion that parties bring up the issues regarding the conservation of migratory sharks at the RFMOs meetings
- It was also agreed that a letter is to be sent to the RFMOs by the Executive Secretary to get information on their involvement with regards to migratory shark issues

2. Value addition and Research:

- It was agreed that CMS could bring value addition to the existing instrument by strengthening political will to act on shark conservation issues
- Agreement should be a bridge between fisheries and conservation

Data collection

It was proposed that there are:

- Linkages between RFMOs
- Linkages between range states
- Improvement in quality of data collected on shark from fisheries through increase awareness of fishermen in terms of species identification and the placement of independent observers on boats
- Exchanges of trade data and links
- Better collection and sharing of national trade data
- Links with CITES
- Capacity for analysis and compilation of data is strengthened as a lot of data is available but not enough analysis is taking place

3. Time frame

- It was agreed that we need to get something positive out of this meeting as it has taken such a long time and funds to get this one meeting organised and as such we need at least a strong commitment to organise another meeting to discuss the issues.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 7

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

WORKING GROUP 2 - INSTRUMENT SCOPE (SCOPE & MANDATE)

Chairman: Richard BAGINE
Rapporteur: Elvina HENRIETTE PAYET

The purpose of this working group was to discuss the following:

- Geographical scope - global vs. local
- Species scope - focus on appendix species + potential for development of a general framework for future listed species
- Legal scope - Binding & Non-binding elements

1. Geographical scope – global vs local

The working group agreed that the instrument should consider a 'Global wider scope' and borrow the approach from other existing CMS instruments.

2. Species scope

There was a group consensus that the agreement should focus on the 3 appendix species but in addition there should be an enabling mechanism (see below) build into the agreement that allows other species to be brought on board. These additional species could very well be those proposed by the IUCN listing and should not only pertain to the CMS listing.

The nature of the Mechanism

Further discussions were held on the nature of the mechanism of the agreement, and the inclusion of additional species.

The following structure was proposed.

Articles	**Annexes**	
Key articles – article 3	Appendix 1	Appendix 2
	White & basking sharks	Whale shark
Convention + extra for appendix 2 species		
Regional aspect		
NGOs??? Not party to CMS		
RFMO??? Not party to CMS		

There was a broad consensus on the framework proposed, except that organisations like NGOs should not be included as it is the states that are Party to the CMS (and not NGOs).

It was also agreed that there is a need to include overarching objectives for the instruments.

3. Legal scope – Binding & Non-binding elements

There was a lengthy debate on the legal scope of the agreement. Some participants felt that both options should be kept open.

There was a strong support to agree on some **fundamental elements** that need to go into the instrument whether it would be binding or non-binding. Therefore there is a need to look at the **content** of this instrument.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 8

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

SHARKS QUESTIONNAIRE

All questions are being asked on a personal basis – the questionnaire is anonymous unless you wish to sign it at the end

1. Do you believe that a CMS Instrument on migratory sharks should be in the form of:

   (a) a WSSD Partnership? ☐

   (b) a **non-binding** CMS Article IV Agreement (MoU)? ☐

   (c) a **binding** CMS Article IV Agreement? ☐

   (d) other or none? (please specify below) ☐

2. Do you believe that a CMS Instrument should:

   (a) cover only the 3 CMS-listed species of great white, basking and whale sharks? ☐

   (b) initially cover the 3 listed species but be capable of covering further species later if added to the CMS Appendices at a COP or by agreement of the instrument's parties? ☐

   (c) cover more than the 3 listed species initially? (please give details below of how many/which species) ☐

3. Do you believe that the geographic scope of a CMS Instrument(s) on sharks should be:

   (a) global? ☐

   (b) Regional? (please give details e.g., by Ocean Basin) ☐

4. Please list up to 6 key elements which you would like to see in CMS Instrument.

Suggestions could include, inter alia, stock assessments, studies of shark aggregation and other behaviour; development of shared shark database, provision for targeted fishing quotas and prohibitions; finning bans; capacity building in developing countries; promotion and regulation of ecotourism; identification and protection of critical habitats; user and community education; co-operation with fishing industry; High Seas protected areas or migration corridors; global promotion of shark conservation and wise use; implementation of resolutions or rules for sharks adopted in other for a (e.g., UNGA, FAO, RFMOs); Action Plans for particular species or regions, direct link to FAO/IPOA.

(i)

(ii)

(iii)

(iv)

(v)

(vi)

5. How would you like to see the Instrument connected to FAO and FRMOs?

(a) by establishing the FAO IPOA for Sharks as the Global Action Plan for the Instrument, perhaps supplemented by CMS regional or species work plans? ☐

(b) by establishing a Coordination Unit for the Instrument within an existing RFMO? ☐

(c) by inviting RFMOs to co-sponsor the Instrument? ☐

(d) by establishing a Technical/Advisory Body for the CMS Instrument in which RFMOs would be invited to take full membership? ☐

(e) other suggestions (please specify below). ☐

6. I am attending principally as a representative of a:

(a) Government ☐

(b) NGO, IGO or other body ☐

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CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 9

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

SUMMARY OF RFMOs
Contribution of the Netherlands

Contribution for {FAO RFMO} Engagement
(something similar to be drafted for CITES)
(this is a listing of sub-bullets to go into the first WG1 report)
(this is a contribution to Norwegian statement on RFMO engagement)
(this has been a contribution in 2nd WG in afternoon of Wednesday)

1. CMS Secretariat sends letter, by Jan/Feb 2008, to all RFMO's with the following questions, to be answered by March/April 2008. [The letter would also inform RFMO's of outcome of the Seychelles meeting]:
   - → is shark management (directed fisheries and fisheries bycatch) within the mandate of the RFMO?
   - → what recent regulations have been adopted in this regard? (e.g. agreements on catch limits; bycatch reduction)
   - → what regulations are anticipated for the near future in this regard?
   - → what priority is given to sharks management in light of the full range of management issues in the RFMO?

2. Draft Instrument developed under CMS is to be put on the agenda of annual RFMO meetings in 2008, seeking their formal endorsement.

3. Articles in the CMS Instrument, when pertaining to fisheries management /action plans on fisheries measures, should be phrased "States Parties to this instrument are committed, including working through RFMO's".

4. CMS Secretariat is to conclude MoUs with RFMO Secretariats on technical cooperation (e.g. data exchange).

5. CMS Secretariat to participate in
   - joint meeting of tuna RFMO's in 2009
   - (possible) Joint meeting of non-tuna RFMO's

   to inform on CMS Instrument, and seek endorsement.

6. RFMO Secretariats invited as observers at MoP of the CMS instrument.

7. FAO-IPOA included in CMS Instrument.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS//MS/CS.1/Final
Concluding Statement 1

13 December 2007

Original : English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

GENERAL STATEMENT ON THE PURPOSE AND PROCESS OF THE MEETING

1. The meeting was an official intergovernmental meeting hosted by the Government of the Seychelles and convened by the UNEP Secretariat of the Convention on Migratory Species (CMS). The Minister of Education of the Seychelles Government, Mr. Bernard Shamlaye, formally opened the meeting on 11 December at the Plantation Club Resort, Victoria, Mahe, Seychelles.

2. Representatives of all shark range and consumer states were formally invited to attend, together with relevant Intergovernmental Bodies, including FAO, CITES and RFMOs, IUCN Species Survival Commission, NGOs and advisers such as the Chairman of the CMS Scientific Council (ScC) and the ScC specialist member for Large Fish. A total of 70 representatives attended the meeting. This included representatives of 34 Governments and 11 other bodies. Credentials for 32 Governmental delegates were confirmed by a Credentials Committee established by the meeting. The meeting agreed informal rules of procedure and to operate by consensus.

3. The main purpose of the meeting - reflected in its title - was to identify and elaborate an option for international co-operation on migratory sharks under CMS. The meeting was a direct response to Recommendation 8.16 and Resolution 8.5 adopted by the CMS Conference of Parties (COP) in November 2005. *Inter alia* these two decisions called for range states of the three shark species listed in Appendices I and II of the Convention to develop a global instrument on migratory sharks under CMS auspices, and identified a number of states already willing to co-operate in supporting such an instrument.

4. A total of 4 substantive and 13 information papers were made available to the delegates before and during the meeting. These included a major background paper on the conservation status of sharks and options for international co-operation prepared by IUCN with support from the CMS Secretariat. Papers were also provided by CITES, FAO, the European Commission, ICCAT and a number of range states and NGOs. A new paper in the CMS Technical Series (No. 15) entitled *Review of Migratory Chondrcihthyan Fishes* also prepared by IUCN for the CMS Secretariat with support from the U.K., Department for Environment, Food and Rural Affairs (DEFRA) was also made available shortly before the meeting began.

5. The meeting elected Seychelles as Chair and Australia as Vice Chair; supported by a Bureau comprising representatives of Belgium, Costa Rica, Nigeria, the Philippines, IUCN and the CMS Secretariat. The meeting conducted its work through a series of plenary discussions, working groups, and complementary activities, including presentations, regional meetings and an individual questionnaire.

6. The Meeting decided that its main outputs would take the form of 2 Concluding Statements as follows:

- Concluding Statement 1: General Statement on the Purpose and Process of the Meeting
- Concluding Statement 2: Statement on the Outcome of the Meeting agreed by Participants

IUCN

7. Forty-eight percent of the 145 migratory and potentially migratory species of sharks and rays are Threatened according to IUCN Red List criteria, compared with 19% of the non-migratory species assessed to date. The primary threat to CMS-listed species (whale, basking and white sharks) is excessive mortality in fisheries, both as a target and as a utilised bycatch. Other threats include persecution, habitat deterioration (including prey depletion), boat strikes and disturbance (sometimes associated with ecotourism). These threats need to be addressed by an Instrument for International Cooperation on Migratory Sharks. Species not listed on CMS that are in most urgent need of conservation management are exposed to the same threats, including 14 Critically Endangered or Endangered migratory species and other large oceanic sharks exploited by unregulated high seas fisheries. The CMS Scientific Council has agreed that Threatened species are of unfavourable status under CMS criteria and qualify for consideration for listing on the Appendices.

FAO

8. The meeting regretted that a representative from the FAO was unable to attend the meeting. It is recognised that fishing has a major impact on the sustainability of migratory shark species. The FAO, in its role as a peak body on global fisheries issues, is well-placed to provide input on the impact of fishing on migratory sharks species. Furthermore, the International Plan of Action on Sharks, promulgated through the FAO, is a key document of relevance to this forum. FAO expertise on this issue and possible links between any initiative proposed by this meeting and other regional initiatives on sharks would have been valuable. The meeting strongly encouraged FAO representation at future meetings of the CMS dealing with the development of mechanisms to ensure sustainable management of migratory shark species.

NATIONAL AND REGIONAL PLANS OF ACTION
Developing countries and National Plans of Action

9. The meeting took note of the work that some developing countries are doing in order to elaborate and implement their national Plans of Action on Sharks under FAO IPOA-Sharks.

10. The meeting noted the publication of the consultation paper on an EC Action Plan for Sharks. The meeting decided to bring the outcome of this meeting to the attention of the EC in the context of the public consultation procedure. The meeting trusts it provides a valuable contribution to the future development of the EU Action Plan for Sharks.

RFMOs

11. The Executive Secretary will inform RFMOs of the process engaged by the CMS, inquire how the RFMOs might contribute towards the objectives of the process and invite them to collaborate by providing clarity on their respective mandates, on the priority given to shark conservation and management activities by adopting appropriate management measures, accompanied by measures for control and enforcement.

12. The RFMOs should be engaged in time for their respective decision-making bodies to

respond within the end of 2008.

CITES

13. The objective of CITES – protection of endangered species through regulation of international trade – has strong complementarities and synergies with actions taken to protect migratory shark species listed on the CMS Appendices and thus should be recognised as adding value to CMS initiatives. A representative of CITES should again be invited to attend the next meeting.

UN GENERAL ASSEMBLY

14. The meeting welcomed the fact that the United Nations General Assembly was poised to adopt a resolution on sustainable fisheries calling for urgent action by the international community to promote the conservation and management of sharks.

NEXT STEPS

15. The meeting noted that good progress had been made, and that a series of elements have been agreed upon for the instrument. The meeting agreed to set the ambitious target of having a final version of the instrument available by the 9th Conference of Parties to CMS in early December 2008. The meeting welcomed the offer of the CMS Secretariat to have a second meeting in Bonn in the first half of 2008, with simultaneous translation, prior to COP 9 to move the process forward. The meeting urges stakeholders to make available financial resources available for this meeting. It was agreed to establish an interim mechanism to assist in preparing the first draft of the instrument before the Bonn meeting, with the CMS Secretariat taking the lead.

16. The Government of Seychelles requested the Executive Secretary to inform other relevant conventions, agencies and organisations of the work undertaken in this forum and invite the CMS Secretariat to encourage their members and observers to participate actively in the future development and implementation of the instrument.

REPORT AND ENB

17. The full report of the meeting will be prepared and published on the CMS website www.cms.int in early 2008. A report by the Earth Negotiations Bulletin (Vol.18 No.28) was published on Saturday, 15 December 2007 on http://www.iisd.ca/cms/sdsey/.

18. Delegations from the U.S., ICCAT, Costa Rica and Seychelles, as well as the Chairman of the Meeting and the Executive Secretary of CMS made closing statements of thanks and encouragement to move the process forward.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS/CS.2
Concluding Statement 2

13 December 2007

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

STATEMENT ON THE OUTCOME OF THE MEETING AGREED BY PARTICIPANTS

1. The Participants considered that an agreement developed under Article III, IV and V of CMS would add value to current global shark conservation and management efforts, and that the process to develop such an agreement should continue with a view to finalising the proposed instrument at or before the 9th Conference of the Parties to CMS in December 2008*. The goal of the agreement should be *to achieve and maintain a favourable conservation status for migratory sharks listed in the Annexes of the agreement*.

2. Participants focused their deliberations on those elements of a shark conservation agreement that they believed would be essential irrespective of the precise form of the final instrument. This included key elements related to **the geographical scope, species covered, fundamental principles, shark conservation/management components (including non-consumptive use) and co-operation with other bodies.**

3. With regard to **geographical scope**, participants agreed that for the purpose of this instrument, it should be global in scope with opportunity to incorporate regional or species-specific initiatives where required.

4. With regard to **species covered** there was consensus that the agreement should focus on the three species listed in the Appendices of CMS. In addition there should be an enabling mechanism built into the agreement that allows Parties to add species to the agreement.

5. Three **fundamental principles** recommended were (i) the need to address the broad range of measures that deal with shark conservation and management; (ii) the need for precautionary and ecosystem approaches to shark conservation; and (iii) the need for cooperation and immediate engagement with the fisheries industry, FAO and Regional Fisheries Management Organizations (RFMOs), if the development of this instrument and shark conservation and management in general is to be successful. Participants were of the view that the CMS instrument could re-invigorate the implementation of the FAO IPOA for sharks by incorporating and building on it.

* The working group documents as amended by the Plenary provide further details on the issues summarized in this paper and can be consulted at Annex A. These will guide the preparation of a draft agreement.

6. **Shark conservation and management components** should include:

- measures to build capacity (e.g., research & monitoring, enforcement, compliance) in developing countries to manage sharks;
- identification and protection of critical shark habitats and migration routes;
- the creation of a standardized species-specific global shark database;
- coordination of stock assessments and research;
- promotion and regulation of non-consumptive use including ecotourism;
- processes to encourage the prohibition or strict control of shark finning;
- active cooperation with the fisheries industries;
- studies of shark aggregation and breeding ground and shark behaviour and ecology;
- strict conservation measures for species listed on Appendix I of CMS in accordance with Article III of the Convention;
- regulation of exploitation of species listed on Appendix II of CMS;
- encouragement of relevant bodies to set targeted fishery quotas, and effort and other restrictions;
- processes to encourage restrictions of shark by-catch in non-directed fisheries; and
- Enforcement and compliance measures, including observers on fishery vessels.

7. Further consideration should also be given to include within the agreement provisions to encourage

- global promotion of shark conservation and wise use;
- reducing pollution, marine debris and ship strikes; and
- reporting structure on measures taken to comply with the agreement.

8. With regard to **cooperation with other bodies** the participants agreed that the new agreement should establish a technical and advisory body including representatives of CITES, IUCN, FAO and RFMOs. The Executive Secretary should approach RFMOs individually by letter to follow up the meeting (see CS1). The Chairman of the meeting should deliver messages on behalf of the meeting to the FAO and the European Commission (see CS1).

9. The meeting also considered the **institutional structure** and **funding** for the agreement. Options were identified for further analysis by an inter-sessional group prior to discussion at a second meeting in 2008. Participants strongly recommended the use of existing bodies and mechanisms wherever possible to maximize synergies and reduce costs. It was acknowledged that the final choice of institutional options, and any central funding from CMS, would need to be agreed at the second meeting and at the next CMS Conference of the Parties in December 2008.

10. The meeting recommended that the text of a **draft CMS agreement** incorporating the conclusions reached should be prepared by the CMS Secretariat in consultation with an inter-sessional steering group comprising Australia, Chile, Costa Rica, EC, New Zealand and Seychelles. This would be circulated to all participants and interested organisations for further consideration and refinement at a follow-up meeting in the first half of 2008, as well as for subsequent discussion with, and reflection by, potential partners and UN organizations within the global shark conservation and management community. The CMS Secretariat offered to host the next meeting at its headquarters in Bonn, Germany in the first half of 2008, subject to the availability of resources.

Report Working Group 1

Objectives

1. Achieve and maintain a favourable conservation status for migratory sharks listed in the Appendices of the Instrument (as well as for those not yet listed but whose conservation status may also improve?).
2. PRECAUTIONARY APPROACH
   Lack of scientific knowledge should not be used as a reason for postponing measures to enhance the conservation status of migratory sharks.

Scope

1. Request all Parties to take or strengthen measures to achieve or maintain a favourable conservation status of migratory sharks species listed in the Appendices of the instrument. Of particular importance are measures to address threatening processes such as *inter alia* habitat destruction IUU fishing and fisheries by-catch + directed overfished fisheries and trophy fishing, ships strike Overfishing of targeted (and by-catch) species.
   Develop conservation mechanisms where such measures are insufficient.

2. Encourage the FAO Committee on Fisheries to promote greater uptake of the International Plan of Action for the Conservation and Management of Sharks as a matter of urgency.

3. Call upon Range States of migratory sharks listed on Appendix I or II to develop a global migratory sharks conservation instrument in accordance with Article III and V of the Convention, noting that discussions on the development of the instrument could, *inter alia*
   a) Consider the potential value of developing subsidiary regional and/or species specific conservation management plans to the instrument;
   b) Involve for the greatest extent possible, governments intergovernmental organizations and local communities + NGOs + Industry;
   c) Identify as appropriate, effective mechanisms to mitigate threats such as by catch entanglement in marine debris and IUU fishing (ships strikes?);
   d) Identify viable and practical alternatives to consumptive uses (such as non consumptive use) of migratory sharks while recognizing the cultural and the economic importance of these species for some communities; and
   e) Develop mechanism to facilitate developing country participation in the implementation of the instrument.

4. Request the Secretariat to bring this to the attention of RFMOs (US and Belgium to propose a draft) the FAO Committee on Fisheries and CITES and to explore future avenues of cooperation with these organizations within their respective mandate as well as with Range States of migratory sharks that will lead to enhanced protection, conservation and management of these sharks.

5. The parties to this agreement will work through RFMO's and FAO when adopting and implementing fisheries measures to deliver the objectives of this agreement as appropriate. Fisheries measures include *inter alia* catch limits for directed fisheries as well as for fisheries by catch and control and enforcement of management measures, including finning bans.

6. The Parties to this agreement will further work through other relevant international, regional and sub-regional bodies including *iter alia* CITES and regional seas programmes, in delivering the objectives of this agreement.

7. The Secretariat may enter into arrangements, and shall consult and cooperate, when appropriate, with:

    - The Convention Secretariat, and its relevant bodies;
    - The Secretariat of the relevant conventions and international instruments, mentioned above, in respect of matters of common interest; and
    - Other organizations or institutions with the competence in the fields of fisheries measures, as appropriate as well as in to fields of conservation of Migratory sharks and their habitats, research, education and awareness raising.

8. The instrument shall include a mechanism whereby Parties to the Instrument can amend its annexes to include sharks deserving of protection or to amend the status of sharks where favourable conservation status has been achieved.

Structure

The Instrument would have the classic structure of text plus annexes:

Two annexes at least are envisaged at this stage. Appendix 1 would cover shark species where obligations at least equivalent to those laid down in Article 3 of the CMS Convention would apply. The Instrument would need to contain an article equivalent to Article 3 of the Convention. In the first instance, the draft Instrument would include in Appendix 1 the shark species currently listed on CMS Annex 1.

Appendix 2 would cover other sharks where Parties would be encouraged through the Instrument to take measures designed to achieve the GOAL and OBJECTIVE of the Instrument (see above). In the first instance, the draft Instrument would include in Appendix 2 the shark species currently listed on CMS Annex 2.

1. The text of the instrument could already indicate in broad terms more specific measures, e.g. of the kind specified in the FAO Shark IPOA (para 22 etc.), the draft EU Shark Action Plan; National Shark Action Plans etc. Such measures could include stock assessment, critical habitat protection, shark finning bans, capacity building, ecotourism, provision for targeted fishing and quotas etc.

BUILD IN HERE SOME OF THE PRIORITIES FOR KEY ELEMENTS IDENTIFIED FROM RESPONSES TO THE QUESTIONNAIRE (CMS Secretariat to advise).

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 12

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

REPORT WORKING GROUP 3

Objectives

1. Achieve and maintain a favourable conservation status for migratory sharks listed in the Appendices of the Instrument (as well as for those not yet listed but whose conservation status may also improve?).
2. PRECAUTIONARY APPROACH
   Lack of scientific knowledge should not be used as a reason for postponing measures to enhance the conservation status of migratory sharks.

Scope

1. Request all Parties to take or strengthen measures to achieve or maintain a favourable conservation status of migratory sharks species listed in the Appendices of the instrument. Of particular importance are measures to address threatening processes such as *inter alia* habitat destruction IUU fishing and fisheries by-catch + directed overfished fisheries and trophy fishing, ships strike Overfishing of targeted (and by-catch) species.
   Develop conservation mechanisms where such measures are insufficient.

2. Encourage the FAO Committee on Fisheries to promote greater uptake of the International Plan of Action for the Conservation and Management of Sharks as a matter of urgency.

3. Call upon Range States of migratory sharks listed on Appendix I or II to develop a global migratory sharks conservation instrument in accordance with Article III and V of the Convention, noting that discussions on the development of the instrument could, *inter alia*
   a) Consider the potential value of developing subsidiary regional and/or species specific conservation management plans to the instrument;
   b) Involve for the greatest extent possible, governments intergovernmental organizations and local communities + NGOs + Industry;
   c) Identify as appropriate, effective mechanisms to mitigate threats such as by catch entanglement in marine debris and IUU fishing (ships strikes?);

d) Identify viable and practical alternatives to consumptive uses (such as non consumptive use) of migratory sharks while recognizing the cultural and the economic importance of these species for some communities; and
e) Develop mechanism to facilitate developing country participation in the implementation of the instrument.

4. Request the Secretariat to bring this to the attention of RFMOs (US and Belgium to propose a draft) the FAO Committee on Fisheries and CITES and to explore future avenues of cooperation with these organizations within their respective mandate as well as with Range States of migratory sharks that will lead to enhanced protection, conservation and management of these sharks.

5. The parties to this agreement will work through RFMO's and FAO when adopting and implementing fisheries measures to deliver the objectives of this agreement as appropriate. Fisheries measures include *inter alia* catch limits for directed fisheries as well as for fisheries by catch and control and enforcement of management measures, including finning bans.

6. The Parties to this agreement will further work through other relevant international, regional and sub-regional bodies including *iter alia* CITES and regional seas programmes, in delivering the objectives of this agreement.

7. The Secretariat may enter into arrangements, and shall consult and cooperate, when appropriate, with:

   - The Convention Secretariat, and its relevant bodies;
   - The Secretariat of the relevant conventions and international instruments, mentioned above, in respect of matters of common interest; and
   - Other organizations or institutions with the competence in the fields of fisheries measures, as appropriate as well as in to fields of conservation of Migratory sharks and their habitats, research, education and awareness raising.

8. The instrument shall include a mechanism whereby Parties to the Instrument can amend its annexes to include sharks deserving of protection or to amend the status of sharks where favourable conservation status has been achieved.

Structure

The Instrument would have the classic structure of text plus annexes:

Two annexes at least are envisaged at this stage. Appendix 1 would cover shark species where obligations at least equivalent to those laid down in Article 3 of the CMS Convention would apply. The Instrument would need to contain an article equivalent to Article 3 of the Convention. In the first instance, the draft Instrument would include in Appendix 1 the shark species currently listed on CMS Annex 1.

Appendix 2 would cover other sharks where Parties would be encouraged through the Instrument to take measures designed to achieve the GOAL and OBJECTIVE of the Instrument (see above).

In the first instance, the draft Instrument would include in Appendix 2 the shark species currently listed on CMS Annex 2.

1. The text of the instrument could already indicate in broad terms more specific measures, e.g. of the kind specified in the FAO Shark IPOA (para 22 etc.), the draft EU Shark Action Plan; National Shark Action Plans etc. Such measures could include stock assessment, critical habitat protection, shark finning bans, capacity building, ecotourism, provision for targeted fishing and quotas etc.

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 13

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

REPORT WORKING GROUP 4

Chairman: Selby Remie – Seychelles
Rapporteur: Riaz Aumeeruddy – Seychelles
Anmol Kumar – India
Patrick Jacobs – South Africa
Hans Nieuwenhis – Netherlands
Sarah Fowler – IUCN
Clinton Duffy – New Zealand
John Stevens – Shark advisor (Australia)
Tom Blasdale – UK
Oystein Storkersen – Norway
Richard Bagine – Kenya
Brad Wiley – USA
George Hutchford – Ghana
Ana Kobablic – Croatia
Danielle Annese – Australia
Anwar Sheik Mamode – Mauritius
Zeb Hogan – CMS
Sergio Golabeoea – Argentina

Institutional Structure

- Head some form of secretariat and scientific body. The group did not conclude on any specific option, but rather the need to have an interim group set-up to explore the issue further. However, the group discussed various options that this interim group should consider further:
    - minimalist approach (a few institutions involved in secretariat);
    - option for more institutions involved in coordination and running secretariat;
    - Scientific body: e.g. CMS Scientific Council; and
    - CMS Secretariat mandated by COP could take on the task of acting as Secretariat of the instrument.

- Financing mechanism: another group to look at that. Different options from CMS Secretariat.
    - contributions for MoUs charged according to UN scale (not all countries can afford);
    - Parties pay part of the contribution and donors pay the rest;
    - CMS to absorb the costs, but need to go to the COP of CMS to get approval for a budget (then all CMS parties will be asked to finance);
    - Nations that trade in shark products could be asked to pay more (might be contentious and difficult to negotiate);
    - Consider back to back meetings with other instruments to reduce costs; and
    - Build synergies to reduce costs (e.g. use scientific council of CMS for scientific issues).

Mechanism for engagement/membership structure

- CMS secretariat to send a letter to RFMOs with the following questions: how do FRMOs see their role in shark management: is it a priority for them, catch, by-catch;
- Outcome of this meeting will be put forward to joint RFMO meeting in 2008;
- Any article in CMS instrument containing fisheries instrument should commit RFMO to the instrument,? Via the parties of RFMOs;
- CMS Secretariat can conclude MoU with RFMO;
- CMS Secretariat can participate in RFMO meetings; and
- Invite FRMOs to be observers of CMS instrument.

Engagement of FAO (CMS Secretariat, CMS Parties and FAO members to lobby FAO)

Engage major fishing nations in the formulation of the instrument (CMS Secretariat, CMS Parties especially at bilateral level, good opportunity to approach them at FAO COFI).

Engagement with non signatory states, non CMS Parties, with NGOs and intergovernmental organisations: Secretariat to take lead role but states can also use their influence.

Priority issues (result of the questionnaire would have been useful)

The group agreed on the following priority points (not in order of priority)

- Development of shared database (interaction with RFMO), standardisation of data collection

- Reporting structure (mechanism) on conservation status to be implemented, actions taken to be fed in the database (capacity building needed)

- Develop taxon specific Acton Plans that produce recommendations to RFMOs

- Identification of critical habitats & important migratory corridors

- Create a direct link between the instrument developed here and FAO IPOA sharks (building momentum on the IPOA, help develop NPOAs)

- Help capacity building in developing countries (research and monitoring, enforcement, compliance)

- Public awareness

- Identify key information gaps (go down to species level when information is available at group level)

- Address non consumptive use (ecotourism issues)

- Role of how to engage non CMS signatories, fishing states etc.

- Protection of existing populations and restoration of population and stocks in depleted areas (can be put in species specific action plans)

- Building synergies (eg. CMs scientific council can take the role of scientific body of this instrument)

The group also touched on two points which should be addressed in other sections of the instrument, possibly in the Preamble.

- The importance of the precautionary and ecosystem approach.

Reference to the statement in the IPOA Sharks supporting the notion that FAO encourages other mechanisms to manage sharks (*"25. States, within the framework of their respective competencies and consistent with international law, should strive to cooperate through regional and subregional fisheries organizations or arrangements, and other forms of cooperation, with a view to ensuring the sustainability of shark stocks, including, where appropriate, the development of subregional or regional shark plans.)*

UNEP

on the move to 2010

CONVENTION ON MIGRATORY SPECIES

Distr: General

UNEP/CMS/MS1/Report
Annex 14

Original: English

MEETING TO IDENTIFY AND ELABORATE AN OPTION FOR INTERNATIONAL COOPERATION ON MIGRATORY SHARKS UNDER THE CONVENTION ON MIGRATORY SPECIES
Mahe, Seychelles, 11-13 December 2007

LIST OF PARTICIPANTS

Government

ANGOLA

Mr. Nascimento Antonio
Head of the Department of Natural Resources
Ministry of Urban Affairs and Environment
Av. 4 de Fevereiro
Luanda
Angola
Tel: (+244) 912 52 70 53
Email: kidimambeko@yahoo.com.br

ARGENTINA

Ms. Corina Lehmann
Counsellor of Embassy
General Directorate of Environmental Affairs
Ministry of Foreign Affairs
Esmeralda 1212 Piso 14 (CP1007)
Buenos Aires
Argentina
Tel: (+54 11) 48 19 74 14
Fax: (+54 11) 48 19 74 13
Email: leh@mrecic.gov.ar

Mr. Sergio Goldfeder
Oficial Tecnico
Secretaria de Ambiente y Desarollo Sustenable
1004, 459 San Martin
Buenos Aires
Argentina
Tel: (+54 11) 4348 8379
Fax: (+54 11) 4348 8554
Email: sgoldfeder@ambiente.gov.ar

AUSTRALIA

Ms. Amanda Lawrence
Assistant Director, Marine Environment Policy
Department of the Environment and
Heritage and the Arts
GPO Box 787, 2601
Canberra ACT
Australia

Ms. Cheryle Hislop
A/g Assistant Director
Marine Environment Policy Section
Department of the Environment and Water
Resources
GPO Box 787, 2601
Canberra ACT
Australia
Tel: (+61 2) 6274 2168
Fax: (+61 2) 6274 2268
Email: cheryle.hislop@environment.gov.au

Ms. Danielle Annese
Program Officer
Humane Society International
P.O. Box 439, 2107
Avalon NSW
Australia
Tel: (+61) 2 9973 1728
Fax: (+61) 2 9973 1729
Email: danielle@hsi.org.au

BANGLADESH

Mr. Roy Bikram
Scientific Officer
Directorate of Fisheries
Marine Fisheries Survey Management Unit
CGO Building No.2, 6th Floor
Agrabad, Chittagong
Bangladesh
Tel: (+88 031) 72 4206
Fax: (+88031) 72 1731
Email: bikram_64@yahoo.com

BELGIUM

Mr. Paulus Tak
Expert Marine Environment
Ministry of Envrionment
Victor Hortaplein 40 – bus
1060 Brussels
Belgium
Tel: (+32 2) 52 49 631
Fax: (+32 2) 52 49 643
Email: paulus.tak@health.fgov.be

CHILE

Ms. Nancy Cespedes
Chief of the Environment Department
Directorate of Environment, Antartica and
Maritime Affairs
Ministry of Foreign Affairs
Teatinos 180, 13th Floor
Santiago
Chile
Tel: (+56 2) 679 4718
Fax: (+56 2) 673 2152
Email: ncespedes@minrel.gov.cl

CHINA

Ms. Wang Dan
Senior Staff Member
Ministry of Agriculture,
Fishery Law Enforcement Command
100026, 11 Nongzhanguannanli
Beijing
People's Republic of China
Tel/Fax: (+86 10) 641 93100
Email: shuiyechu@yahoo.com.cn

Dr. Xiao-Jie Dai
Professor
Shanghai Fisheries University
200090, 334 Jun Gong Rd
Shanghai
People's Republic of China
Tel: (+86 21) 657 10041
Fax: (+86 21) 656 87210
Email: xjdai@shfu.edu.cn

COLOMBIA

Mr. Vladimir Puentes Granada
Ocean, Coastal and Fisheries Advisor
Ministry of Environment
Housing and Terrestrial Development
Calle 37, No. 8-40, Piso 2
Bogota
Colombia
Tel: (+57 1) 332 3400
Fax: (+57 1) 332 3457
Email: vpuentes@minambiente.gov.co

REPUBLIC OF CONGO

M. Dieudonne Ankara
Ministry of Environment and Tourism
54 Rue Bordeaux Ouenze
Brazzaville
Republic of Congo
Tel: (+242) 551 6750
Fax. (+242) 810330 / 810847
Email: graspcongo@yahoo.fr

COSTA RICA

Mr. Randall Arauz Vargas
Representative
Ministry of Environment and Energy
Apdo 1203-1100
Tibas, San Jose
Costa Rica
Tel: (+1) 506 241 5227
Fax: (+1) 506 236 6017
Email: rarauz@racsa.co.cr

CROATIA

Ms. Ana Kobaslic
Expert Associate
Ministry of Culture, Nature Protection Directorate
Runjaninova 2
Zagreb 10000
Croatia
Tel: (+385 1) 4866 125
Fax: (+385 1) 4866 100
Email: ana.kobaslic@min-kulture.hr

EUROPEAN COMMISSION

Mr. Franco Tranquilli
Head
Operational Section of EC in Mauritius
St. James Court, 8th Floor, St. Denis St.
Port-Louis
Mauritius
Tel: (+230) 207 1515
Fax: (+230) 211 6624
Email: franco.tranquilli@ec.europa.eu

FRANCE

Mr. Bernard Seret
Representative
MNHN Dept. SEV UMS rº 602 CP.51
55 Rue Buffon
75231 Paris Cedex 05
France
Tel: (+33 1) 40 79 37 38
Fax: (+33 1) 40 79 57 71
Email: seret@mnhn.fr

GAMBIA

Mr. Amadou Saine
Principal Fisheries Officer
Fisheries Department
Department of State for Fisheries &
Water Resources
6 Marina Parade
Banjul
Gambia
Tel: (+220) 449 7962/992 2244
Email: ab_saine@yahoo.com

GHANA

Mr. George Hutchful
Deputy Director
Ministry of Fisheries
PO Box GP630
Accra
Ghana
Tel: (+233 24) 4160621
Fax: (+233 21) 302 701
Email: georgeh7@hotmail.com

GUINEA

Mr. Aboubacar Oulare
Directeur du Centre National de Gestion
des Aires Protégées
Ministére Agriculture et l'Environnement
BP 760
Coleyah - Conakry
Guinée
Tel: (+224) 605 50 260
Email: oulare_aboubacar@yahoo.fr

INDIA

Dr. Anmol Kumar
Deputy Inspector General (Wildlife)
Ministry of Environment and Forests
Paryavaran Bhawan, CGO Complex, Rm. 519
New Delhi
India
Tel:(+91 11) 2436 2813
Fax: (+91 11) 24362813
Email: aka6@indiatimes.com

Dr. M. E. John
Fisheries Survey of India
Department of Animal Husbandry, Dairying and
Fisheries
Ministry of Agriculture
Mormugao
403830 Goa
India
Tel: (+91 22) 22617144
Fax: (+91 22) 22702270
Email: mejohn@rediffmail.com

INDONESIA

Dr. Subhat Nurhakim
Senior Scientist
Ministry of Marine Affairs and Fisheries
Agency for Marie and Fisheries Research
Jalan Pasir I – Ancol Timur
Jakarta 14430
Indonesia
Tel: (+62 21) 647 11940
Fax: (+62 21) 640 2640
Email: subhat_prpt@indo.net.id

KENYA

Dr. Richard K. Bagine
Chief Research Scientist
Research and Collection Management
National Museum of Kenya
PO Box 40658
Nairobi
Kenya
Tel: (+254 20) 600820
(m): (+254) 722 822 562
Email: rkiomen@yahoo.com

LIBERIA

Mr. James Coleman
Senior Environmental Scientist
Environmental Protection Agency
PO Box 4024
4th St. Sinkor
Monrovia
Liberia
Tel: (+231) 217 1415
Fax: c/o (+212) 963 9924
Email: jecoleman@yahoo.com

MAURITIUS

Mr. Anwar Sheik Mamode
Senior Technical Officer
Ministry of Argo Industry and Fisheries
Albio Fisheries Research Centre
LIC Building, John Kennedy St.
Port Louis
Mauritius
Tel: (+211) 2470 / 211 2897
Fax: (+211) 213 3222
Email: asheik-mamode@mail.gov.mu

MOROCCO

Mr. Said Taleb
Chef de la Division Cooperation
Institut National de Recherce Halieutique
20000, 2 Rue Tiznit
Casablanca
Morocco
Tel: (+212 22) 297329
Fax: (+212 22) 26 6967
Email: taleb@inrh.org.ma

NETHERLANDS

Mr. Hans Nieuwenhuis
Senior Policy Advisor for International Affairs
Department of Nature
Ministry of Agriculture, Nature and Food Quality
PO Box 20401, 2500 EK
Willem Witsenplein 6
The Hague
The Netherlands
Tel: (+31 70) 3785641
Mob: (+31 6) 3882-5304
Fax: (+31 70) 3786146
E-mail: j.w.nieuwenhuis@minlnv.nl

NEW ZEALAND

Mr. Arthur Hore
Manager HMS and RFMO
Ministry of Fisheries
PO Box 19747
Auckland
New Zealand
Tel: (+64 9) 820 7686
Fax: (+64 9) 820 1980
Email: arthur.hore@fish.govt.nz

Mr. Clinton Duffy
Scientist
Department of Conservation
Private Bag 68908
Auckland
New Zealand
Tel: (+64 9) 820 7686
Fax: (+64 9) 377 2919
Email: cduffy@doc.govt.nz

NIGERIA

Mr. Amos Afolabi
Acting Director of Forestry
Ministry of Environment
PMB 468, Abuja
Nigeria
Tel: (+234) 802 339 6714
Email: amosafolabi44@yahoo.com

Mr. John H. Mshelbwala
Assistant Director, Wildlife Management
Federal Ministry of Environment
Plot 293/294, Off Solomon Lar Way
Utako District, P.M.B. 468
Abuja
Nigeria
Tel: (+234 9) 803 328 7039
Fax: (+234 9) 523 4014
Email: johnmshelbwala@yahoo.com

NORWAY

Mr. Øystein Størkersen
Senior Advisor
Directorate for Nature Management
7485 Trondheim
Norway
Tel: (+47 73) 58 0500
Fax: (+47 73) 58 0501
Email: oystein.storkersen@dirnat.no

Mr. Einar Tallaksen
Senior Adviser
Ministry of Foreign Affairs
PO Box 8114DEP
Oslo 0032
Norway
Tel: (+47 22) 24 3624
Fax: (+47 22) 24 9580
Email: einar.tallaksen@mfa.no

PHILIPPINES

Mr. Edwyn Alesna
Chief, Foreign Trade Section
Bureau of Fisheries and Aquatic Resources
PCA Building, Elliptical Road
Manila
Philippines
Tel/Fax: (+63 2) 426 6532
Email: edwyn_alesna@yahoo.com

SEYCHELLES

Ministry of Environment and Natural Resources
PO Box 445
Botanical Garden
Victoria, Mahé
Seychelles
Tel: (248) 670500
Fax: (248) 610648

Mr. Rolph Payet
Special Advisor to the President
Ministry of Environment and Natural Resources
Tel: (+248) 722915
Fax: (+248) 610638
E-mail: rolph@statehouse.gov.sc

Mr. Didier Dogley
Principal Secretary
Ministry of Environment, Natural Resources & Transport
Tel: (+248) 670 500
Fax: (+248) 610 638
Email: d.dogley@env.gov.sc

Mr. Selby Remie
Director Conservation
Ministry of Environment and Natural Resources
Tel: (+248) 670541
Fax: (+248) 610648
E-mail: s.remie@env.gov.sc

Ms. Elvina Henriette Payet
Senior Project Officer
Ministry of Environment, Natural Resources and Transport
Department of Environment
Conservation Section
Botanical Garden
P O Box 445
Email: virgin@seychelles.sc

Wilna Accouche, Asst. Conservation Officer
Email: w.accouche@env.gov.sc

Nelda Rosalie, Secretary Conservation
Email: n.rosalie@env.gov.sc

Gilberte Gendron, Marine Ranger
Email: g.gendron@env.gov.sc

Sheila Ah-Tong, Conservation Ranger
Email: s.ah-tong@env.gov.sc

Sedrick Nicette, Conservation Ranger
Email: s.ah-tong@env.gov.sc

Alice Mascarenhas, Project Officer, ICU
Email: a.mascarenhas@env.gov.sc

Mr. Perley Constance, Conservation Ranger
Email: p.constance@env.gov.sc

Mr. Riaz Aumeeruddy
Ag. Director
Fisheries Research and Development Division
Seychelles Fishing Authority
Tel: (+248) 670300
Fax: (+248) 224508
Email: raumeeruddy@sfa.sc

Mr. Gerard Domingue
Resource Adminstrator
Seychelles Fishing Authority
Tel: (+248) 670300
Fax: (+248) 224508
Email: gdomingue@sfa.sc

Mr. Rodney Quatre
Senior Research Officer
SCMRT/MPA
Tel: (+248) 225141
Fax: (+248) 224388

SOUTH AFRICA

Mr. Patrick Jacobs
Deputy Director
Marine and Antarctica
Department of Foreign Affairs
Private Bag X152, 0001
Pretoria
South Africa
Tel: (+271 2) 351 1619
Fax: (+271 2) 342 9321
Email: jacobsp@foreign.gov.za

SRI LANKA

Dr. Champa Amarasiri
Acting Director
National Aquatic Resources Research and
Development Agency
Crow Island, Colombo 15
Mattakkuliya
Sri Lanka
Tel/Fax: (+94 11) 252 1914
Email: champa@nara.ac.lk

THAILAND

Dr. Anuwat Nateewathana
Senior Marine Biologist
Department of Marine and Coastal Resources
Ministry of Natural Resources and Environment
92 Phaholyothin, Samsen Nai, Phyathai
Bangkok, 10400
Thailand
Tel: (+66 2) 298 2069
Fax: (+66 2) 298 2143
Email: nateewathana@hotmail.com

UNITED KINGDOM

Mr. John Richard Cowan
Deputy Director
Marine and Freshwater Biodiversity
DEFRA
Area 2D Nobel House, 17 Smith Square
London
United Kingdom
Tel: (+44 20) 7238 4386
Fax: (+44 20) 238 4699
Email: richard.cowan-official@defra.gsi.gov.uk

Mr. Luke Warwick
Marine Biodiversity Policy Officer
DEFRA
Area 2D Nobel House, 17 Smith Square
London
United Kingdom
Tel: (+44 20) 7238 6301
Email: Luke.warwick@mfa.gsi.gov.uk

Mr. Tom Blasdale
Marine Fisheries Adviser
Joint Nature Conservation Committee
Dunnet House, 7 Thistle Place
Aberdeen, AB10 IUZ
United Kingdom
Tel: (+44 1224) 655708
Fax: (+44 1224) 61488
Email: tom.blasdale@jncc.gov.uk

UNITED STATES OF AMERICA

Mr. David Balton
Deputy Assistant Secretary
Bureau of Oceans, Environment and Science
201 C Street NW, 20520
Washington, D.C
United States of America
Tel: (+1 202) 647 2396
Fax: (+1 202) 647 0147
Email: BaltonDA@state.gov

Ms. Shannon Dionne
International Affairs Specialist
National Oceanic & Atmospheric Administration
NOAA OIA 14th and Constitution Ave. NW
Rm.6224
Washington D.C 20230
United States of America
Tel: (+1 202) 482 3638
Fax: (+1 202) 482 4307
Email: shannon.dionne@noaa.gov

Mr. Bradley Wiley
Foreign Affairs Specialist
National Marine Fisheries Service
1315 East West Highway, RM 12623
Silver Spring, MD 20910
United States of America
Tel: (+1 301) 713 2276
Fax: (+1 301) 713 9106
Email: brad.wiley@noaa.gov

YEMEN

Mr. Galal Al-Harogi
Ministry of Water and Environment (EPA)
PO Box 10442
Sana'a
Yemen
Tel: (+96 71) 207 816
Fax: (+96 71) 207 327
Email: ghn@gawab.com/g_hng@yahoo.com

Mr. Saeed Hasan
Ministry of Fish Wealth
PO Box 19007
Sana'a
Yemen
Tel: (+96 71) 268 583
Fax: (+96 71) 268 588
Email: saeed_shaher@yahoo.com

Intergovernmental and Non-Governmental Organizations

CONSERVATION INTERNATIONAL

Mr. Frazer McGilvray
Senior Manager, Regional Marine Strategies
Conservation International
2011 Crystal Drive, Suite 500
Arlington Virginia 22202
USA
Tel: (+1 703) 341 2494
Fax: (+1 703) 892 0826
Email: fmcgilvray@conservation.org

CSIRO MARINE AND ATMOSPHERIC RESEARCH

Dr. Stevens John
Principal Research Scientist
CSIRO Marine and Atmospheric Research
PO Box 1538, Hobart
Tasmania 7001
Australia
Tel (+61 3) 623 25353
Fax (+61 3) 623 325000
Email: john.d.stevens@sciro.au

ECOCEAN INC.

Mr. Brad Norman
Whale Shark Specialist
ECOCEAN
68a Railway Street
Cottesle WA 6011
Australia
Tel: (+61 4) 1495 3627
Email: brad@whaleshark.org

INDIAN OCEAN TUNA COMMISSION

Mr. Alejandro Anganuzzi
Indian Ocean Tuna Commission (IOTC)
PO Box 1011
Le Chantier Mall
Le Chantier
Seychelles
Tel: (+248) 225494
Fax: (+248) 224364
Email: aa@iotc.org

Dr. Christopher O'Obrien
Indian Ocean Tuna Commission (IOTC)
PO Box 1011
Le Chantier Mall
Le Chantier
Seychelles
Tel: (+248) 225494
Fax: (+248) 224364
Email: cob@iotc.org

INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS

Mr. Fábio Hazin
Representative
International Commission for the Conservation of Atlantic Tunas
Rue Desembargador Celio de Castro
Montenegro #32, Apto 1702
Monteiro
Brazil
Tel/Fax: (+55) 81 332 06 500
Email: fhvhazin@terra.com.br

ISLAND CONSERVATION SOCIETY

Dr. Jeanne Mortimer
Island Conservation Society
P.O.Box 775
Victoria
Seychelles
Tel: (+248) 323 050
Email: mortimer@ufl.edu

IUCN SPECIES SURVIVAL COMMISSION

Ms. Sarah Fowler
Co-Chair
IUCN Shark Specialist Group
Naturebureau International
36 Kingfisher Court
Hambridge Road
Newbury Berkshire RG14 5SJ
United Kingdom
Tel: (+44) 1 635 550 380
Fax: (+44) 1 635 550 230
Email: sarahfowler@naturebureau.co.uk

THE MARINE CONSERVATION SOCIETY, SEYCHELLES

Mr. David Rowat
Chairman
Marine Conservation Society
P.O. Box 384
Mahé
Seychelles
Tel: (+248) 513 671
Fax: (+248) 344 223
Email: david@mcss.sc

Mr. John Nevill
Marine Conservation Society
P.O. Box 1299
Victoria
Seychelles
Tel: (+248) 717 301
Email: jn@mcss.sc

Ms. Elke Talma
Marine Conservation Society
PO Box 1299
Victoria
Seychelles
Tel/Fax: (+248) 661511
Email: elke@mcss.sc

Ms. Suzanne Ranft
Marine Conservation Society
Prozessionsweg 423
48155 Muenstar
Germany
Mobile: (+49) 727664
Email: Suzanneranft@hotmail.com

MEGAPTERA

Mr. Daniel Jouannet
Responsable Whale Shark
Megaptera
2 rue des Blondeaux
94240 L'Hay Les Roses
France
Tel: (+33) (1) 46 60 48 03
Fax: (+33) (1) 42 67 93 09
Email: djouannet@free.fr

Ms. Virginie Lagarde
Megaptera
Ambassade de France aux Seychelles
Immeuble La Ciotat
Mahe
Seychelles
Tel: (+248) 727 019
Email: virginielagarde@libertysurf.fr

SAVE OUR SEAS FOUNDATION

Mr. Daniel Beecham
Save Our Seas Foundation
PO Box 10646
Jeddah, 21443, KSA
Tel: +96 622342003
Fax: +96 622342171
Email: dan@saveourseas.com

Dr. Nirmal Shah
PO Box 190633
Miami Beach
Florida 33119
United States of America
Tel: (+1 305) 776 7225
Fax: (+9662) 234 2171
Email: daniele@saveourseas.com

WILD TRUST OF INDIA

Mr. Dhiresh Joshi
Manager Whale Shark Campaign
Wild Trust of India
A-220 New Friends Colony
New Delhi – 110 025
Tel: (91) 1126326025,26
Fax: (91) 1126326027
Email: dhireshjoshi@gmail.com

(***Reporting Services***)
Earth Negotiations Bulletin

International Institute for Sustainable Development (IISD)
300 East 56th Street #11A
New York, NY 10022
USA
Tel: (+1 646) 536 7556
Fax: (+1 646) 219 0955

Ms. Wagaki Mwangi
E-mail: wagaki@iisd.org

Ms. Nienke Beintema
E-mail: nienke@iisd.org

Experts

Dr. Zeb Hogan
COP Appointed Councillor for Fish
1000 Valley Rd. #186
University of Nevada
Reno, NV
89512 USA
Tel: (+1 530) 219 0942
Email: zebhogan@hotmail.com

Dr. Ramon Bonfil
Independent Shark Researcher
351 East 4th Street 1-D
New York, NY 10009
USA
Tel: (+917) 673 8051
Fax: (+917) 673 8051
Email: ramon.bonfil@gmail.com

SECRETARIAT

Mr. Robert Hepworth
Executive Secretary
UNEP/CMS Secretariat
United Nations Campus
Herman-Ehlers-Str. 10
53113 Bonn
Germany
Tel: (+49 228) 815 2410
Fax: (+49 228) 815 2449
E-mail: rhepworth@cms.int

Mr. John Hilborn
Acting Agreements Officer
UNEP/CMS Secretariat
United Nations Campus
Herman-Ehlers-Str. 10
53113 Bonn
Germany
Tel: (+49 228) 815 2422
Fax: (+49 228) 815 2449
E-mail: jhilborn@cms.int

Mr. Stanley Johnson
CMS Ambassador
34 Park Village East
London NW1 7PZ
United Kingdom
Tel: (+44 20) 77 22 42 58
Fax: (+44 20) 74 83 13 90
e-mail: stanleyjohnson@msn.com