



Annexes

Annex 1: Resolution VII.20 on Wetland Inventory

People and Wetlands: The Vital Link 7th Meeting of the Conference of the Contracting Parties to the Convention on Wetlands (Ramsar, Iran, 1971), San José, Costa Rica, 10-18 May 1999 Priorities for wetland inventory

- 1 RECALLING Recommendation 1.5 which called upon Contracting Parties to prepare inventories of their wetlands '*as an aid to the formulation and implementation of national wetland policies*' to assist in promoting the wise use of wetlands in their territory;
- 2 RECALLING ALSO Recommendation 4.6, Resolutions 5.3 and VI.12, and Action 6.1.2 of the Strategic Plan 1997-2002 which recognised the value of national scientific inventories for identifying sites suitable for inclusion in the List of Wetlands of International Importance (Ramsar List) under the Convention;
- 3 AWARE of Action 6.1.3 of the Strategic Plan 1997-2002 which calls upon the Ramsar Bureau and the International Organization Partners to '*utilize information from regional wetland directories, national scientific inventories of wetlands and other sources, to begin development of a quantification of global wetland resources, as baseline information for considering trends in wetland conservation or loss*';
- 4 NOTING the report entitled *Global review of wetland resources and priorities for wetland inventory* and its recommendations as prepared and presented by Wetlands International to Technical Session IV of this Conference, in response to Action 6.1.3 of the Strategic Plan 1997-2002;
- 5 APPRECIATIVE of the financial support provided for the preparation of the above report by the Governments of the Netherlands, Norway, and the United Kingdom;
- 6 NOTING WITH CONCERN the findings of the Wetlands International report that, based on the information gathered within the constraints of this project, few countries, if any, have comprehensive national inventories of their wetland resources, and that it is therefore not possible to provide a baseline of the world's wetland resources with any confidence;
- 7 RECOGNIZING the priorities for future wetland inventory, both in terms of types and regions, as identified in the report and endorsed by the Second International Conference on Wetlands and Development (Dakar, Senegal, November 1998);
- 8 CONSIDERING that this Conference has also adopted Guidelines for developing and implementing National Wetlands Policies (Resolution VII.6), the Wetland Risk Assessment Framework (Resolution VII.10), the Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance (Resolution VII.11), and Resolution VII.17 on Restoration as an element of national planning for wetland conservation and wise use, all of which, as noted by the previous Resolutions and Recommendations referred to in paragraphs 1 and 2 above, would be greatly assisted by the availability of national scientific inventories;
- 9 TAKING ACCOUNT of the findings given in the report prepared by the World Conservation Monitoring Centre and presented to COP7 Technical Session IV entitled *Shared wetlands and river basins of the world*; and
- 10 NOTING the scope of the proposed Millenium Assessment of the World's Ecosystems, currently under development, to deliver valuable related information of relevance to the application of the Convention;

The Conference of the Contracting Parties

- 11 URGES all Contracting Parties yet to complete comprehensive national inventories of their wetland resources, including, where possible, wetland losses and wetlands with potential for restoration (Resolution VII.17), to give highest priority in the next triennium to the compilation of comprehensive national inventories, in order for related actions such as policy development and Ramsar site designations to be carried out with the best information possible;
- 12 FURTHER URGES that in undertaking inventory activities Contracting Parties give consideration to affording highest priority to those wetland types identified as at greatest risk or with poorest information in the Global review of wetland resources and priorities for wetland inventory report;
- 13 REQUESTS Contracting Parties to give consideration in their inventory activities to adopting a suitable standardised protocol for data gathering and handling, such as that provided by the Mediterranean Wetlands Initiative (MedWet), and the use of standardised low-cost and user-friendly geographic information system methods;
- 14 ENCOURAGES Contracting Parties with shared wetlands or river basins to work cooperatively in the gathering of inventory and related management information, as urged through the Guidelines for international cooperation under the Ramsar Convention (Resolution VII.19);
- 15 REQUESTS the Scientific and Technical Review Panel, in collaboration with Wetlands International, the Ramsar Bureau, and other interested organizations, to review and further develop existing models for wetland inventory and data management, including the use of remote sensing and low-cost and user-friendly geographic information systems, and to report their findings to the 8th Meeting of the Contracting Parties with a view to promoting international common standards;
- 16 CALLS UPON Contracting Parties to review the arrangements they have in place for housing and maintaining their wetland inventory data where it exists, and, as necessary, to seek to establish a central repository or to ensure that access to this information resource is possible for all decision-makers, stakeholders and other interested parties, where possible through the World Wide Web and CD-ROM formats;
- 17 ALSO ENCOURAGES Contracting Parties and other interested organizations and funding bodies to provide the resources to allow Wetlands International to complete and document suitable standardised protocols for data gathering and handling as well as a comprehensive assessment of wetland inventory information, and to develop procedures for regularly updating this information and making it readily available through the World Wide Web and CD-ROM formats;
- 18 FURTHER CALLS UPON the bilateral and multilateral donors to give priority to supporting the wetland inventory projects submitted by developing countries and those in economic transition, noting, as urged above, the desirability of such projects being undertaken; and
- 19 DIRECTS the Standing Committee to give special attention to appropriate wetland inventory projects in its consideration of projects submitted to the Ramsar Small Grants Fund.

Annex 2: Data Sheets – Level 1 River Basin to Level 4 Wetland Habitats

Some sections of the data sheets provided below have been elaborated further than the data entry sheet that will be appeared in the Information System to ensure that all necessary information to describe the corresponding sections is collected/collated systematically before data uploading starts.

Level 1 Data Sheet – Major River Basins

Note: the users are requested to expand number of rows in the tables below as per the number classes exist in the corresponding map. The area of total area for each class can be computed from attribute table of the map.

1. Name and code of major river basin

Name	
Code	

2. Geographic extent

	Minimum (dd-degree decimal)	Maximum (dd)	Central (dd)
Latitude (°N)			
Longitude (°E)			
Projection information used for			

3. Climate

Code	Name of climatic class	Area (km ²)

Free text description of climate	
Source of information	

4. Geology

Code	Name of geological class	Area (km ²)

Free text description of geology	
Source of information	

5. Ecoregions

Code	Name of ecoregions class	Area (km ²)

Free text description of ecoregions	
Source of information	

6. Vegetation

Code	Name of vegetation class	Area (km ²)

Free text description of vegetation

Source of information

7. Hydrological regime

Free text description of regime

Source of information

8. Wetland area and type

Code	Wetland type	Area (km ²)

Free text description of wetland area and type

Source of information

9. Wetland ecosystem service

List of goods and services	Description of services

Source of information

10. Development activities

List of activities	Description of activities

Source of information

11. Management issues and threats

Indirect driver	Description of Issues and threats

Source of information

12. Data sheet completion

Name and address of compiler

Date sheet compiled/updated

Level 2 Data Sheet – Sub-Basins

Note: the users are requested to expand the number of rows in the tables below as per the number of classes that exist in the corresponding map. The area or % of total area for each class can be computed from the attribute table of the map.

1. Name and code of sub-basin

Name	
Code	

2. Geographic location

	Minimum (dd)	Maximum (dd)	Central (dd)
Latitude (°N)			
Longitude (°E)			
Projection information used for area calculation			

3. Climatic characteristics

Code	Name of climatic class	Area (km ²)
Free text description of climate		
Source of information		

4. Physical features

4.1 Type of region: sub-basin

4.2 Altitude range:

Minimum (m amsl)	
Maximum (m amsl)	
Free text description of altitudinal variation	
Source of information	

4.3 Wetland area and type

Code	Wetland type	Area (km ²)
Free text description geology		
Source of information		

4.4 Geological characteristics

Code	Geological feature	Area (km ²)
Free text description of wetland area and type		
Source of information		

4.5 Water regime

Station index	Station name	Lat	Long	Long term mean discharge (m³/s)					Period of record
				Annual average	Minimum flow		Maximum		
					m³/s	Month	m³/s	Month	

Free text description of regime

Source of information

5. Ecoregions

Code	Name of ecoregion	Area (km ²)

Free text description of ecoregions

Source of information

6. Vegetation

Code	Vegetation type	Area (km ²)

Free text description of Vegetation

Source of information

7. Wetland ecosystem services

Categories of wetland ecosystem services	Description of relative importance of the services

Source of information

8. Development activities

List of activities	Description of activities

Source of information

9. Management issues and threats

Categories of direct drivers	Description of issues and threats associated with the direct driver
Source of information	

10. Jurisdiction

National or local	
Source of information	

11. Data sheet completion

Name and address of compiler	
Date sheet compiled/updated	

Level 3 Data Sheet – Wetland Complexes

[Note: expand the tables below as and when necessary]

1. Name and code of wetland complex

Name	
Code	

2. Geographic location

	Minimum (dd)	Maximum (dd)	Central (dd)
Latitude			
Longitude			
Projection information			

3. Climatic characteristics

Station information

Station index (ID)						
Official name						
Latitude (dd)						
Longitude (dd)						
Altitude (m amsl)						
Mean Annual precipitation (mm)						
Period of record						
Monthly climate characteristics	Unit	Average	Range			
			Min	Month	Max	Month
Monthly precipitation	mm					
Monthly temperature	°C					
Monthly humidity (9 am)	%					
Monthly humidity (3 pm)	%					
Monthly evaporation (Class A pan)	mm					
Prevailing wind	m/s					
Free text description of climate						
Source of information						

4. Ecological Character

4.1 Physical features

a. Altitude range

Minimum (m amsl)	
Maximum (m amsl)	

Free text description of altitude variation	
Source of information	

b. Spatial

Area	Unit:
Free text description of spatial extent	
Source of information	

c. Erosional status

Free text description of erosional status	
Source of information	

d. Soil types

List of soil type categories	Area (or % of total area of the complex)

Note: if a GIS version of the soil type map is available, the above table can be filled out from the attribute table of the map, otherwise provide a list of dominant soil types.

Free text description of soil types	
Source of information	

e. Water regime

Station index	Station name	Lat	Long	Long term mean discharge (m³/s)					
				Annual average	Minimum flow		Maximum		Period of record
					m³/s	Month	m³/s	Month	

Other water regime characteristics:

Length of main stream within complex (km ²)	To be derived from stream network map
Stream order differentiation	To be derived from stream network map
Free text description of water regime	
Source of information	

If a water cycle regime (hydroperiod) map is prepared, derive the following information from the map:

Water regime characteristics (hydroperiod)	Area

f. Groundwater

Well ID	Lat	Long	Depth of water table (m)				Source of inflow*
			Max	Month	Min	Month	

* Ar – artesian; SAf – shallow aquifer; DAf – deep aquifer

Free text description groundwater	
Source of information	

g. Physico-chemical features

Level of contamination and sedimentation

Stressor	Level of contamination	Source of stressor
Waste water discharge		
Nutrient		
Toxicant		
Salinity		
Sediment load		
Free text description of water quality		
Source of information		

4.3 Biological features

a. Biological condition of complex

Free text description (relative proportions of vegetation cover (%); trends in status / condition of vegetation; trends in fauna populations)	
Source of information	

b. Species and associations of biological significance

Free text description (Assessment of biological significance using WWF and IUCN data)	
Source of information	

c. Habitat(s)

List of habitat types	Area
Free text description	
Source of information	

5. Population demographics

No of people or population density	
Major activities	
Free text description of population features and activities in complex	
Source of information	

6. Wetland ecosystem services

Categories of wetland ecosystem services	Description of relative importance of the services
Source of information	

7. Land and water use

List of land and water uses in the complex	Free text description of the manner in which land/water is used by local people
Source of information	

8. Institutional arrangements

Free text description jurisdiction and ownership of complex	
Source of information	

9. Management issues and threats

List of management issues and threats	Free text description
Source of information	

10. Data sheet completion

Name and address of compiler	
Date sheet compiled/updated	

Level 4 Data Sheet – Wetland Habitat/Site

[Note: expand the tables below as and when necessary]

1. Name and code of wetland habitat/s

Name	
Code	

2. Geographic location

	Minimum (dd)	Maximum (dd)	Central (dd)
Latitude			
Longitude			
Projection information			
Source of information			

3. Climatic characteristics

Note: if climatic characteristics recorded for all the stations within and around the complex in Level 3, copy the characteristics of nearest station from the habitat/site.

Station information

Station index (ID)						
Official name						
Latitude (dd)						
Longitude (dd)						
Altitude (m amsl)						
Mean annual precipitation (mm)						
Period of record						
Parameter	Unit	Average	Range			
			Min	Month	Max	Month
Monthly precipitation	mm					
Monthly temperature	°C					
Monthly humidity (9 am)	%					
Monthly humidity (3 pm)	%					
Monthly evaporation (Class A pan)	mm					
Prevailing wind	m/s					
Free text description of climate						
Source of information						

4. Ecological Character

4.1 Physical features

a. Geomorphic setting

Inland setting (basin; channel; flat; slope; or highland)	
Free text description	
Source of information	

b. Altitudinal range

Max	
Min	

c. Spatial extent

Area (in)	Size class	Length (m or km specify)	Width (m or km specify)

d. Basin morphology

Bathymetry: Water depth (m)

Max	
Min	
Average	
Free text description	
Source of information	

e. Erosional status

Erosional status	
Free text description	
Source of information	

f. Soil types

List of dominant soil types	
Free text description	
Source of information	

g. Bottom sediments substrata

Substrate class	
Free text description	
Source of information	

h. Water regime

Hydroperiod (water cycle regime)	Area

Inflow sources (Streamflow/overland/rainfall/groundwater)	
Outflow (Permanent/seasonal/intermittent/episodic or none)	

Free text description of water regime	
Source of information	

i. Groundwater

Well ID	Lat	Long	Depth of water table (m)				Source of inflow*
			Max	Month	Min	Month	

* Ar – Artesian; SAf – Shallow Aquifer; DAf – deep aquifer

Free text description	
Source of information	

4.2 Physio-chemical features

a. Surface water quality

Monitoring station information (if available)

Station ID/name	
Latitude	
Longitude	

• Surface water quality

Parameter	Unit	Max	Time/date of measurement	Min	Time/date of measurement	Annual range	Classification
Temperature							
Salinity							
pH							
Transparency							
Nutrients							
Total N & Nitrate							
Total P & ortho-P							
Source of information							

Sediment load	Unit	Value	Source of information
Annual sediment input			
Rate of loss of site			

• Pesticides

Free text description of presence and concentration of pesticides	
Sources of information	

Free text description of overall surface water quality	
Sources of information	

b. Groundwater

Free text description of presence and concentration of pesticides	
Sources of information	

4.3 Biological features

a. Vegetation

• Dominant vegetation assemblages

List of Vegetation assemblage	Total area in wetland	% of total area covered	Physical/hydrographic setting
Free text description			
Sources of information			

• Dominant vegetation species

List of plant species	Common/local name	Growth strategy	Growth form
Free text description			
Sources of information			

• Alien invasive species and environmental weeds

List of invasive species and environmental weeds	
Free text description (with cover estimates)	
Sources of information	

• Species and assemblages of conservation significance

Taxon	Taxonomic group	Distribution	Status	Level
Free text description				
Sources of information				

• Vegetation cover

Relative Proportions of Vegetation cover %	
Free text description	
Sources of information	

b. Fauna

• Dominant assemblages and species

List of dominant assemblages and species	
Free text description of major features (using species composition and species richness data for major invertebrate and vertebrate assemblages)	
Sources of information	

- List of animal species of conservation significance (with indication of whether endangered, vulnerable or rare):

Taxon	Taxonomic group	Distribution	Status	Level

Free text description
Sources of information

- List of populations abundance data

a. Population abundance

Species	Status	Average No.	Maximum No.	Census date (month / year)

b. Breeding populations

Species	Number of breeding records

Free text description (key species, largest concentrations, breeding populations, key migration periods)
Sources of information

- Alien invasive and vermin/pest species

List of invasive and/or vermin/pest species
Free text description
Sources of information

c. Habitats

Habitat type*	Associated key faunal taxa	Available information

*from habitats map (if produced using high resolution satellite data or existing map)

Free text description
Sources of information

d. Biological significance of habitats/site

Assessment of biological significance of habitat(s) using Ramsar criteria
Free text description
Sources of information

4.4 Socioeconomic features

Socioeconomic features	Description	Source of information
Demographic features		
Social profile		
Economic profile		
Institutional arrangements		
Stakeholders and conflicting interests		

5. Habitat classification

Based on the detail land use land cover map or wetlands habitats map (if produced using high resolution satellite data) classify the habitats using the Ramsar typology.

Wetland type/s	
Free text description	
Sources of information	

6. Wetland ecosystem services

List of wetlands services	Free text description of services
Source of information	

7. Land and water use

List of land water use associated with the habitat/site	Description manner in which land/water used by local people
Source of information	

8. Management issues and threats

List of management issues and threats	Description of management issues and threats
Source of information	

9. Monitoring and management programmes

List of monitoring and management programmes	Free text description organisation/persons and projects involved
Source of information	

10. Data sheet completion

Name and address of compiler	
Date sheet compiled/updated	