



# Convention on the Conservation of Migratory Species of Wild Animals

Secretariat provided by the United Nations Environment Programme



## 14<sup>th</sup> MEETING OF THE CMS SCIENTIFIC COUNCIL

*Bonn, Germany, 14-17 March 2007*

CMS/ScC14/Doc.20

Agenda item 3

### OPTIONS FOR A REVISION OF THE MODUS OPERANDI OF THE CMS SCIENTIFIC COUNCIL

#### Introduction

1. The CMS Scientific Council has been keeping its working practices under review. At recent meetings in particular, discussion has mainly focused on ways to improve the effectiveness of the Council in advising, and responding to the requests of, the Conference of the Parties and the other bodies of the Convention on matters relating to the science and conservation of migratory species.

2. A significant step in this direction has been the development and adoption by the 13th Meeting of the Council (Nairobi, 16-18 November 2005) of the Strategy Implementation Plan (SIP) 2006-2011 for the Scientific Council. The SIP describes the contribution that the CMS Scientific Council intends to make to the implementation of the CMS Strategic Plan for 2006-2011, in the form of concrete activities designed to be measurable, with milestones for completion, so that progress can be assessed regularly. In this regard, it represents a major shift to a more strategic and outcome-focused way of working. Its 14<sup>th</sup> meeting represents the first opportunity offered to the Council to consider progress in the implementation of the plan and practical ways to deliver the expected outputs and results, including the need and availability of financial resources.

3. The 31<sup>st</sup> meeting of the CMS Standing Committee (Bonn, 28-29 September 2006) considered the issue of funding for meetings of the Scientific Council. Concern was expressed at the meeting on the possibility of identifying adequate financial resources to support the organization of the 14<sup>th</sup> and 15<sup>th</sup> meetings of the Council. Members were also anxious about finding the financial means necessary for the organization of Scientific Council meetings in the long term, in view of budgetary limitations and the increasing size of the Council as a consequence of the steadily growing membership of the Convention (which has now reached 102 Parties). In this regard, the chairman of the Standing Committee requested the Scientific Council and the Secretariat to look at ways to streamline the Council, notably by exploring options to reduce the size of future meetings. It was agreed that the matter would be discussed at the 14<sup>th</sup> meeting of the Council in March 2007, and the outcomes of the discussion brought back to the Standing Committee at its 32<sup>nd</sup> meeting in September 2007.

*For reasons of economy, documents are printed in a limited number, and will not be distributed at the meeting. Delegates are kindly requested to bring their copy to the meeting and not to request additional copies.*

4. In the following sections of this paper the Secretariat has considered some possible options for (i) *adjusting the working practices of the Council*, notably as regards its inter-sessional activities, with a view to strengthening its ability to deliver the outputs and results expected under the SIP and relevant COP Resolutions and Recommendations, and (ii) *reducing the costs of the organization of future meetings* of the Scientific Council.

### **Options for inter-sessional work**

5. In parallel with the growth of the Convention, requests for services from the Scientific Council by the Conference of the Parties and other CMS bodies has grown significantly over the years. The Strategy Implementation Plan for 2006-2011 adopted by the 13th meeting also sets a number of ambitious targets.

6. In order to meet these requests and targets, and independently of any decision concerning the format of future meetings, a strengthening of the mechanisms underpinning inter-sessional work of the Council appear necessary.

7. A practice well established within the Scientific Council is the establishment of *working groups entrusted with specific assignments*. Working Groups have been established in recent years to consider issues related to taxonomic groups (Taxonomic Working Groups), to regions (Regional Working Groups), and cross-cutting issues (e.g. by-catch; migratory species as vectors of diseases). Several of these working groups reconvene regularly at meetings of the Council.

8. The creation of working groups has generally proved to be an effective mechanism for delivering on specific issues within the regular meetings of the Council. With a few noticeable exceptions, activity of working groups has however not continued significantly in the inter-sessional period. This contrasts with the practice in other bodies, including CMS Agreements such as EUROBATS, ASCOBANS and ACCOBAMS, where ongoing work between scientists is a strong feature of their programme. In order to facilitate and promote the activity of working groups inter-sessionally, a refinement and consolidation of the working practice of groups appear desirable.

9. The following elements are suggested for consideration in the *possible revised modus operandi of working groups (WGs)*:

- WGs should be formally established as soon as possible at the beginning of each triennium, with a defined membership;
- At the moment of their establishment, or shortly after, WGs should define a work programme for the triennial period, including timelines for the delivery of expected outputs and possible financial needs to implement the programme;
- Each WG should select a chair, responsible with coordinating the work of the group and overseeing the implementation of the work programme;
- Although participation in WGs should be on a voluntary basis, members of the Council are in principle expected to participate in WGs relevant to their field of expertise;
- Participation of relevant observer organizations in WGs should be encouraged;
- WGs could also include resource persons/organizations not regularly involved in the work of the Council, when specific expertise not available within the members and

observer organizations were considered necessary to be able to deliver foreseen outputs; and

- WGs would be expected to work largely electronically or through teleconferences. Convening of workshops could be considered where appropriate and resource-permitting.

10. In order to promote the early establishment of WGs in the triennial period and the delivery of their outputs in time to be considered by the COP, a *change in the schedule of the meetings of the Council* could be considered, which would provide for:

- (i) The convening of the first meeting of the Council at an early stage of the triennial period (e.g. within the first semester of the first year), during which the WGs and their respective work programme would be established; and
- (ii) The convening of the second meeting a couple of months in advance of the meeting of the COP, in order to allow the finalization of the outputs of the WGs and their transmission to the COP for consideration.

11. With a view *inter alia* to facilitating the identification of suitable members to participate in WGs, it is proposed to undertake a comprehensive survey of the expertise available within the Council, the results of which should be compiled and stored in a suitable database to facilitate retrieval. The survey would be conducted through a questionnaire. A *draft questionnaire is attached for consideration by the meeting.*

### **Options for the reduction of the size of the meetings of the Scientific Council**

12. Financial support to cover the travel and subsistence costs of eligible members has accounted for the largest part of the total costs of recent meetings, and appears to be the main, if not the only item in a meeting budget on which significant economies could theoretically be possible.

13. Assuming that the target would in this case be a structural reduction of the needs in terms of travel costs for delegates, the main options appear to be:

- (i) a reduction of the number and/or length of meetings; and
- (ii) a reduction in the number of sponsored members attending individual meetings.

#### Reduction of the number and/or length of meetings

14. Current practice, confirmed by the 8th meeting of the Conference of the Parties (COP8), provides for the convening of two meetings of the Council in the three years period between two successive meetings of the COP, with one meeting taking place inter-sessionally and the other immediately in advance or close to the COP meeting. Meetings typically have a duration of three days.

15. While the reduction of meetings in the triennium from two to one is theoretically possible, it is considered that such an option would very significantly affect the ability of the Council to deliver on the assignments received from the COP and its own SIP. Such a drastic option is therefore not recommended. Options for reducing the length of meetings could on the other hand be explored, in conjunction with options to reduce the size of meetings.

Reduction in the number of sponsored members attending individual meetings

16. Article VIII paragraph 2 of the Convention stipulates that any Party is entitled to appoint a qualified expert as a member of the Council. In addition, the Council shall include as members qualified experts selected and appointed by the Conference of the Parties. Pursuant to Res. 1.4 the number of councillors appointed by the COP should not exceed eight.

17. The Council includes at the moment 74 Party-appointed members<sup>1</sup>) and 8 Conference-appointed members. The appointment of the latter is reviewed at each meeting of the COP, therefore COP9 could theoretically decide to reduce their number. This would however produce modest savings, while potentially reducing quite significantly the expertise available within the Council. On the other hand, any imposed reduction in the number of Party-appointed members is likely to infringe on the prerogative of individual Parties to appoint a member of the Council, as established by the Convention.

18. Considering options that would affect the membership of the Council as inconvenient and/or hardly practicable, a possibility to reduce the costs of meetings would be to restrict participation to a subset of the members. In order to maintain to cohesion of the Council as a body, and be able to take full advantage of the expertise it incorporates, it is considered that at least one full meeting in the triennium would be desirable. In the following table a model is suggested, that tries to combine this exigency of cohesion with an attempt to limit costs over the triennium and improve productivity notably of inter-sessional activities.

<b>Time frame</b>	<b>Meetings/Activity</b>
COP + 6 m	<p><b>Full meeting of the Council</b></p> <p>This meeting would have as its main goal to determine the work programme and targets of the activity of the Council for the triennium, on the basis of the assignments received from the COP and its own planning tools.</p> <p>Thematic working groups (WGs) will be established, in charge of developing specific components of the work programme (as outlined in paras. 8-9 above).</p> <p>The meeting will elect at the outset the chair and vice-chair(s) for the triennium.</p> <p>This meeting would also select within its membership the members of the ‘Scientific Council Committee’ (see below).</p> <p>If carefully planned, this meeting could have a duration of two days.</p>
Inter-sessionally	<p><b>WGs’ activities</b></p> <p>WGs are expected to work mainly electronically or through teleconferences.</p> <p>Convening of a limited number of workshops could be considered where appropriate and resource-permitting. Workshops could be held in Bonn, host countries or in the margins of relevant meetings convened by other IGOs and NGOs.</p>
COP – 2 m	<p><b>Meeting of the Scientific Council Committee</b></p> <p>The Committee will be composed of a subset of members of the Council. Its composition will be determined by the first meeting of the Council (COP + 0.5). It should normally include the Chair, the Vice-Chair(s), the</p>

<sup>1</sup> Not all Parties have so far availed themselves of their prerogative to appoint a member of the Council.

	<p>Conference-appointed Councillors and the chairs/coordinators of the WGs established in the triennium, plus possible additional members. A maximum number of 20 is suggested.</p> <p>This meeting would have the same functions of the meetings of the Council that have so far been organized back-to back to the COP, and would finalize and transmit to the COP the outputs of the WGs.</p> <p>This meeting could have a duration of three days.</p>
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### **Other options to streamline and reduce costs of Scientific Council operations**

19. The Scientific Council has been operating so far in the three working languages of the Convention, namely English, French and Spanish. Financial implications of this practice are related to the provision of simultaneous interpretation in the three languages during meetings and the translation of working documents and the report of the meeting.

20. A limitation of the working languages to English, as it is the case for a few advisory bodies established under other MEAs, or to English and French, currently the two official languages of the United Nations, would theoretically be possible, and could be decided by the Council itself according to current Rules (Rule 22 of the Rules of Procedure of the CMS Scientific Council, CMS/ScC14/Inf.3). Economies permitted by this change of practice can be estimated in the order of € 20-30,000 per meeting.

### **Conclusions**

Scientific Council members are invited to give their views, which will be synthesised and reported to the next meeting of the Standing Committee in September 2007.

ANNEX  
Survey of Scientific Council expertise  
Questionnaire (DRAFT)

## 1 Personal Information

<b>Name</b>		<b>First name</b>		<b>Title</b>	
<b>Position</b>					
<b>Organization</b>					
<b>Address</b>					
<b>ZIP Code &amp; City</b>			<b>Country</b>		
<b>Telephone</b>			<b>Fax</b>		
<b>E-Mail</b>					

1.1 Please assess your knowledge of languages from 1 (Fluent) to 3 (Working knowledge)

- |                                       |                                       |
|---------------------------------------|---------------------------------------|
| <input type="checkbox"/> Arabic       | <input type="checkbox"/> Chinese      |
| <input type="checkbox"/> English      | <input type="checkbox"/> French       |
| <input type="checkbox"/> Russian      | <input type="checkbox"/> Spanish      |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Other: _____ |

## 2 Profession / Institution

2.1 Please attach your curriculum vitae at the end of the questionnaire or in the returning e-mail.

2.2 Please mark the type of institution you are working for.

- |  |  |
|--|--|
| <input type="checkbox"/> Academic / Research | <input type="checkbox"/> Non Governmental Organization |
| <input type="checkbox"/> Governmental        | <input type="checkbox"/> Private Company               |
| <input type="checkbox"/> Independent         | <input type="checkbox"/> Other: _____                  |

## 3 Specialization

In this section please define your expertise in the CMS relevant geographic and taxonomic fields.

3.1 Please tick in a ranking order from 1 (best) to 5 (moderate) your expertise in not more than 5 of the following geographical regions (the definition for range of the countries within the regions can be seen in Annex I)

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Antarctic          | <input type="checkbox"/> Caribbean Islands | <input type="checkbox"/> South & Southeast Asia |
| <input type="checkbox"/> Europe             | <input type="checkbox"/> North America     | <input type="checkbox"/> West & Central Asia    |
| <input type="checkbox"/> North Africa       | <input type="checkbox"/> Mesoamerica       | <input type="checkbox"/> East Asia              |
| <input type="checkbox"/> Sub-Saharan Africa | <input type="checkbox"/> South America     | <input type="checkbox"/> North Asia             |
|   |  | <input type="checkbox"/> Oceania                |

(According to IUCN Definition<sup>1</sup>)

<sup>1</sup> IUCN Red List of Threatened Species: Countries by Regions available from: <http://www.iucnredlist.org/info/regions> [Accessed Sep 15 2006]

3.2 Please sign in a ranking order from 1 (best) to 5 (moderate) your expertise in not more than 5 of the following aquatic regions. (Definitions of the FAO Major Fishery Areas<sup>2</sup> can be seen in Annex II)

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> 18. Arctic Sea                  | <input type="checkbox"/> 47. Southeast Atlantic       | <input type="checkbox"/> 61. Northwest Pacific       |
| <input type="checkbox"/> 21. Northwest Atlantic          | <input type="checkbox"/> 48. Atlantic (Antarctic)     | <input type="checkbox"/> 67. Northeast Pacific       |
| <input type="checkbox"/> 27. Northeast Atlantic          | <input type="checkbox"/> 51. Western Indian Ocean     | <input type="checkbox"/> 71. Western Central Pacific |
| <input type="checkbox"/> 31. Western Central Atlantic    | <input type="checkbox"/> 57. Eastern Indian Ocean     | <input type="checkbox"/> 77. Eastern Central Pacific |
| <input type="checkbox"/> 34. Eastern Central Atlantic    | <input type="checkbox"/> 58. Indian Ocean (Antarctic) | <input type="checkbox"/> 81. Southwest Pacific       |
| <input type="checkbox"/> 37. Mediterranean and Black Sea |   | <input type="checkbox"/> 87. Southeast Pacific       |
| <input type="checkbox"/> 41. Southwest Atlantic          |   | <input type="checkbox"/> 88. Pacific (Antarctic)     |

3.3 In which of the following taxonomic group/s covered by Appendix I / II of the Convention, are you most experienced?

- |   |  |
|---|--|
| <input type="checkbox"/> Bats           | <input type="checkbox"/> Terrestrial Mammals |
| <input type="checkbox"/> Birds          | <input type="checkbox"/> Fishes              |
| <input type="checkbox"/> Marine Mammals | <input type="checkbox"/> Reptiles            |

3.4 Please specify some of the species or subspecies in Appendix I / II of the Convention, within the group/s marked in 3.3 above.

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3.5 Please indicate 5 particular Habitat Types<sup>3</sup> (according to the IUCN definition) you are skilled in. (Listed in Annex III)

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<sup>2</sup> Food and Agriculture Organization of the United Nations (FAO-UN). c1990- .: CWP Handbook of Fishery Statistical Standards - Section H: FISHING AREAS FOR STATISTICAL PURPOSES. FIGIS Ontology Sheets. FAO - Rome. Updated Wed Jun 28 16:26:06 CEST 2006. Available via FIGIS from: <http://www.fao.org/figis/servlet/static?dom=ontology&xml=sectionH.xml> [Accessed Sep 15 2006].

<sup>3</sup> IUCN Red List of Threatened Species: Habitats Authority File (Version 2.1). Available from: [http://www.iucnredlist.org/info/major\\_habitats](http://www.iucnredlist.org/info/major_habitats) [Accessed Sep 15 2006].

**3.6** *In this section please define your areas of expertise in recent science, conservation and specific cross cutting issues that are relevant to the CMS (Please select maximum of five issues you are most experienced in).*

**Research / Science**

- Taxonomy*
  - Animal migration*
  - Monitoring of migratory species*
  - Ecology and population dynamics of migratory*
  - Protected areas*
  - Conservation biology*
  - Wildlife trade*
  - Wildlife watching*
  - Wildlife management*
  - Environmental Impact Assessment (EIA) / Strategic Environmental Assessment (SEA)*
  - Sustainable use*
  - Isotopes*
  - Satellite tracking*
  - Other (please explain)*
- 

**Human introduced impacts**

- Unsustainable fishery / Over-Fishing*
  - Ship collisions*
  - Oil pollution*
  - By-catch (Res. 6.2)*
  - Electrocution*
  - Wind turbines*
  - Invasive alien species*
  - Acoustic pollution*
  - Light pollution*
  - Land degradation*
  - Habitat destruction (human induced)*
  - Land-Use and Land-Cover Change*
  - Climatic Change*
  - Other (please explain)*
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**4 Publications**

Please list here some of your publications relevant to migration, species migrating, or cross cutting issues that are useful to CMS.

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**Annex I**  
**Countries and territories by Regions and sub-regions**

**Africa (North; East; West; Central and South)**

**North Africa**

Algeria  
 Egypt  
 Libyan Arab Jamahiriya  
 Morocco  
 Tunisia  
 [Western Sahara]

**Sub-Saharan Africa**

Angola  
 Benin  
 Botswana  
 Burkina Faso  
 Burundi  
 Cameroon  
 Cape Verde  
 Central African Republic  
 Chad  
 Comoros  
 Congo  
 Congo, The Democratic Republic of the  
 Côte d'Ivoire  
 Djibouti  
 Equatorial Guinea  
 Eritrea  
 Ethiopia  
 Gabon  
 Gambia  
 Ghana  
 Guinea  
 Guinea-Bissau  
 Kenya  
 Lesotho  
 Liberia  
 Madagascar  
 Malawi  
 Mali  
 Mauritania  
 Mauritius  
 Mayotte  
 Mozambique  
 Namibia  
 Niger  
 Nigeria  
 Réunion  
 Rwanda  
 Saint Helena  
 Sao Tome and Principe  
 Senegal  
 Seychelles  
 Sierra Leone

Somalia  
 South Africa  
 Sudan  
 Swaziland  
 Tanzania, United Republic of  
 Togo  
 Uganda  
 Zambia  
 Zimbabwe

**Antarctic**

**Antarctica**

Bouvet Island  
 French Southern Territories  
 Heard Island and McDonald Islands  
 South Georgia and the South Sandwich Islands

**Asia**

**East Asia**

China  
 Hong Kong (China)  
 Japan  
 Korea, Democratic People's Republic of  
 Korea, Republic of  
 Macao  
 Mongolia  
 Taiwan, Province of China

**North Asia**

Belarus  
 Moldova, Republic of  
 Russian Federation  
 Ukraine  
 USSR, former

**West & Central Asia**

Afghanistan  
 Armenia  
 Azerbaijan  
 Bahrain  
 Cyprus  
 Georgia  
 Iran (Islamic Republic of)  
 Iraq  
 Israel  
 Jordan  
 Kazakhstan  
 Kuwait  
 Kyrgyzstan  
 Lebanon  
 Oman  
 Pakistan

Palestinian Territory, Occupied  
 Qatar  
 Saudi Arabia  
 Syrian Arab Republic  
 Tajikistan  
 Turkey  
 Turkmenistan  
 United Arab Emirates  
 Uzbekistan  
 Yemen

**South & Southeast Asia**

Bangladesh  
 Bhutan  
 British Indian Ocean Territory  
 Brunei Darussalam  
 Cambodia  
 Disputed Territory  
 India  
 Indonesia  
 Lao People's Democratic Republic  
 Malaysia  
 Maldives  
 Myanmar  
 Nepal  
 Philippines  
 Singapore  
 Sri Lanka  
 Thailand  
 Timor Leste  
 Viet Nam

**Europe:**

Albania  
 Andorra  
 Austria  
 Belgium  
 Bosnia and Herzegovina  
 Bulgaria  
 Croatia  
 Czech Republic  
 Czechoslovakia, former  
 Denmark  
 Estonia  
 Faroe Islands  
 Finland  
 France  
 Germany  
 Gibraltar  
 Greece  
 Greenland  
 Holy See (Vatican City State)  
 Hungary  
 Iceland

Ireland  
Italy  
Latvia  
Liechtenstein  
Lithuania  
Luxembourg  
Macedonia, the former Yugoslav  
Republic of  
Malta  
Monaco  
Netherlands  
Norway  
Poland  
Portugal  
Romania  
San Marino  
Serbia and Montenegro  
Slovakia  
Slovenia  
Spain  
Svalbard and Jan Mayen  
Sweden  
Switzerland  
United Kingdom

### **North and Central America:**

#### **Caribbean Islands**

Anguilla  
Antigua and Barbuda  
Aruba  
Bahamas  
Barbados  
Bermuda  
Cayman Islands  
Cuba  
Dominica  
Dominican Republic  
Grenada

Guadeloupe  
Haiti  
Jamaica  
Martinique  
Montserrat  
Netherlands Antilles  
Puerto Rico  
Saint Kitts and Nevis  
Saint Lucia  
Saint Vincent and the Grenadines  
Trinidad and Tobago  
Turks and Caicos Islands  
Virgin Islands, British  
Virgin Islands, U.S.

#### **Mesoamerica**

Belize  
Costa Rica  
El Salvador  
Guatemala  
Honduras  
Mexico  
Nicaragua  
Panama

#### **North America:**

Canada  
Saint Pierre and Miquelon  
United States

#### **Oceania:**

American Samoa  
Australia  
Christmas Island  
Cocos (Keeling) Islands  
Cook Islands  
Fiji  
French Polynesia  
Guam

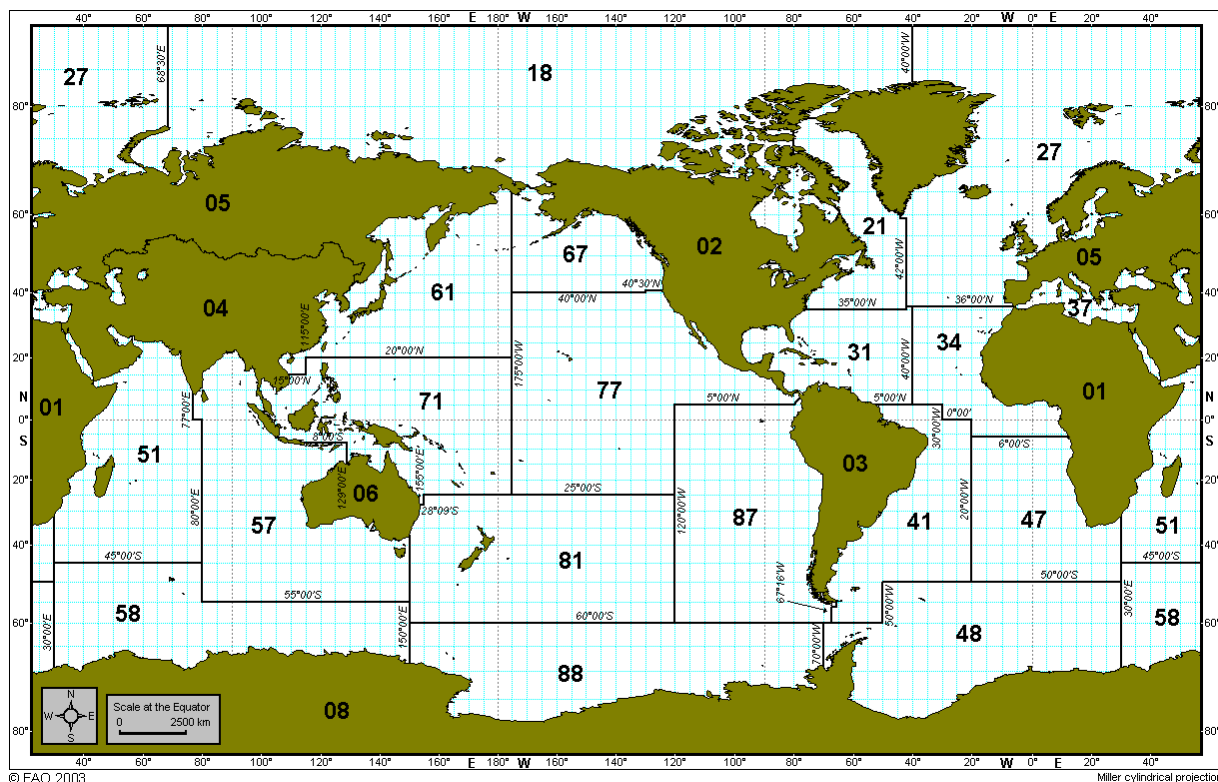
Kiribati  
Marshall Islands  
Micronesia, Federated States of  
Nauru  
New Caledonia  
New Zealand  
Niue  
Norfolk Island  
Northern Mariana Islands  
Palau  
Papua New Guinea  
Pitcairn  
Samoa  
Solomon Islands  
Tokelau  
Tonga  
Tuvalu  
United States Minor Outlying Is-  
lands  
Vanuatu  
Wallis and Futuna Islands

#### **South America:**

Argentina  
Bolivia  
Brazil  
Chile  
Colombia  
Ecuador  
Falkland Islands (Malvinas)  
French Guiana  
Guyana  
Paraguay  
Peru  
Suriname  
Uruguay  
Venezuela

## Annex II

### FAO Major Fishing Areas



**Figure 1: FAO Major Fishing Areas for statistical purpose (Available via from FAO via: [ftp://ftp.fao.org/fi/maps/world\\_2003.gif](ftp://ftp.fao.org/fi/maps/world_2003.gif) [Accessed Sep 18 2006])**

*18. Arctic Sea*

*21. Northwest Atlantic*

*27. Northeast Atlantic*

*31. Western Central Atlantic*

*34. Eastern Central Atlantic*

*37. Mediterranean and Black Sea*

*Sea*

*41. Southwest Atlantic*

*47. Southeast Atlantic*

*48. Atlantic (Antarctic)*

*51. Western Indian Ocean*

*57. Eastern Indian Ocean*

*58. Indian Ocean (Antarctic)*

*61. Northwest Pacific*

*67. Northeast Pacific*

*71. Western Central Pacific*

*77. Eastern Central Pacific*

*81. Southwest Pacific*

*87. Southeast Pacific*

*88. Pacific (Antarctic)*

## **Annex III**

### **Habitats Authority**

[http://www.iucnredlist.org/info/major\\_habitats](http://www.iucnredlist.org/info/major_habitats)

#### **1. Forest**

- 1.1. Boreal
- 1.2. Subarctic
- 1.3. Subantarctic
- 1.4. Temperate
- 1.5. Subtropical/Tropical Dry
- 1.6. Subtropical/Tropical Moist Lowland
- 1.7. Subtropical/Tropical Mangrove
- 1.8. Subtropical/Tropical Swamp
- 1.9. Subtropical/Tropical Moist Montane

#### **2. Savanna**

- 2.1. Dry Savanna
- 2.2. Moist Savanna

#### **3. Shrubland**

- 3.1. Subarctic
- 3.2. Subantarctic
- 3.3. Boreal
- 3.4. Temperate
- 3.5. Subtropical/Tropical Dry
- 3.6. Subtropical/Tropical Moist
- 3.7. Subtropical/Tropical High Altitude
- 3.8. Mediterranean-type Shrubby Vegetation

#### **4. Grassland**

- 4.1. Tundra
- 4.2. Subarctic
- 4.3. Subantarctic
- 4.4. Temperate
- 4.5. Subtropical/Tropical Dry Lowland
- 4.6. Subtropical/Tropical Seasonally Wet/Flooded Lowland
- 4.7. Subtropical/Tropical High Altitude

#### **5. Wetlands (inland)**

- 5.1. Permanent Rivers/Streams/Creeks [includes waterfalls]
- 5.2. Seasonal/Intermittent/Irregular Rivers/Streams/Creeks
- 5.3. Shrub Dominated Wetlands
- 5.4. Bogs, Marshes, Swamps, Fens, Peat lands
- 5.5. Permanent Freshwater Lakes [over 8 ha]
- 5.6. Seasonal/Intermittent Freshwater Lakes [over 8 ha]
- 5.7. Permanent Freshwater Marshes/Pools [under 8 ha]

- 5.8. Seasonal/Intermittent Freshwater Marshes/Pools [under 8 ha]
- 5.9. Freshwater Springs and Oases
- 5.10. Tundra Wetlands [includes pools and temporary waters from snowmelt]
- 5.11. Alpine Wetlands [includes temporary waters from snowmelt]
- 5.12. Geothermal Wetlands
- 5.13. Permanent Inland Deltas
- 5.14. Permanent Saline, Brackish or Alkaline Lakes
- 5.15. Seasonal/Intermittent Saline, Brackish or Alkaline Lakes and Flats
- 5.16. Permanent Saline, Brackish or Alkaline Marshes/Pools
- 5.17. Seasonal/Intermittent Saline, Brackish or Alkaline Marshes/Pools
- 5.18. Karst and Other Subterranean Hydrological Systems [inland]

#### **6. Rocky Areas [e.g. inland cliffs, mountain peaks]**

#### **7. Caves and Subterranean Habitats (non-aquatic)**

- 7.1. Caves
- 7.2. Other Subterranean Habitats

#### **8. Desert**

- 8.1. Hot
- 8.2. Temperate
- 8.3. Cold

#### **9. Sea**

- 9.1. Open
- 9.2. Shallow [usually less than 6 m deep at low tide; Includes sea bays and straits]
- 9.3. Subtidal Aquatic Beds [kelp beds, sea-grass beds and tropical marine meadows]
- 9.4. Coral Reefs

#### **10. Coastline**

- 10.1. Rocky Shores [includes rocky offshore islands and sea cliffs]
- 10.2. Sand, Shingle or Pebble Shores [includes sand bars, spits, sandy islets, dune systems]
- 10.3. Estuarine Waters
- 10.4. Intertidal Mud, Sand or Salt Flats
- 10.5. Intertidal Marshes [includes salt marshes]
- 10.6. Coastal Brackish/Saline Lagoons
- 10.7. Coastal Freshwater Lagoons

10.8. *Karst and Other Subterranean Hydrological Systems [marine/coastal]*

**11. Artificial - Terrestrial**

11.1. *Arable Land*

11.2. *Pastureland*

11.3. *Plantations*

11.4. *Rural Gardens*

11.5. *Urban Areas*

11.6. *Subtropical/Tropical Heavily Degraded Former Forest*

**12. Artificial - Aquatic**

12.1. *Water Storage Areas (over 8 ha)*

12.2. *Ponds (below 8 ha)*

12.3. *Aquaculture Ponds*

12.4. *Salt Exploitation Sites*

12.5. *Excavations (open)*

12.6. *Wastewater Treatment Areas*

12.7. *Irrigated Land [includes irrigation channels]*

12.8. *Seasonally Flooded Agricultural Land*

12.9. *Canals and Drainage Channels, Ditches*

12.10. *Karst and Other Subterranean Hydrological Systems [human-made]*

**13. Introduced Vegetation**

**14. Other**

**15. Unknown**