



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.1

The Ramsar Strategic Plan 2009-2015

1. RECALLING the adoption of the Strategic Plan 1997-2002 by Resolution VI.14 and the Ramsar Strategic Plan 2003-2008 by Resolution VIII.25 as the basis for the future implementation of the Convention;
2. RECOGNIZING that the implementation by Contracting Parties and others of these Strategic Plans has facilitated an increasingly coherent and effective delivery of the Convention, but ALSO RECOGNIZING that there remain many and increasing challenges to achieving consistent delivery of wetland conservation and wise use in a changing world;
3. AWARE that to achieve wetland conservation and wise use, a broader and multisectoral approach to wetland conservation and sustainable development is needed, especially in relation *inter alia* to poverty eradication and food and water security, integrated approaches to water management, climate change and its predicted impacts, increasing globalization of trade and reducing of trade barriers, the increasing role of the private sector, and the increasing influence of development banks and international development agencies;
4. EMPHASIZING the need for policies and actions to achieve wetland conservation and wise use to be fully integrated with actions to deliver biodiversity conservation and good environmental management, as reflected in the holistic ecosystem approach of the Convention on Biological Diversity (decision V/6), and seeking to ensure that the actions of this Strategic Plan are delivered as one component of these wider approaches, YET CONSCIOUS that such wider approaches to environmental management may constrain the easy collation and reporting of wetland-specific actions and policies, and that this will need to be reflected in Ramsar reporting formats;
5. FURTHER AWARE of the many challenges that still require urgent attention in order to achieve wetland wise use under the Convention, including *inter alia* inventory; assessment and monitoring; institutional frameworks, laws and policies; integration of wetland wise use into local, national and international planning and decision-making; the role of wetlands and their ecosystem services in supporting human well-being and alleviating poverty; climate change mitigation and adaptation; restoration and rehabilitation of wetlands; invasive alien species; agricultural influence and impact; management by local communities and indigenous people; cultural issues; involvement of the private sector; incentive measures; communication, education, participation and awareness, including training and capacity-building; strategic designation of Wetlands of International

Importance; enhancing cooperation among multilateral environmental agreements; catalyzing funding for wetland work; collaboration with the Convention's partner organizations, scientific networks and other stakeholder groups; and universal membership of the Convention;

6. RECOGNIZING that each Contracting Party is free to choose the extent to which it will implement the Strategic Plan, the resources it will allocate to its implementation, and the timeframes to be used; and
7. NOTING that the Strategic Plan 2009-2015 has been prepared by the Standing Committee with the help of the Secretariat through a wide consultative process with Contracting Parties, the Convention's International Organization Partners and other partners, including intergovernmental and non-governmental organizations;

THE CONFERENCE OF THE CONTRACTING PARTIES

8. APPROVES the Strategic Plan 2009-2015 as annexed to this Resolution as the basis for the future implementation of the Convention, and INSTRUCTS the Ramsar Secretariat to finalize the text of the Plan to take into account the Resolutions adopted by the 10th meeting of the Conference of the Contracting Parties and to make the finalized text of the Plan available to Contracting Parties and all others concerned with its implementation;
9. URGES all Contracting Parties, the Standing Committee, the Scientific and Technical Review Panel, the Ramsar Secretariat, the Convention's International Organization Partners, and the regional initiatives to take on the renewed challenge of implementing the Strategic Plan 2009-2015 through its strategies and key result areas;
10. URGES Contracting Parties to continuously monitor progress in the implementation of the Strategic Plan and communicate progress as well as any difficulties in implementing the Plan to their regional representatives in the Standing Committee; REQUESTS the Standing Committee to assess progress and any difficulties in implementing the Plan at each of its meetings; and ALSO REQUESTS the Secretariat and the Standing Committee to conduct a mid-term review of progress and to propose adjustments, if necessary, to be submitted to COP11;
11. INVITES other multilateral environmental agreements, non-governmental organizations, scientific academies and research institutions, professional scientific and technical bodies, the donor community, and the private sector to contribute to the implementation of the Strategic Plan 2009-2015; and
12. INSTRUCTS the Secretariat to consolidate, as necessary, into this Resolution any text language adopted by other Resolutions adopted by the Conference of the Parties so as to achieve consistency of terminology.

Annex

The Ramsar Strategic Plan 2009-2015

The purpose of the Strategic Plan

1. The Strategic Plan 2009-2015 is intended to provide guidance, particularly to the Contracting Parties but also to the Standing Committee, the Secretariat, the Scientific and Technical Review Panel (STRP), the regional initiatives, and the International Organization Partners (IOPs), as well as the Convention's many other collaborators, on how they should focus their efforts for implementing the Convention on Wetlands over the next two triennia.

History of the Ramsar Convention's Strategic Planning

1st Strategic Plan (1997-2002)

2. The Ramsar Convention's first Strategic Plan, for the period 1997-2002, was negotiated by a wide array of stakeholders during 1995 and adopted by a Resolution of the Parties at the 6th meeting of the Conference of the Contracting Parties (COP6) in Brisbane in 1996. It was a groundbreaking document, the first plan of its kind for a global environmental convention, and it was seen at the time as a model for emulation by the other major environmental instruments.
3. Anchored by a clear Mission Statement – an earlier version of the Convention's present statement – the 26-page Plan articulated eight General Objectives that would contribute to fulfilling that mission; it then broke those eight down into 27 Operational Objectives and itemized 125 Actions for meeting them, and it identified the bodies within the Ramsar community that would be responsible for carrying them out, i.e., the Parties, the Standing Committee, the Scientific and Technical Review Panel, the Secretariat, and the International Organization Partners.
4. In the Strategic Plan 1997-2002 it was explicitly acknowledged that each Contracting Party would be free to choose the extent to which it would implement the Plan, the level of resources that it would allocate to doing so, and the pace of its actions, but nonetheless it was agreed that the adoption of the Plan represented a strong commitment on the part of all of the Parties to achieve the Convention's mission across a broad array of concerns and activities. Strategically, a very wide net was cast, but the hierarchical construction of the Plan gave it a certain sense of prioritization amongst so many areas of concern.

2nd Strategic Plan (2003-2008)

5. The second Strategic Plan, for 2003-2008, adopted by a Resolution of COP8 (Valencia, 2002), organized the work and aspirations of the Convention under five broad General Objectives and specified 21 Operational Objectives that were intended to achieve them. Within these Operational Objectives there were 177 Actions to be undertaken, again with roles assigned to each of the Convention bodies. The list of actions was remarkably thorough.

6. Subsequently, however, many Parties expressed the feeling that the Plan was in fact too thorough, and that a more rigorous prioritization, as well as a tighter focus upon the most pressing issues, would serve the Convention better than an exhaustive list of desirable actions would.

3^d Strategic Plan (2009-2015)

7. Accordingly, with the advice of the Parties at COP9, subsequent Standing Committee meetings, and the SC Subgroup on the Strategic Plan, the Strategic Plan for 2009-2015 sets out five “Goals” – essentially the same five General Objectives as previously (wise use of wetlands, development of the Ramsar List, international cooperation, implementation capacity, and membership in the Convention) – but within those, it is now more tightly focused upon 28 “strategies” that represent a general consensus of the most important priorities for most Parties.

Use of the Strategic Plan

8. As before, the Strategic Plan 2009-2015 calls for actions to be undertaken by the Secretariat and the International Organization Partners, but it is to the Parties themselves that most of the strategies are chiefly addressed. It is understood that the Parties differ substantially in their situations – in their economic and personnel capacities to carry out activities; in the conservation status and trends of their different types of wetlands; in the public awareness and political will of their electorates; in the abilities of their national Ramsar focal points, the Administrative Authorities, to influence the national and local governments; and in their existing legal and institutional frameworks – and that therefore every Party will examine the Strategic Plan closely and determine its own responses.
9. It cannot be said of any such Plan that “one size fits all” at the global level; each Party will wish to establish its own priorities within the Plan’s agreed priorities, develop its own work plan for implementing them, and consider its own use of its resources. And when later reporting upon its successes and, perhaps, its shortcomings, each Party will wish to explain its results in implementing the Convention in terms of its own decisions and circumstances.
10. As they tailor the Strategic Plan 2009-2015 to their own needs and capacities, Parties will also recall that, though this new Plan helps them by articulating a shorter and more focused list of priority actions agreed by the COP, there are many other goals and actions that the Parties have committed themselves to working towards in the previous Resolutions and guidelines adopted by the COP. Parties should feel free to continue working towards those additional commitments whenever appropriate and feasible.

Implementation of the Convention at national level

11. It has become increasingly clear in recent years that one of the greatest obstacles to improving the implementation of the Convention and achieving its mission is the fact that the people who are knowledgeable about wetlands and the Ramsar Convention and dedicated to the wise use of wetlands are not always in a position to ensure that national commitments will be carried out.

12. More than ever, it is essential that designated Ramsar authorities in national governments redouble their efforts to ensure that personnel in other sectors of government are made aware of the national commitments to wetland conservation and wise use and the rationales for them. Non-governmental organizations, and particularly the International Organization Partners, can also be instrumental in helping to spread that word amongst government officials at national, state, and local levels.
13. Similarly, it is increasingly important for Parties to broaden their representation in Ramsar implementation, and frequently to raise the level of that representation, to involve those other sectors of government more closely in working towards the Convention's mission. In some Parties, the Ramsar authorities may come from essentially a niche office in some larger agency, possibly an agency not directly involved with environmental policy-making. In those cases Parties should take steps to include higher-level decision-making officials in their wetland policy-making deliberations.
14. The importance of having active, broad-based National Ramsar Committees or National Wetland Committees for this purpose cannot be emphasized too strongly. Active NRCs composed of officials from all relevant sectors who are sufficiently highly placed to be able to implement the Committee's decisions, and ideally including representatives of academia and the NGOs where appropriate, can significantly widen the sense of commitment and ownership and multiply all of the factors for success.
15. It is also essential to share widely the knowledge about wetlands and encourage all relevant players to make the best use of the various tools developed by the Convention.

Convention implementation achievements and progress during the 2002-2008 period

16. A summary analysis of the achievements and progress of the Convention under its Strategic Plan 2002-2008 is provided to the Conference of the Parties as information papers (COP10 DOCs. 6 and 7) in English, French, and Spanish, following compilation and study of the COP10 National Reports.

Key issues for the future of the Convention

17. What is the broad context for the problems and challenges we continue to face in striving to secure future conservation and sustainable use of wetland ecosystems (both inland and coastal) and their services to people?
18. In the 1960s the driving force behind the establishment of the Ramsar Convention was concern over the continuing destruction of wetlands and the impact of this destruction on populations of waterbirds. Yet, almost 35 years on, in 2005 the Millennium Ecosystem Assessment (MA) concluded that "degradation and loss of wetlands (both inland and coastal) is continuing more rapidly than for other ecosystems".
19. It is clear that the underlying problem remains – economic development and consequent land-use change often remain higher priorities than ecosystem maintenance, despite the fact that these are closely interlinked and that continuing to destroy ecosystems and their services is essentially "biting the hand that feeds us".

20. Amongst key issues that are driving continued change, deterioration and loss of wetlands and their services, are:
- the inadequate availability of water to wetlands, in relation to wetlands' key roles in the global hydrological cycle;
 - increasing demands for water abstraction, particularly for irrigated agriculture;
 - the impacts of a changing and increasingly extreme and unpredictable climate; and
 - the lack of a good understanding of the value of wetlands and their services (wetland valuation) to underpin sound decision-making and trade-offs.
21. There is, therefore, a key urgency for national environmental governance to shift from sectoral, demand-driven approaches to an ecosystem-based approach to policy and decision-making that affects the wise use of wetlands and the maintenance of their ecological character and recognizes the important role of wetlands in climate change mitigation and adaptation activities.
22. The future implementation of the Convention to address such drivers requires that Ramsar Contracting Parties and their appointed Administrative Authorities responsible for leading national implementation engage with and work in close partnership with other sectors of government, focal points of other MEAs, and civil society in order to ensure that the role and importance of wetlands to their businesses is fully recognized when there are hard choices to be made.
23. The Ramsar Convention works increasingly closely with the Convention on Biological Diversity (CBD) through a joint work plan and acts as the CBD's lead implementation partner for wetlands. Yet much of this collaboration to date with CBD, and with other biodiversity and environment conventions and agreements, such as the Convention on Migratory Species and the UN Convention to Combat Desertification (UNCCD), has been through global-scale mechanisms – secretariats, scientific subsidiary bodies, etc. – and there is an urgent need for closer communication and collaboration between convention national focal points to achieve joint on-the-ground implementation.

Ramsar Convention Strategic Plan 2009-2015

24. The Strategic Plan 2009-2015 contributes to:
- a common understanding at global, national, and subnational levels of the Convention's purposes and principles;
 - improved implementation of the Resolutions of the Conference of the Contracting Parties through its focus on key elements for this period;
 - progress at all levels in the conservation and wise use of wetlands and the related benefits for biodiversity and human well-being;
 - international coordination of national and subnational efforts to achieve the objectives of the Convention; and
 - a raised profile among other sectors and bodies of the Convention and its objectives.
25. Externally, the Strategic Plan also contributes to, *inter alia*, achievement of Millennium Development Goals; the programme of the 5th World Water Forum in Turkey 2009;

achievement of the 2010 Biodiversity targets; achievement of the 2012 target for Marine Protected Areas; providing responses to the key issues of climate change; and implementation of decisions from the Commission on Sustainable Development (CSD13) policies on water and sanitation.

WHAT ARE WE ABOUT? – THE MISSION OF THE CONVENTION

“Conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.”

WHAT DO WE WANT TO ACHIEVE? – OUR GOALS

Implementing the Convention

GOAL 1. Wise Use. To work towards achieving the wise use of all wetlands by ensuring that all Contracting Parties develop, adopt and use the necessary and appropriate instruments and measures, with the participation of the local indigenous and non-indigenous population and making use of traditional knowledge, while at the same time ensuring that conservation and wise use of wetlands contribute to poverty eradication, mitigation of and adaptation to climate change, as well as prevention of disease and of natural disasters.
Delivers Articles 3.1, 4.3, 4.4, and 4.5 of the Convention.

OUTCOME SOUGHT:

The wise use of all wetlands being achieved in all Parties, including more participative management of wetlands, and conservation decisions being made with an awareness of the importance of the ecosystem services provided by wetlands.

GOAL 2. Wetlands of International Importance. To develop and maintain an international network of wetlands that are important for the conservation of global biological diversity, including waterbird flyways and fish populations and for sustaining human life, by ensuring that all Contracting Parties appropriately implement the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* and by appropriate management and wise use of those internationally important wetlands that are not yet formally designated as Ramsar sites but have been identified as qualifying through domestic application of the *Strategic Framework* or an equivalent process.
Delivers Articles 2.1, 2.2, 2.5, 2.6, 3.1, 3.2, 4.1 and 4.2 of the Convention.

OUTCOME SOUGHT:

Parties designating and managing Ramsar sites within their territories with a view to supporting an international network of Wetlands of International Importance, fully implementing their reporting commitments under Articles 3 and 8.2, and using the Montreux Record as part of the Convention's governance process, as appropriate.

GOAL 3. International cooperation. To enhance the conservation and wise use of wetlands using effective international cooperation, through *inter alia* the active application of the *Guidelines for international cooperation under the Ramsar Convention*.
Delivers Article 5 of the Convention.

OUTCOME SOUGHT:

Parties developing their coherent national approaches to the implementation of the Ramsar Convention in such a way as to benefit from developing effective partnerships with related conventions and international agencies and with other Parties to the Convention on Wetlands.

Managing the Convention

GOAL 4. Institutional capacity and effectiveness. To progress towards fulfillment of the Convention's mission by ensuring that it has the required mechanisms, resources, and capacity to do so.

Delivers Articles 6, 7, and 8 of the Convention.

OUTCOME SOUGHT:

Increasing success of the Convention in achieving the conservation and wise use of wetlands, as measured by agreed effectiveness indicators, and increased recognition of the Convention's achievements by other sectors of governments and civil society.

GOAL 5. Membership. To progress towards universal membership of the Convention. Delivers Articles 2.4 and 9 of the Convention.

OUTCOME SOUGHT:

All countries eligible for accession to have joined the Ramsar Convention by 2015.

HOW DO WE ACHIEVE OUR GOALS? – STRATEGIES & KEY RESULT AREAS

GOAL 1. Wise Use

To work towards achieving the wise use of all wetlands by ensuring that all Contracting Parties develop, adopt and use the necessary and appropriate instruments and measures, with the participation of the local indigenous and non-indigenous population and making use of traditional knowledge, while at the same time ensuring that conservation and wise use of wetlands contribute to poverty eradication, mitigation of and adaptation to climate change, as well as prevention of disease and of natural disasters.

STRATEGY 1.1 Wetland inventory and assessment

Describe, assess and monitor the extent and condition of all types of wetlands as defined by the Ramsar Convention and wetland resources at relevant scales, in order to inform and underpin implementation of the Convention, in particular in the application of its provisions concerning the wise use of all wetlands. (CPs, advised by STRP and assisted by IOPs)

Key Result Areas

By 2015:

- 1.1.i All Parties to have completed national wetland inventories in line with the Ramsar *Framework for Wetland Inventory* and as far as possible to have disseminated comprehensive national wetland inventories, including information on wetland importance, potential Ramsar sites, wetlands for restoration, location of under-

represented wetland types, and the ecosystem services provided by wetlands.
(National: CPs)

- 1.1.ii An easily accessible Web-based metadatabase in place, managed by the Secretariat, populated with information on all national wetland inventories, and linked to national and other international relevant databases. (Global: Secretariat)

STRATEGY 1.2 Global wetland information

Develop a global wetland information system, through partnerships, to be covered by voluntary contributions, to increase accessibility of data and information on wetlands. (CPs, Secretariat, advised by STRP and assisted by IOPs)

Key Result Areas

By 2015:

- 1.2.i Global wetland distribution and status data and information available through Web-portal mechanisms. (Global: STRP)
- 1.2.ii Global wetland observing system(s) reporting on changes in wetland status. (Global: STRP)

STRATEGY 1.3 Policy, legislation and institutions

Develop and implement policies, legislation, and practices, including growth and development of appropriate institutions, in all Contracting Parties to ensure that the wise use provisions of the Convention are being effectively applied. (CPs, Secretariat)

Key Result Areas

By 2015:

- 1.3.i National Wetland Policy or equivalent instruments fully in place alongside and integrated with other strategic and planning processes by all Parties, including poverty eradication strategies, water resources management and water efficiency plans, coastal and marine resource management plans, national forest programmes, national strategies for sustainable development, and national policies or measures on agriculture. (National: CPs)
- 1.3.ii Parties to have Strategic Environmental Assessment in place for policies, programmes and plans impacting on wetlands. (National: CPs)

STRATEGY 1.4 Cross-sectoral recognition of wetland services

Increase recognition of and attention in decision-making to the significance of wetlands for reasons of biodiversity conservation, water supply, coastal protection, integrated coastal zone management, flood defense, climate change mitigation and/or adaptation, food security, poverty eradication, tourism, cultural heritage, and scientific research, by developing and disseminating methodologies to achieve wise use of wetlands. (CPs, Secretariat, STRP, IOPs)

Key Result Areas

By 2015:

- 1.4.i Development and implementation of wetland programmes and projects that contribute to poverty eradication objectives and food and water security plans at local and national levels. (National: CPs)
- 1.4.ii An analysis of the ecosystem services and their values of wetlands (especially Ramsar sites) achieved for all Parties. (National: CPs)

- 1.4.iii The socio-economic and cultural heritage value of wetlands fully taken into account in wetland wise use and management. (National: CPs; Subnational: wetland managers)

STRATEGY 1.5 Recognition of role of the Convention

Raise the profile of the Convention by highlighting its capacity as a unique mechanism for wetland ecosystem management at all levels; promote the usefulness of the Convention as a possible implementation mechanism to meet the goals and targets of other global conventions and processes. (CPs, Secretariat, STRP, IOPs)

Key Result Area

By 2015:

- 1.5.i Global environmental organizations and conventions aware of and applying the mechanisms developed by the Ramsar Convention for wetland ecosystem management, wise use, and conservation. (Global: Secretariat; National: CPs)

STRATEGY 1.6 Science-based management of wetlands

Promote successful implementation of the wise use concept by ensuring that national policies and wetland management plans are based on the best available scientific knowledge, including technical and traditional knowledge. (CPs, Secretariat, STRP, IOPs)

Key Result Areas

By 2015:

- 1.6.i High quality research completed, widely disseminated in appropriate formats and styles and applied concerning areas of key importance for wetland sustainability, such as agriculture-wetland interactions, climate change, and valuation of ecosystem services. (Global: Secretariat; National: CPs, IOPs)
- 1.6.ii All wetland management plans founded on sound scientific research, including research on potential threats. (Global: Secretariat; National: CPs, IOPs)

STRATEGY 1.7 Integrated Water Resources Management

Ensure that policies and implementation of Integrated Water Resources Management (IWRM), applying an ecosystem-based approach, are, included in the planning activities in all Contracting Parties and in their decision-making processes, particularly concerning groundwater management, catchment/river basin management, coastal and nearshore marine zone planning, and climate change mitigation and/or adaptation activities. (CPs, STRP, IOPs)

Key Result Areas

By 2015:

- 1.7.i All Parties to have made available the Ramsar guidance on water allocation and management for ecosystems to support decision-making on water resource management, as a contribution to achieving the WSSD target on water resources management and water efficiency plans. (National: CPs)
- 1.7.ii All Parties, in their water governance and management, to be managing wetlands as natural water infrastructure integral to water resource management at the scale of river basins. (National: CPs)
- 1.7.iii National policies or guidelines enhancing the role of wetlands in mitigation and/or adaptation to climate change in progress or completed. (National: CPs)
- 1.7.iv The Convention's role in encouraging IWRM planning established as part of international environmental efforts. (Global: Secretariat, STRP)

- 1.7.v Parties to have formulated plans to sustain and enhance the role of wetlands in supporting and maintaining viable farming systems. (National: CPs)

STRATEGY 1.8 Wetland restoration

Identify priority wetlands and wetland systems where restoration or rehabilitation would be beneficial and yield long-term environmental, social, or economic benefits, and implement the necessary measures to recover these sites and systems. (CPs, Secretariat, IOPs)

Key Result Areas

By 2015:

- 1.8.i All Parties to have identified priority sites for restoration; restoration projects underway or completed in at least half the Parties. (National: CPs)
- 1.8.ii New case studies and methods added to Ramsar wetland restoration pages on the Web site. (Global: STRP; National: CPs)

STRATEGY 1.9 Invasive alien species

Encourage Contracting Parties to develop a national inventory of invasive alien species that currently and/or potentially impact the ecological character of wetlands, especially Ramsar sites, and ensure mutual supportiveness between the national inventory and IUCN's Global Register on Invasive Species (GRIS); develop guidance and promote procedures and actions to prevent, control or eradicate such species in wetland systems. (CPs, STRP, other agencies, IOPs)

Key Result Areas

By 2015:

- 1.9.i All Parties to have a national inventory of invasive alien species that currently or potentially impact the ecological characters of wetlands, especially Ramsar sites. (National: CPs)
- 1.9.ii Parties to have identified more comprehensively the problems posed by invasive species in wetland ecosystems within their territories. (National: CPs)
- 1.9.iii National invasive species control and management policies or guidelines in place for wetlands. (National: CPs)
- 1.9.iv Comprehensive and up-to-date global guidance on invasive species, in cooperation with GISP, available to all stakeholders. (Global: STRP)
- 1.9.v Increased collaboration with the Convention on Biological Diversity on actions to address gaps in international regulations relating to invasive alien species. (Global: Secretariat)

STRATEGY 1.10 Private sector

Promote the involvement of the private sector in the conservation and wise use of wetlands. (CPs, Secretariat)

Key Result Areas

By 2015:

- 1.10.i Significant progress in the private sector applying the concepts and approaches for conservation and wise use of wetlands contained in Ramsar guidance (Ramsar Handbooks 1 to 17, 3rd edition) and other relevant guidelines in their activities and investments affecting wetlands. (Global to Subnational: private sector)
- 1.10.ii Increased private sector engagement in the wise use of wetlands and in the management of Ramsar sites. (Subnational: private sector)

- 1.10.iii Awareness-raising material made available to the public to enable wetland-friendly consumer choices. (National: private sector & CPs)

STRATEGY 1.11 Incentive measures

Promote incentive measures that encourage the application of the wise use provisions of the Convention. (CPs, Secretariat, IOPs)

Key Result Area

By 2015:

- 1.11.i Better design and implementation of incentive measures of relevance to wetlands taking place in all Parties, and better monitoring and assessment of both positive and perverse incentives affecting wetlands in place in all Parties. (National: CPs)

GOAL 2. Wetlands of International Importance

To develop and maintain an international network of wetlands that are important for the conservation of global biological diversity, including waterbird flyways and fish populations and for sustaining human life, by ensuring that all Contracting Parties appropriately implement the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* and by appropriate management and wise use of those internationally important wetlands that are not yet formally designated as Ramsar sites but have been identified as qualifying through domestic application of the *Strategic Framework* or an equivalent process.

STRATEGY 2.1 Ramsar site designation

Apply the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Handbook 14). (CPs)

Key Result Areas

By 2015:

- 2.1.i All Parties to have prepared, using the *Strategic Framework*, a national plan and priorities for the designation and management of Ramsar sites, including where appropriate for shared wetlands in collaboration with neighboring Parties. (National: CPs)
- 2.1.ii Completed, and as appropriate updated, Ramsar Information Sheets submitted for all Ramsar sites. (National: CPs)
- 2.1.iii At least 2,500 Ramsar sites designated worldwide, covering at least 250 million hectares. (National: CPs)
- 2.1.iv Contracting Parties to have considered designating Ramsar sites from among wetland types under-represented in the Ramsar List. (National: CPs)

STRATEGY 2.2 Ramsar site information

Ensure that the Ramsar Sites Information Service, including the Ramsar Sites Database, is available and enhanced as a tool for guiding the further designation of wetlands for the List of Wetlands of International Importance and for research and assessment, and is effectively managed by the Secretariat. (STRP, Secretariat, IOPs)

Key Result Areas

By 2015:

- 2.2.i Ramsar site data and information services reviewed, restructured and further developed for Web-accessibility to stakeholders, and linked to a global information and observing system for all wetlands. (Global: STRP, Secretariat, IOPs)
- 2.2.ii The Ramsar Sites Information Service delivering a range of tools and support to Contracting Parties to aid their identification of gaps and priorities for further Ramsar site designation. (Global: Secretariat, IOPs)

STRATEGY 2.3 Management planning – new Ramsar sites

While recognizing that Ramsar site designation can act as a stimulus for development of effective site management plans, generally encourage the philosophy that all new Ramsar sites should have effective management planning in place before designation, as well as resources for implementing such management. (CPs, IOPs, Secretariat)

Key Result Area

By 2015:

- 2.3.i Adequate management planning processes established and submitted with all or most new site designations or a commitment made to work towards that goal, taking into account the possible lack of financial and human resources to fulfill this objective, and recognizing that the designation of a site can work as an incentive for the establishment of future management planning. (National: CPs; subnational: wetland managers)

STRATEGY 2.4 Ramsar site ecological character

Maintain the ecological character of all designated Ramsar sites, through planning and management. (CPs, Secretariat, IOPs)

Key Result Areas

By 2015:

- 2.4.i Progress in developing effective management plans for all Ramsar sites within each Party's territory. (National: CPs; Subnational: wetland managers)
- 2.4.ii Management objectives, as part of management planning, for ecological character maintenance established for all Ramsar sites. (Subnational: wetland managers)
- 2.4.iii Zoning measures to be put in place for larger Ramsar sites, wetland reserves, and other wetlands (Recommendation 5.3 and Resolution VIII.14) and strict protection measures to be enacted for certain Ramsar sites and other wetlands of small size and/or particular sensitivity. (Subnational: wetland managers)
- 2.4.iv Cross-sectoral site management committees in place for Ramsar sites, involving relevant government agencies, citizens and local communities, and other stakeholders, including the business sector as appropriate, in place, including as a mechanism for dispute settlement. (Subnational: wetland managers)
- 2.4.v Statements of ecological character finalized for all Ramsar sites and used as a basis for implementing Article 3.2 of the Convention. (Subnational: wetland managers)

STRATEGY 2.5 Ramsar site management effectiveness

Review all existing Ramsar sites to determine the effectiveness of management arrangements, in line with the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance*. (CPs, STRP)

Key Result Area

By 2015:

- 2.5.i All Parties, using the *Strategic Framework*, to have reviewed all existing Ramsar sites and confirmed that all Ramsar sites fulfill the provisions of the *Strategic Framework* or to have identified those sites that do not do so for remedial actions. (National: CPs; Subnational: wetland managers)

STRATEGY 2.6 Ramsar site status

Monitor the condition of Ramsar sites and address negative changes in their ecological character, notify the Ramsar Secretariat of changes affecting Ramsar sites, and apply the Montreux Record, if appropriate, and Ramsar Advisory Mission as tools to address problems. (CPs, Secretariat, IOPs)

Key Result Areas

By 2015:

- 2.6.i All Parties with Ramsar sites whose ecological character has changed, is changing or is likely to change owing to human-induced actions to have reported this to the Ramsar Secretariat, in line with the requirements of Article 3.2 of the Convention. (National: CPs)
- 2.6.ii For all sites on the Montreux Record that have not been the subject of a Ramsar Advisory Mission (RAM), intended to provide advice on the steps needed to remove those sites from the Record, Parties to request such a Mission. (National: CPs)
- 2.6.iii Implementation of relevant STRP ecological outcome-oriented indicators of effectiveness of the Convention. (Global: STRP; National: CPs)

STRATEGY 2.7 Management of other internationally important wetlands

Appropriate management and wise use achieved for those internationally important wetlands that have not yet been formally designated as Ramsar sites but have been identified through domestic application of the *Strategic Framework* or an equivalent process. (CPs)

Key Result Area

By 2015:

- 2.7.i Ramsar guidance on the maintenance of ecological character to be have been applied with a priority upon recognized internationally important wetlands not yet designated as Ramsar sites. (National: CPs; Subnational: wetland managers)

GOAL 3. International cooperation

To enhance the conservation and wise use of wetlands using effective international cooperation, through *inter alia* the active application of the *Guidelines for international cooperation under the Ramsar Convention*.

STRATEGY 3.1 Synergies and partnerships with MEAs and IGOs

Work as partners with international and regional multilateral environmental agreements (MEAs) and other intergovernmental agencies (IGOs). (CPs, Secretariat, IOPs, STRP)

Key Result Areas

By 2015:

- 3.1.i CBD-Ramsar Joint Work Plan and CMS/AEWA/Ramsar Joint Work Plan being implemented and participation continued in the CBD Biodiversity Liaison Group. (Global: Secretariat, STRP; National: CPs)
- 3.1.ii Joint activities developed with the UN Convention to Combat Desertification (UNCCD) and the UN Framework Convention on Climate Change (UNFCCC), as

- appropriate, including through participation in the Joint Liaison Group. (Global: Secretariat, STRP)
- 3.1.iii The Action Plan of the New Partnership for Africa's Development (NEPAD) to have fully incorporated Ramsar issues and mechanisms and being implemented by relevant Parties. (Regional: Secretariat; National: CPs, IOPs)
- 3.1.iv Additional partnership approaches initiated with the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), the UNECE Water Convention, the UN Food and Agriculture Organization (FAO), UNESCO, the World Health Organization (WHO), the World Tourism Organization (WTO), the International Tropical Timber Organization (ITTO), the UN Forum on Forests with its Collaborative Partnerships on Forests, the European Community, ASEAN, APEC, BIMSTEC, SAARC, and other relevant United Nations agencies and regional bodies, as well as through UN Water. (Global: Secretariat, STRP and National Regional: CPs with IOPs support)
- 3.1.v Harmonized information management and reporting systems available and widely used at national level with the appropriate MEAs. (Global: Secretariat; National: CPs)

STRATEGY 3.2 Regional initiatives

Support existing regional arrangements under the Convention and promote additional arrangements. (CPs, Secretariat, IOPs)

Key Result Area

By 2015:

- 3.2.i Development of viable regional arrangements under the Convention, applying the *Operational Guidelines 2009-2012 for regional initiatives in the framework of the Convention on Wetlands* (Annex to Resolution X.6), resulting in the establishment of new regional initiatives, where appropriate, and the strengthening of existing initiatives. (Global: Secretariat, Standing Committee; Regional: regional initiatives with IOPs support)

STRATEGY 3.3 International assistance

Promote international assistance to support the conservation and wise use of wetlands, while ensuring that environmental safeguards and assessments are an integral component of all development projects that affect wetlands, including foreign and domestic investments. (CPs, Secretariat, IOPs)

Key Result Areas

By 2015:

- 3.3.i Parties with bilateral donor agencies to have encouraged those agencies to give priority for funding for wetland conservation and wise use projects in relation to poverty eradication and other relevant international targets and priorities. (National: CPs)
- 3.3.ii Proposed grants, loans, and development projects from international development agencies, including banks, financial institutions and private investors and developers, to include environmental safeguards and environmental assessments of possible impacts. (Global: Secretariat, development agencies)

STRATEGY 3.4 Sharing information and expertise

Promote the sharing of expertise and information concerning the conservation and wise use of wetlands. (CPs, Secretariat)

Key Result Areas

By 2015:

- 3.4.i Less time required from Parties on managing information for national reports, but better quality and more timely reports produced. (Global: Secretariat; National: CPs)
- 3.4.ii Increased flow of information made available by the Parties (e.g., Ramsar-related policies, Ramsar site management plans, Ramsar site monitoring, etc.) to the Secretariat for dissemination via the Ramsar Web site and other means. (National/Regional : CPs with IOPs support)
- 3.4.iii Relevant research findings that have been evaluated by the STRP promoted and made widely available through Ramsar Technical Reports, Ramsar and IOP Web sites, and other means. (Global: Secretariat, STRP, IOPs; National: CPs)

STRATEGY 3.5 Shared wetlands, river basins and migratory species

Promote inventory and cooperation for the management of shared wetlands and hydrological basins, including cooperative monitoring and management of shared wetland-dependent species. (CPs, Secretariat, IOPs)

Key Result Areas

By 2015:

- 3.5.i Where appropriate, all Parties to have identified their shared wetlands, river basins and migratory species, and Parties to have identified collaborative management mechanisms with one another for those shared wetlands and river basins. (National: CPs)
- 3.5.ii Where appropriate, Parties with shared basins and coastal systems to consider participation in joint management commissions or authorities. (National: CPs)
- 3.5.iii Regional site networks and initiatives in place for additional wetland-dependent migratory species, as exemplified *inter alia* by the African-Eurasian Migratory Waterbird Agreement (AEWA), the East Asian-Australasian Flyway Partnership, the Western Hemisphere Shorebird Reserve Network, and the Central Asian Flyway Initiative. (Global: STRP, Secretariat, other MEAs; National: CPs)

GOAL 4. Institutional capacity and effectiveness

To progress towards fulfillment of the Convention's mission by ensuring that it has the required mechanisms, resources, and capacity to do so.

STRATEGY 4.1 CEPA

Support, and assist in implementing at all levels, where appropriate, the Convention's Communication, Education, Participation and Awareness Programme (Resolution X.8) for promoting the conservation and wise use of wetlands through communication, education, participation, and awareness (CEPA) and work towards wider awareness of the Convention's goals, mechanisms, and key findings. (CPs, Secretariat, training centres, IOPs, Advisory Board on Capacity Building)

Key Result Areas

By 2015:

- 4.1.i All Parties to have established national (or subnational, catchment or local level, as appropriate) Ramsar CEPA action plans. (National: CPs)
- 4.1.ii All Parties to have established at least one wetland education centre at a Ramsar site. (National: CPs)

- 4.1.iii All Parties to have established practices that ensure the participation in the development and implementation of wetland management plans of stakeholder groups with cultural or economic links to wetlands or those communities that depend on the wetlands for their livelihoods. (National: CPs)
- 4.1.iv At least half of the Parties to have assessed their national and local training needs with respect to the conservation and wise use of wetlands. (National: CPs)
- 4.1.v The Advisory Board on Capacity Building to have provided practical advice to Parties to assist them in their training and broader capacity building planning and implementation activities. (Global: Advisory Board)
- 4.1.vi Convention mechanisms for wetland management, wise use, and conservation applied by a wide range of stakeholders on global, regional, national, and subnational levels. (Global to Subnational: all implementers)
- 4.1.vii The Convention's products reaching and adopted by a wide range of target groups, including such products as decision-making frameworks, networks, and technical documents. (Global: Secretariat; National/Regional: CPs with support from IOPs)
- 4.1.viii A significant proportion of Parties to have assessed their capacity and training needs with respect to implementation of the policy, legislation, and institutional governance mechanisms noted in Strategy 1.3. (National: CPs)

STRATEGY 4.2 Convention financial capacity

Provide the financial resources necessary for the Convention's governance, mechanisms and programmes to achieve the expectations of the Conference of the Contracting Parties, within the availability of existing resources and by the effective use of such resources; explore and enable options and mechanisms for mobilization of new and additional resources for implementation of the Convention. (CPs, Secretariat)

Key Result Areas

By 2015:

- 4.2.i Adequate resources and supporting financial policies in place to enable the Convention to discharge its responsibilities and priorities, as determined by the Conference of the Parties, in an effective manner. (Global: Secretariat; National: CPs)
- 4.2.ii Clear and unambiguous budgetary preparation and management for the Convention, with the Secretariat putting the budget allocated by the Conference of the Parties to practical use in the most effective manner possible. (Global: Secretariat)

STRATEGY 4.3 Convention bodies' effectiveness

Ensure that the Conference of the Contracting Parties, Standing Committee, Scientific and Technical Review Panel, and Secretariat are operating at a high level of effectiveness to support the implementation of the Convention. (CPs, Secretariat)

Key Result Areas

By 2015:

- 4.3.i All Contracting Parties to have designated CEPA and STRP National Focal Points (by COP11), and to have kept the Secretariat updated in a timely manner on any changes in Administrative Authority focal points and daily contacts. (National: CPs)
- 4.3.ii National Reports used to evaluate and report on the implementation of the Strategic Plan at each meeting of the COP. (Global & Regional: Secretariat)

- 4.3.iii The bodies of the Convention to have adequate funding and logistic support by utilizing available resources wisely to deliver their *modi operandi* and work plans, as adopted by the Conference of the Parties. (Global: Secretariat & CPs)
- 4.3.iv The Secretariat, with the advice of the Standing Committee, fully managing its staffing priorities and capacities to respond to key issues of wetland conservation and wise use as they emerge. (Global: Secretariat)

STRATEGY 4.4 Working with IOPs and others

Maximize the benefits of working with the Convention's International Organization Partners (IOPs) and others. (Secretariat, IOPs)

Key Result Areas

By 2015:

- 4.4.i By COP11, each IOP to have updated its MOU with the Secretariat, possibly including some joint actions by several IOPs, and by 2015 to have reviewed and as necessary revised its MOU. (Global: Secretariat, IOPs)
- 4.4.ii Support for the Convention's scientific, technical and policy work integrated into the ongoing programmes of the IOPs. (Global: IOPs)
- 4.4.iii Efforts made by IOPs and others to help mobilizing partnerships for high priority issues for the Convention. (Global: Secretariat, IOPs; National: IOPs, CPs)

GOAL 5. Membership

To progress towards universal membership of the Convention.

STRATEGY 5.1 Membership

Secure universal membership of the Convention and provide an appropriate level of service. (CPs, Secretariat)

Key Result Areas

By 2015:

- 5.1.i Achieve membership in the Convention of at least 170 Parties by COP11 and of all eligible nations by COP12. (Global: Secretariat, Standing Committee)
- 5.1.ii Strive to make resources available to provide servicing for Parties, especially recently acceded Parties, to assist them in implementing this Strategic Plan. (Global: Secretariat, Standing Committee, donor CPs)



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.2

Financial and budgetary matters

1. RECALLING the budgetary provisions established by Article 6, paragraphs 5 and 6, of the Convention;
2. ACKNOWLEDGING WITH APPRECIATION the prompt payment by the majority of Contracting Parties of their contributions to the core budget of the Convention, but NOTING WITH CONCERN that a number of Parties are still significantly in arrears (COP10 DOC. 17);
3. NOTING WITH GRATITUDE the additional financial contributions made by many Contracting Parties through their Ramsar Administrative Authorities and other agencies, including some development assistance agencies, and also the contributions made by non-governmental organizations and the private sector for activities undertaken by the Secretariat;
4. ACKNOWLEDGING ONCE MORE WITH APPRECIATION the financial and administrative services provided to the Secretariat by IUCN;
5. NOTING that Contracting Parties have been kept informed of the financial situation of the Secretariat through the financial audited reports for fiscal years 2006 and 2007 and the reports of the Standing Committee meetings in 2006, 2007, and 2008 that have been circulated to Contracting Parties; and
6. RECOGNIZING the need to facilitate partnership with relevant international organizations and other entities, to strengthen existing partnerships and to explore additional funding opportunities through their existing financial mechanisms (COP10 DOC.19);

THE CONFERENCE OF THE CONTRACTING PARTIES

7. NOTES WITH PLEASURE that since the 9th meeting of the Conference of the Contracting Parties in 2005 the Secretariat has managed the Convention's funds prudently and efficiently, and APPRECIATES improved financial reporting arising from the new management arrangements with IUCN;

8. REQUESTS the Secretary General, in managing the budget, to attempt to maintain the Reserve Fund established by Resolution VI.17 (1996), which will also partly fulfil the need to have a prudent reserve in the unlikely event of the sudden dissolution of the Secretariat;
9. EXPRESSES ITS GRATITUDE to the Contracting Parties that have served in the Subgroup on Finance of the Standing Committee during the past cycle, and in particular to the United States of America, which acted as Chair of the Subgroup;
10. DECIDES that the Terms of Reference for the Financial Administration of the Convention contained in Annex 3 to Resolution 5.2 (1993) shall be applied *in toto* to the 2009-2012 cycle;
11. FURTHER DECIDES that the Subgroup on Finance, as established by Resolution VI.17, shall continue to operate under the aegis of the Standing Committee and with the roles and responsibilities specified in that Resolution;
12. APPROVES the budget for the 2009-2012 cycle as attached as Annex I to enable the implementation of the Strategic Plan of the Convention;
13. AUTHORIZES the Standing Committee, with the advice of its Subgroup on Finance, to change budgetary allocations between budget lines in the light of significant positive or negative changes during the cycle to the rates of inflation and interest income projected in the budget, with the reservation that in no case shall such reallocations affect line items pertaining to Regional Initiatives or be detrimental to the work of the Scientific and Technical Review Panel (STRP);
14. RECOGNIZES that the establishment of a Transition Committee of the Management Working Group (Resolution X.4), involving the Chair of the Subgroup on Finance, will strengthen the continuity of the Subgroup's work in the future;
15. DECIDES that the contribution of each Contracting Party to this budget (other than those making only voluntary contributions) should be in accordance with the scale of assessments for the contribution of Member States to the United Nations budget as approved by the UN General Assembly, except in the case of Contracting Parties which, in applying the UN scale, would make annual contributions to the Ramsar Convention budget of less than CHF 1,000, in which case the annual contribution shall be that amount. The difference between the assessed contribution for these Contracting Parties according to the UN scale and the minimum threshold of CHF 1,000 shall be allocated, when actual payments have been effected, to another budget line or lines of the core budget, on the advice of the Standing Committee's Subgroup on Finance. All other Contracting Parties will continue to be assessed in accordance with the UN scale of contributions except in the case of those Contracting Parties making only voluntary contributions (as indicated in Annex II);
16. URGES all Contracting Parties to pay their contributions promptly by 1 January of each year, or as soon thereafter as that country's budget cycle will permit;
17. URGES Contracting Parties in arrears in their payments of assessed contributions to make a renewed effort to settle them as expeditiously as possible to enhance the financial sustainability of the Convention through contributions by all Contracting Parties, and

AGREES that the Standing Committee at its 40th meeting should further consider options for dealing with Parties that are consistently in arrears with payments to the Convention;

18. AFFIRMS that the rate of increase of the Ramsar Convention budget for the 2009-2012 cycle shall not be considered as setting a precedent for the budget of any other international convention and has been passed noting the official position of concerned Parties supporting zero nominal growth for all international conventions;
19. DECIDES to appoint a new Partnership Coordinator, in accordance with the job description attached in Annex III, to enhance the work on building partnerships with relevant international organizations and other entities, managing the Convention's financial instruments (Small Grants Fund, etc.), and exploring additional financial resources to supplement the healthy and sustainable implementation of the Convention and the Secretariat;
20. REQUESTS the Secretary General to review and assess the performance of the new position and report to the Standing Committee regularly, and to report to the next meeting of the Conference of the Contracting Parties on the results of this new position, so that the Conference of the Contracting Parties can decide whether this position should be continued;
21. REQUESTS the Secretary General to report the status of the Reserve Fund to the Standing Committee and consult with the Standing Committee regarding the use of excess resources of the Fund;
22. REQUESTS the Contracting Parties to support, through voluntary contributions, the Ramsar Regional Centre for Central and West Asia celebrations of the 40th Anniversary of the signing of the Convention, planned for 2011 in the town of Ramsar;
23. GRATEFULLY ACKNOWLEDGES that the countries of Africa assessed (in line with paragraph 15 above) at less than CHF 2000 have agreed to increase their payments to that level. The difference between CHF 2000 and their assessment will be in the form of a voluntary contribution specifically earmarked for African Regional Initiatives; and
24. NOTES that the Africa region further urges all other Parties outside of Africa that are individually contributing less than CHF 2000 to increase their contributions as appropriate.

Annex I. Core Budget 2009-2012, as approved by COP10

RAMSAR FOUR % GROWTH BUDGET 2009 to 2012											COMMENTS
	COP9 approved										
EXPENDITURES	2008	2008	2009	2009	2010	2010	2011	2011	2012	2012	
	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	
A. SECRETARIAT SENIOR MANAGEMENT		476,466		494,365		512,979		532,338		552,472	Salaries increased 4% to cover inflation and step increments
i. Salary & social costs (SG)(Ass't) (20%DSG)	447,466		465,365		483,979		503,338		523,472		ZERO increase - remains at 2008 level
ii. Travel on Official Business (International) (2K for NCD)	29,000		29,000		29,000		29,000		29,000		
M. PARTNERSHIP Co-ordinator				87,278		141,696		198,290		257,149	
i. Partnership Account			87,278		141,696		198,290		257,149		Balancing amount
B. REGIONAL ADVICE & SUPPORT		1,128,931		1,170,903		1,214,554		1,259,951		1,307,164	Salaries increased 4% to cover inflation and step increments
i. Salaries & social costs (SRAs, Assistants, Oceania officer)	1,049,304		1,091,276		1,134,927		1,180,324		1,227,537		
ii. Travel on Official Business (International)	79,627		79,627		79,627		79,627		79,627		ZERO increase - remains at 2008 level
C. SUPPORT TO REGIONAL INITIATIVES		279,190		279,190		279,190		279,190		279,190	
i. Regional networks (cooperation)	179,190		179,190		179,190		179,190		179,190		ZERO increase - remains at 2008 level
ii. Regional centers (training & capacity-building)	100,000		100,000		100,000		100,000		100,000		ZERO increase - remains at 2008 level
D. SCIENTIFIC AND TECHNICAL SERVICES		567,360		574,415		581,752		589,383		597,319	
i. STRP (implementation/meeting & staff costs)	205,985		205,985		205,985		205,985		205,985		ZERO increase - remains at 2008 level
ii. Ramsar Sites Information Service	170,000		170,000		170,000		170,000		170,000		ZERO increase - remains at 2008 level
iii. DSG (60%)	176,375		183,430		190,767		198,398		206,334		Salaries increased 4% to cover inflation and step increments
iv. Travel on Official Business (International) (NCD)	15,000		15,000		15,000		15,000		15,000		ZERO increase - remains at 2008 level
E. CEPA - COMMUNICATION, EDUCATION & PUBLIC AWARENESS		590,738		607,131		624,181		641,912		660,352	Salaries increased 4% to cover inflation and step increments
i. Salaries & social costs (DSG 20%)(SrAdminAss't - 34%)	409,835		426,228		443,278		461,009		479,449		
ii. CEPA Programme	30,000		30,000		30,000		30,000		30,000		ZERO increase - remains at 2008 level
iii. Communications & Reporting implementation	150,903		150,903		150,903		150,903		150,903		ZERO increase - remains at 2008 level
F. ADMINISTRATION & PERSONNEL MANAGEMENT		360,244		371,224		382,642		394,518		406,868	Salaries increased 4% to cover inflation and step increments
i. Administration (salaries & social costs)	237,512		247,012		256,893		267,169		277,855		Salaries increased 4% to cover inflation and step increments
ii. Human Resources (salaries & social costs) (SrAdminAss't - 33%)	36,976		38,455		39,993		41,593		43,257		Salaries increased 4% to cover inflation and step increments
iii. Other employment benefits	50,000		50,000		50,000		50,000		50,000		
iv. Staff hiring and departure costs	35,756		35,756		35,756		35,756		35,756		ZERO increase - remains at 2008 level

RAMSAR FOUR % GROWTH BUDGET 2009 to 2012												COMMENTS
	COP9 approved											
EXPENDITURES	2008	2008	2009	2009	2010	2010	2011	2011	2012	2012		
G. FINANCE MANAGEMENT		197,321		205,214		213,422		221,959		230,838	Salaries increased 4% to cover inflation and step increments	
i. Salaries & social costs (SrAdminAss't-33%)	197,321		205,214		213,422		221,959		230,838			
H. OPERATING COSTS		88,529		88,529		88,529		88,529		88,529		
i. Operating Costs (photocopying, printing, courier)	76,529		76,529		76,529		76,529		76,529		ZERO increase - remains at 2008 level	
ii. Purchase & Maintenance of Equipment/Office Supplies (including depreciation)	12,000		12,000		12,000		12,000		12,000		ZERO increase - remains at 2008 level	
I. STANDING COMMITTEE SERVICES		72,812		72,812		72,812		72,812		72,812		
i. Standing Committee delegates' support	47,056		47,056		47,056		47,056		47,056		ZERO increase - remains at 2008 level	
ii. Simultaneous interpretation at SC meetings	25,756		25,756		25,756		25,756		25,756		ZERO increase - remains at 2008 level	
L. COP related costs incurred by the Secretariat		34,952		0		0		0		-		
SubTotal		3,796,543		3,951,061		4,111,758		4,278,882	4,452,693	4,452,693		
K. IUCN SERVICE CHARGES (13% of expenditures) (Administration, Human Resources, Finance & IT services)		493,551		513,638		534,529		556,255		578,850	13%	
J. MISCELLANEOUS		75,000		75,000		75,000		75,000		75,000		
i. Bad debt provision	15,000		15,000		15,000		15,000		15,000		Calculation for unpaid annual contributions.	
ii. Exchange loss	35,000		35,000		35,000		35,000		35,000		Currency fluctuations.	
iii. Staff termination & repatriation provisions*	25,000		25,000		25,000		25,000		25,000		Accounting requirement.	
		4,365,094										
TOTAL FORECAST EXPENDITURE				4,539,698		4,721,286		4,910,137		5,106,543	4% annual increase	
				4,539,698		4,721,286		4,910,137		5,106,543		

* Accounting requirement, can be treated as a reserve amount.

Annex II. Ramsar Contracting Party Annual Contributions 2009

2009: Based on 4% Growth		UN %	Ramsar %	2009 Contribution (CHF)
1310-00091	Albania	0.006	0.0061	1,000
1310-00001	Algeria	0.085	0.0867	3,635
1310-00145	Antigua & Barbuda	0.002	0.0020	1,000
1310-00003	Argentina	0.325	0.3315	13,898
1310-00002	Armenia	0.002	0.0020	1,000
1310-00004	Australia	1.787	1.8226	76,415
1310-00005	Austria	0.887	0.9047	37,930
1310-00124	Azerbaijan	0.005	0.0051	1,000
1310-00099	Bahamas	0.016	0.0163	1,000
1310-00102	Bahrain	0.033	0.0337	1,411
1310-00006	Bangladesh	0.010	0.0102	1,000
1310-00149	Barbados	0.009	0.0092	1,000
1310-00116	Belarus	0.020	0.0204	1,000
1310-00007	Belgium	1.102	1.1239	47,123
1310-00112	Belize	0.001	0.0010	1,000
1310-00118	Benin	0.001	0.0010	1,000
1310-00008	Bolivia	0.006	0.0061	1,000
1310-00128	Bosnia and Herzegovina	0.006	0.0061	1,000
1310-00096	Botswana	0.014	0.0143	1,000
1310-00009	Brazil	0.876	0.8934	37,459
1310-00010	Bulgaria	0.020	0.0204	1,000
1310-00011	Burkina Faso	0.002	0.0020	1,000
1310-00132	Burundi	0.001	0.0010	1,000
1310-00115	Cambodia	0.001	0.0010	1,000
1310-00150	Cameroon	0.009	0.0092	1,000
1310-00012	Canada	2.977	3.0362	127,301
1310-00146	Cape Verde	0.001	0.0010	1,000
1310-00148	Central African Republic	0.001	0.0010	1,000
1310-00072	Chad	0.001	0.0010	1,000
1310-00013	Chile	0.161	0.1642	6,885
1310-00014	China	2.667	2.7201	114,045
1310-00110	Colombia	0.105	0.1071	4,490
1310-00084	Comoros	0.001	0.0010	1,000
1310-00109	Congo	0.001	0.0010	1,000
1310-00092	Congo, Democratic Republic of	0.003	0.0031	1,000
1310-00015	Costa Rica	0.032	0.0326	1,368
1310-00093	Côte d'Ivoire	0.009	0.0092	1,000
1310-00016	Croatia	0.050	0.0510	2,138
1310-00123	Cuba	0.054	0.0551	2,309
1310-00125	Cyprus	0.044	0.0449	1,882
1310-00017	Czech Republic	0.281	0.2866	12,016
1310-00018	Denmark	0.739	0.7537	31,601
1310-00135	Djibouti	0.001	0.0010	1,000
1310-00131	Dominican Republic	0.024	0.0245	1,026
1310-00019	Ecuador	0.021	0.0214	1,000

2009: Based on 4% Growth		UN %	Ramsar %	2009 Contribution (CHF)
1310-00020	Egypt	0.088	0.0898	3,763
1310-00113	El Salvador	0.020	0.0204	1,000
1310-00136	Equatorial Guinea	0.002	0.0020	1,000
1310-00022	Estonia	0.016	0.0163	1,000
1310-00151	Fiji	0.003	0.0031	1,000
1310-00023	Finland	0.564	0.5752	24,118
1310-00024	France	6.301	6.4264	269,441
1310-00025	Gabon	0.008	0.0082	1,000
1310-00094	Gambia	0.001	0.0010	1,000
1310-00105	Georgia	0.003	0.0031	1,000
1310-00026	Germany	8.577	8.7477	366,767
1310-00027	Ghana	0.004	0.0041	1,000
1310-00028	Greece	0.596	0.6079	25,486
1310-00029	Guatemala	0.032	0.0326	1,368
1310-00030	Guinea	0.001	0.0010	1,000
1310-00031	Guinea-Bissau	0.001	0.0010	1,000
1310-00032	Honduras	0.005	0.0051	1,000
1310-00033	Hungary	0.244	0.2489	10,434
1310-00034	Iceland	0.037	0.0377	1,582
1310-00035	India	0.450	0.4590	19,243
1310-00036	Indonesia	0.161	0.1642	6,885
1310-00038	Iran, Islamic Republic of	0.180	0.1836	7,697
1310-00156	Iraq	0.015	0.0153	1,000
1310-00037	Ireland	0.445	0.4539	19,029
1310-00098	Israel	0.419	0.4273	17,917
1310-00039	Italy	5.079	5.1801	217,187
1310-00103	Jamaica	0.010	0.0102	1,000
1310-00040	Japan	16.624	16.9548	710,870
1310-00041	Jordan	0.012	0.0122	1,000
1310-00153	Kazakhstan	0.029	0.0296	1,240
1310-00042	Kenya	0.010	0.0102	1,000
1310-00100	Korea, Republic of	2.173	2.2162	92,921
1310-00133	Kyrgyz Republic	0.001	0.0010	1,000
1310-00087	Latvia	0.018	0.0184	1,000
1310-00114	Lebanon	0.034	0.0347	1,454
1310-00139	Lesotho	0.001	0.0010	1,000
1310-00137	Liberia	0.001	0.0010	1,000
1310-00119	Libyan Arab Jamahiriya	0.062	0.0632	2,651
1310-00043	Liechtenstein	0.010	0.0102	1,000
1310-00044	Lithuania	0.031	0.0316	1,326
1310-00045	Luxembourg	0.085	0.0867	3,635
1310-00111	Madagascar	0.002	0.0020	1,000
1310-00097	Malawi	0.001	0.0010	1,000
1310-00085	Malaysia	0.190	0.1938	8,125
1310-00046	Mali	0.001	0.0010	1,000
1310-00047	Malta	0.017	0.0173	1,000
1310-00138	Marshall Islands	0.001	0.0010	1,000

2009: Based on 4% Growth		UN %	Ramsar %	2009 Contribution (CHF)
1310-00049	Mauritania	0.001	0.0010	1,000
1310-00127	Mauritius	0.011	0.0112	1,000
1310-00050	Mexico	2.257	2.3019	96,513
1310-00121	Moldova	0.001	0.0010	1,000
1310-00104	Monaco	0.003	0.0031	1,000
1310-00106	Mongolia	0.001	0.0010	1,000
1310-00154	Montenegro	0.001	0.0010	1,000
1310-00048	Morocco	0.042	0.0428	1,796
1310-00140	Mozambique	0.001	0.0010	1,000
1310-00142	Myanmar	0.005	0.0051	1,000
1310-00090	Namibia	0.006	0.0061	1,000
1310-00051	Nepal	0.003	0.0031	1,000
1310-00052	Netherlands	1.873	1.9103	80,093
1310-00053	New Zealand	0.256	0.2611	10,947
1310-00101	Nicaragua	0.002	0.0020	1,000
1310-00054	Niger	0.001	0.0010	1,000
1310-00122	Nigeria	0.048	0.0490	2,053
1310-00055	Norway	0.782	0.7976	33,440
1310-00057	Pakistan	0.059	0.0602	2,523
1310-00134	Palau	0.001	0.0010	1,000
1310-00056	Panama	0.023	0.0235	1,000
1310-00058	Papua New Guinea	0.002	0.0020	1,000
1310-00089	Paraguay	0.005	0.0051	1,000
1310-00059	Peru	0.078	0.0796	3,335
1310-00060	Philippines	0.078	0.0796	3,335
1310-00061	Poland	0.501	0.5110	21,424
1310-00062	Portugal	0.527	0.5375	22,535
1310-00063	Romania	0.070	0.0714	2,993
1310-00064	Russian Federation	1.200	1.2239	51,314
1310-00147	Rwanda	0.001	0.0010	1,000
1310-00130	Saint Lucia	0.001	0.0010	1,000
1310-00141	Samoa	0.001	0.0010	1,000
1310-00152	Sao Tome and Principe	0.001	0.0010	1,000
1310-00065	Senegal	0.004	0.0041	1,000
1310-00081	Serbia	0.021	0.0214	1,000
1310-00143	Seychelles	0.002	0.0020	1,000
1310-00117	Sierra Leone	0.001	0.0010	1,000
1310-00066	Slovak Republic	0.063	0.0643	2,694
1310-00067	Slovenia	0.096	0.0979	4,105
1310-00068	South Africa	0.290	0.2958	12,401
1310-00021	Spain	2.968	3.0271	126,917
1310-00069	Sri Lanka	0.016	0.0163	1,000
1310-00144	Sudan	0.010	0.0102	1,000
1310-00070	Suriname	0.001	0.0010	1,000
1310-00071	Sweden	1.071	1.0923	45,798
1310-00083	Switzerland	1.216	1.2402	51,998
1310-00107	Syrian Arab Republic	0.016	0.0163	1,000

2009: Based on 4% Growth		UN %	Ramsar %	2009 Contribution (CHF)
1310-00126	Tajikistan	0.001	0.0010	1,000
1310-00120	Tanzania, United Republic of	0.006	0.0061	1,000
1310-00108	Thailand	0.186	0.1897	7,954
1310-00086	The FYR of Macedonia	0.005	0.0051	1,000
1310-00088	Togo	0.001	0.0010	1,000
1310-00073	Trinidad and Tobago	0.027	0.0275	1,155
1310-00074	Tunisia	0.031	0.0316	1,326
1310-00075	Turkey	0.381	0.3886	16,292
1310-00076	Uganda	0.003	0.0031	1,000
1310-00095	Ukraine	0.045	0.0459	1,924
1310-00155	United Arab Emirates	0.302	0.3080	12,914
1310-00077	United Kingdom	6.642	6.7742	284,023
1310-00078	Uruguay	0.027	0.0275	1,155
1310-00129	Uzbekistan	0.008	0.0082	1,000
1310-00079	Venezuela	0.200	0.2040	8,552
1310-00080	Viet Nam	0.024	0.0245	1,026
1310-00157	Yemen	0.007	0.0071	1,000
1310-00082	Zambia	0.001	0.0010	1,000
		76.478	78.000	3,336,604
Other contributions				
1310-21371-0001	United States of America	22.000	22.0000	941,094
TOTALS		76.478	78.000	4,277,698

N.B. Other income
(interest, Tax rebate)
to be estimated

Annex III

Job Description – Partnership Coordinator

Rationale

1. The establishment of a senior post of “Partnership Coordinator” is intended to further develop and maintain the increasingly necessary work on partnerships and synergy with other relevant processes and organizations including, *inter alia*, other multilateral environmental agreements and United Nations agencies and organizations. It also coordinates the involvement of the non-governmental sector, especially the Convention’s International Organization Partners (IOPs), and the private sector and governmental donor community.

Role and responsibilities of the Partnership Coordinator

2. Under the supervision of the Secretary General, and in consultation with the Deputy Secretary General and the other Ramsar senior staff members, the Partnership Coordinator will:

Tier one priorities

- 1) Seek to expand the funding base for priority Ramsar initiatives:
 - a) Regional Initiatives;
 - b) Small Grants Fund;
 - c) Small Grants Portfolio;

Tier 2 priorities

- 2) Engage potential partner organizations working on wetland and water issues and involve them in the work of the Convention;
- 3) Provide strategic/operational advice to Parties regarding funding and support Ramsar Administrative Authorities in project proposal drafting;
- 4) Secure new funding to reach agreed targets;

Tier 3 priorities

- 5) Develop a strategy on partnerships and a process to continuously evaluate and improve their performance;
- 6) Act as UN focal point.

Implementation strategy

3. This position will initially be filled via a contract for part-time services/full-time contract for a number of months. As greater funds become available this contract can be expanded

to be full time. Depending on outcomes of other Resolutions and the contracting process, consideration will be given to making this a permanent position.

4. The initial focus of this position will be on Tier one priorities. As additional time becomes available the priorities of Tier 2 and 3 will be added in that order.

Requirements

5. This is a senior post requiring significant experience (approximately 10 years) and demonstrable success at raising funds and developing successful relationships with various organizations, including donors, the private sector, non-governmental organizations (NGOs), Multilateral Environmental Agreements (MEAs), governments, and the United Nations system.
6. The officer should have substantial experience (approximately five years) in preparation of proposals. He/she should have excellent communication skills and experience, with a wide range of stakeholders. Full fluency in English, with high-quality writing and reporting skills, is required. A working knowledge of French and/or Spanish would be advantageous.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.3

The Changwon Declaration on human well-being and wetlands

1. CONCERNED that as reported by the Millennium Ecosystem Assessment (MA) the many pressures from land use change and over-use of water, exacerbated by a warming and increasingly variable climate, mean that wetlands continue to be lost and degraded in many parts of the world and at rates faster than other ecosystems, and that this is jeopardising the future provision of their services and thus the foundation they provide for human well-being;
2. AWARE of the many efforts by Ramsar Contracting Parties and others at local, national and international levels to address this situation in recognition of the vital contribution of wetlands to human well-being, livelihoods and human health, as well as to biodiversity, that can be delivered through maintaining and restoring their ecological character, but RECOGNIZING that these efforts need to be redoubled if present declines are to be halted or reversed and if the 2010 biodiversity target and the 2015 Millennium Development Goals environment targets are to be achieved;
3. AWARE that the theme of this Conference is “Healthy wetlands, healthy people”;
4. WELCOMING the message of the Secretary General of the United Nations, delivered to this Conference on 28 October 2008, and NOTING the emphasis in that message on the vital link between wetlands, livelihoods, and the well-being of people around the world, as well as the importance of the Ramsar Convention in providing the guidance and mechanisms for underpinning this vital link and the valuable contribution that wetland ecosystem services can make to achieving the Millennium Development Goals;
5. RECOGNIZING the urgent need for governments, international organizations, the private sector and civil society to understand more fully the roles they can and should play in securing the future health of wetlands and the maintenance of their ecological character, in relation to the global commitments made under the Ramsar Convention, and the need to develop more effective cross-sectoral action to secure this;
6. EMPHASISING the importance of collaboration and partnerships between governments and local communities for the conservation and wise use of wetlands, and HIGHLIGHTING the shared responsibility of both governments and local communities in the implementation of the Ramsar Convention;

7. INFORMED that the primary purpose of the “Changwon Declaration” is to transmit key messages concerning wetland-related issues to the many stakeholders and decision-makers beyond the Ramsar community who are relevant to the conservation and wise use of wetlands, to inform their actions and decision-making;
8. NOTING that the Declaration is designed to complement the Ramsar Strategic Plan 2009-2015, which provides the Convention and its bodies with their own future approach and priorities for implementation, and that a number of objectives in the Strategic Plan could be effectively progressed through implementation of the Changwon Declaration;
9. THANKING the government of the Republic of Korea for its initiative in preparing a “Changwon Declaration” to provide an overarching agenda for future action on wetlands for the people of the world, and for its support for the process of drafting this Declaration; and
10. RECOGNIZING that the “Changwon Declaration” has been prepared through a collaborative process drawing on the expertise of the Scientific and Technical Review Panel (STRP), the International Organization Partners (IOPs), the government of Korea as the COP10 host country, and the Ramsar Secretariat; and THANKING the government of Korea for its declared intention to champion the dissemination and uptake of this Declaration in future;

THE CONFERENCE OF THE CONTRACTING PARTIES

11. WELCOMES the “Changwon Declaration on human well-being and wetlands” annexed to this Resolution;
12. STRONGLY URGES Contracting Parties and other governments to bring the “Changwon Declaration” to the attention of their heads of state, parliaments, private sector, and civil society, and to encourage them and all government sectors (including *inter alia* water management, human health, climate change, poverty reduction, and spatial planning sectors) and agencies responsible for activities affecting wetlands, especially in order to respond to the call for action for wetlands embodied in the Declaration;
13. ALSO STRONGLY URGES Contracting Parties and other governments to utilise the “Changwon Declaration” to inform their national policies and decision-making, including in the positions of their national delegations to other external processes, and through specific opportunities at local, national and international levels where the Ramsar Convention and other processes have good potential for mutual assistance and collaboration, including *inter alia* the UN Commission on Sustainable Development, UN agencies, multilateral environmental agreements, and the World Water Forum, and REQUESTS the Secretariat to prepare advice on relevant action opportunities in support of this;
14. FURTHER STRONGLY URGES the Standing Committee, the STRP, the Ramsar Secretariat, CEPA National Focal Points, regional initiatives operating under the framework of the Convention, the International Organization Partners (IOPs) and others to utilise the “Changwon Declaration” in their future work and establishment of priorities, and also to use their own means and all other relevant opportunities actively to promote the Declaration;

15. ENCOURAGES other organizations, bodies, institutions, and initiatives whose activities are relevant to wetland conservation and wise use to promote to their constituencies the messages in the Changwon Declaration;
16. ENCOURAGES Contracting Parties and others to find the resources to translate the “Changwon Declaration” into local languages and to facilitate its dissemination and understanding as widely as possible;
17. INSTRUCTS the Ramsar Secretariat and Standing Committee to consider development and inclusion of indicators in the National Report Format for COP11, where feasible, concerning the dissemination and uptake of the “Changwon Declaration” and to report on this to Contracting Parties and others, noting that in some cases, indicators related to the Strategic Plan may also be relevant as indicators for the Changwon Declaration;
18. REQUESTS the Standing Committee, the STRP, CEPA National Focal Points, regional initiatives operating under the framework of the Convention, the International Organization Partners (IOPs), and other interested parties to advise the Secretariat on their experiences of the uptake of the Declaration in order to inform the 11th meeting of the Conference of the Contracting Parties; and
19. INSTRUCTS the Ramsar Secretariat to consolidate, as necessary, into this Resolution any text language adopted by this Conference of Parties, so as to achieve consistency of terminologies.

ANNEX

The Changwon Declaration on human well-being and wetlands

WHY SHOULD YOU READ AND USE THIS DECLARATION?

Wetlands provide food, store carbon, regulate the water flows, store energy, and are crucial for biodiversity. Their benefits to people are essential for the future security of humankind. Conservation and the wise use of wetlands are vital for people, especially the poor.

Human well-being depends on many benefits provided to people by ecosystems, some of which come from healthy wetlands. Policymaking, planning, decision-making and management action by a wide range of sectors, at all levels from international to local, can benefit from the global consensus input that the Ramsar Convention provides. This includes the identification of the relevance of wetlands, the importance of their conservation and wise use, and ensuring security of the benefits that wetlands provide in terms of water, carbon storage, food, energy, biodiversity and livelihoods. It also includes technical know-how, guidance, models and support networks to help in putting this knowledge to practical use.

The Changwon Declaration presents an overview of priority action steps that together show “how to” deliver some of the world’s most critical environmental sustainability goals.

The Changwon Declaration is a statement and call to action from the 10th meeting of the Conference of Contracting Parties to the Ramsar Convention on Wetlands, which was held in Changwon, Republic of Korea, from 28 October to 4 November 2008

The Changwon Declaration is relevant to all of us, everywhere, who are concerned with the future of our environment.

If you are a planner, policymaker, decision-maker, elected representative or manager in any environmental, land or resource-use sector, or working in the fields of education and communication, human health, economics or livelihoods, then this Declaration is directed to you. Your actions influence the future of wetlands.

Where does this Declaration come from?

The Ramsar Convention on Wetlands is the global intergovernmental agreement concerned with the conservation and wise use of all the world’s wetlands. It was established in the city of Ramsar in the Islamic Republic of Iran on 2 February 1971.

The mission of the Convention on Wetlands (Ramsar, Iran, 1971)¹ is:

“the conservation and wise use² of all wetlands³ through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world”.

As the Ramsar Convention approaches four decades of existence, it continues to grow and to focus its agenda on the critical priorities for the environment at global, national and local levels. The Conference of the Convention’s Contracting Parties held its 10th meeting in Changwon, Republic of Korea, from 28 October to 4 November 2008, on the theme of “Healthy wetlands, healthy people”⁴, focusing on the link between human well-being and the functions of wetlands and the identification of positive actions in this regard.

Who should use this Declaration?

The Conference addresses this Declaration to all stakeholders in environmental governance and management, particularly those in positions of leadership, both in relevant fora at global level, including heads of government, and equally in “hands-on” delivery at local and river basin levels.

Why is it not “just another Declaration”?

Declarations have been issued from many international environmental conferences. The Changwon Declaration aims not to cover “standard” ground, but to add value by:

- being directed primarily to audiences beyond the Ramsar Convention itself, and to opportunities for action;
- offering positive, practical action steps; and
- defining the ways in which the Declaration’s impact will be assured.

What is in this Declaration?

The Declaration highlights positive actions for ensuring human well-being and security outcomes in the future under five priority thematic headings below, followed by two key areas of cross-cutting delivery mechanisms.

What does this mean in practice?

Water and wetlands

The degradation and loss of wetlands is more rapid than that of other ecosystems, and this trend is accelerating, due to major changes in land use, water diversions, and infrastructure development. Access to freshwater is declining for 1-2 billion people worldwide, and this in turn negatively affects food production, human health, and economic development, and it can increase societal conflict.

There is an urgent need to improve water governance. Instead of being demand-driven, which promotes over-allocation of water, water governance should treat wetlands as our “*natural*

water infrastructure”, integral to water resource management at the scale of river basins.

Continuing with “business as usual” is not an option.

Our increasing demand for, and over-use of, water jeopardizes human well-being and the environment. Access to safe water, human health, food production, economic development and geopolitical stability are made less secure by the degradation of wetlands driven by the rapidly widening gap between water demand and supply.

There is often not enough water to meet our direct human needs and to maintain the wetlands we need. Even with current attempts to maintain water flows for ecosystems, the capacity of wetlands to continue to deliver benefits to people and biodiversity, including clean and reliable water supplies, is declining. Actions to support water allocation to ecosystems, such as environmental flows, placing upper limits on water allocations (water ‘caps’), and new water management legislation, must be strengthened.

To close this “water gap”, we need to:

- **use our available water more efficiently;**
- **stop our wetlands from becoming degraded or lost** – based on clearly recognizing that we all depend on healthy wetlands for our water security, and that wetland services are currently being lost at a faster rate than in any other ecosystem;
- **restore our wetlands that are already degraded** – this offers us an efficient and cost-effective means of increasing ground and surface water storage, improving water quality, sustaining agriculture and fisheries, and protecting biodiversity.
- **wisely manage and protect our wetlands** – by always ensuring that they have enough water for them to continue to be the source of the quantity and quality of the water we need for food production, drinking water and sanitation. Failure to do so makes our water problems worse, **since wetlands are the only source of water to which we have easy access.**

Climate change and wetlands

Many types of wetlands play an important role in sequestering and storing carbon. They are particularly vulnerable to climate change impacts, while human disturbances of the same wetland systems can cause huge carbon emissions.

Wetlands are vital parts of the natural infrastructure we need for addressing climate change. Degradation and loss of wetlands make climate change worse and leave people more vulnerable to climate change impacts such as floods, droughts and famine. Many climate change policy responses for more water storage and transfers, as well as energy generation, if poorly implemented, may deleteriously impact on wetlands.

Climate change is increasing uncertainty in water management and making it more difficult to close the gap between water demand and supply. We will increasingly feel the effects of climate change most directly through changes in the distribution and availability of water, increasing pressures on the health of wetlands. Restoring wetlands and maintaining hydrological cycles is of utmost importance in responses for addressing climate change, flood mitigation, water supply, food provision and biodiversity conservation.

Coastal wetlands will play a major part in strategies established to deal with problems in coastal areas created by sea level rise.

Governments need to include water and wetland management in effective strategies for addressing climate change at national level. Decision-makers need to recognize the natural infrastructure of wetlands as a major asset in combating and adapting to climate change.

Water and well-functioning wetlands play a key role in responding to climate change and in regulating natural climatic processes (through the water cycle, maintenance of biodiversity, reduced greenhouse gas emissions, and buffering of impacts). Conservation and wise use of wetlands help to reduce the negative economic, social and ecological effects that may result.

Developing opportunities should be seized for collaboration among international technical bodies involved in climate change (e.g., the Intergovernmental Panel on Climate Change, the Ramsar Scientific and Technical Review Panel), **to share understanding and harmonise analyses**, especially in relation to wetlands/water/climate linkages.

People's livelihoods and wetlands

When policies in different sectors are not harmonised, many major developments and infrastructure schemes aimed at poverty reduction can actually lead to the degradation of wetlands, thus undermining their ability to provide vital services for local communities and ultimately leading to further and deepening poverty.

Action is needed to maintain the benefits provided by wetlands for economic development and the livelihoods of people, especially the poor. Investment in maintenance of the services provided by wetlands should be integral to Poverty Reduction Strategy Papers and related policies and plans.

Wise use, management and restoration of wetlands should help to build opportunities for improving people's livelihoods, particularly for wetland-dependent, marginalised and vulnerable people. Wetland degradation affects livelihoods and exacerbates poverty, particularly in marginalised and vulnerable sections of society.

Wetland/livelihoods linkages need to be better analysed and documented. Capacity and partnerships should be promoted at multiple levels to support learning, collecting and sharing knowledge about these linkages.

Sustainable wetland management should be supported by indigenous and traditional knowledge, recognition of cultural identities associated with wetlands, stewardship promoted by economic incentives, and diversification of the support base for livelihoods.

People's health and wetlands

Wetlands are important for the health benefits they provide, and also as places that people can visit for education, recreation, ecotourism, spiritual and cultural experiences, or simply to enjoy their natural beauty.

Interrelationships between wetland ecosystems and human health should be a key component of national and international policies, plans and strategies.

Development sectors, including mining, other extractive industries, infrastructure development, water and sanitation, energy, agriculture, transport and others can have direct or indirect effects on wetlands. These lead to negative impacts on wetland ecosystem services, including those that support human health and well-being. Managers and decision-makers in such development sectors need to be more aware of this and take all possible measures to avoid these negative impacts.

The health and wetland sectors need to co-manage the links between wetland ecological character⁵ and human health. Wetland and water managers must identify and implement interventions that benefit both wetland ecosystem “health” and human health.

It is already clear that many of the continuing pressures on wetlands that are driving trends in human health are rooted in issues of water, as for example waterborne transmission of diseases and vectors and/or dwindling supplies of water of suitable quality for food production, sanitation, and drinking water.

Land use change, biodiversity and wetlands

Better knowledge and understanding of the costs and benefits of changes to wetland ecosystems lead to better decision-making. Decisions on land use change must integrate adequate knowledge of the range of benefits, and their values, that wetlands provide for people and biodiversity.

Decision-making should, wherever possible, give priority to safeguarding naturally-functioning wetlands and the benefits they provide, especially through ensuring the sustainability of ecosystem services, while recognizing that human-made wetland systems can also make a significant contribution to water and food security objectives.

More actions are required to address the root causes of the loss of biodiversity and to reverse these losses by reference to agreed recovery targets, including targets to be adopted in the follow-up to the “2010 target”⁶ concerning significant reduction in the rate of decline of biodiversity.

What types of cross-cutting mechanisms are most helpful in delivering all this?

Planning, decision-making, finance and economics

Policy development and decision-making in response to each of the issues addressed in this Declaration very often require tradeoffs across policy objectives from multiple sectors. Sound decision-making depends upon wise balancing of legitimate objectives that are interconnected, even if full and detailed information is not available.

Good use of rapid and practical decision-support tools (such as rapid assessment, conflict resolution, mediation, decision-trees, and cost-benefit analysis) can often be of critical assistance in identifying issues and policy options.

Full recognition should be given to the significance of wetlands in spatial planning, especially Wetlands of International Importance (Ramsar sites⁷), so that the values they represent can properly inform land-use and investment priority-setting and the adoption of necessary safeguards.

Cost-benefit analyses should be sufficiently comprehensive to best reflect the economic value of wetlands, as well as the reality that investing in the maintenance of wetland ecological character is usually a much more cost-effective strategy than later remediation for the loss of wetland services.

Adequate and sustainable financing for wetland conservation and wise use is essential, and this can be helped by the use of innovative financial instruments and partnerships between those sectors and stakeholders outside the Ramsar Convention who might not have worked together on wetland issues in the past. Especially when resources are limited, activities relevant to wetland conservation and wise use should seek to maximise the efficiency of use of currently available resources.

Sharing knowledge and experience

Basic information on the global extent and characterisation of wetlands urgently needs to be enhanced. There are increasing opportunities to make good use of evolving earth observation techniques and other information technologies.

Organizations with shared interests in data and information and knowledge (including indigenous and traditional knowledge) relevant to the issues covered in this Declaration should intensify efforts to seek common, harmonised and accessible approaches, so that knowledge and experience (for example, concerning good practices) can be shared more effectively, including through appropriate information technology applications.

Your call to action

Each and every one of us has a stake in the outcomes that are supported by this Declaration.

Many groups around the world are already working towards the wise use of wetlands in just the way this Declaration calls for. There are valuable experiences and knowledge to be shared that can help us all to make real, tangible progress. Reach out, get connected, get wet!

Ensuring impact

Measures of the success of this Declaration will include:

- its existence becoming widely known, reported, translated and remembered;
- its messages being taken up in planning and decision-making in local and river basin level governance/management processes;

- its relevant elements being incorporated into national-level plans, decisions and action programmes;
- its elements being incorporated into international policy statements, decisions and action programmes, including through briefings for government delegations to relevant international meetings.

Notes:

¹The **Ramsar Convention on Wetlands** is the lead intergovernmental authority on wetlands and strives to ensure that the contributions wetlands make to all aspects of human well-being are recognized and strengthened in all sectors and at all levels of society.

²“**Wise use**” of wetlands has been defined under the Convention as “the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development”. (The phrase “in the context of sustainable development” is intended to recognize that whilst some wetland development is inevitable and that many developments bring important benefits to society, developments can be facilitated in sustainable ways by approaches elaborated under the Convention, and it is not appropriate to imply that ‘development’ is an objective for every wetland.)

³“**Wetlands**” encompass a broader range of ecosystems than is often realised. Article 1.1 of the Ramsar Convention defines them as “areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres”.

⁴ In recent years, Ramsar **Conferences of the Contracting Parties (COPs)** have been given **themed titles** to reflect priority issues of the moment in the Convention’s evolution. Previous themes have emphasised different aspects of the links between wetlands and people, and the theme for COP10, “Healthy wetlands, healthy people”, positions the Convention in relation to an emerging understanding about the critical links between wetlands and human health and sets the context for the adoption of new decisions in this area.

⁵ The “**ecological character**” of wetlands is a key concept of the Ramsar Convention, defined as “the combination of the ecosystem components, processes and benefits/services that characterise the wetland at a given point in time”. (Within this context, ecosystem benefits are defined in accordance with the Millennium Ecosystem Assessment definition of ecosystem services as “the benefits that people receive from ecosystems”).

⁶ The “**2010 Biodiversity target**”, adopted by the Convention on Biological Diversity (CBD) and by Heads of State at the 2002 United Nations World Summit on Sustainable Development (WSSD), is “to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth.”

⁷ “**Ramsar sites**” (Wetlands of International Importance) are recognized and designated by the governments of the world that are Contracting Parties to the Ramsar Convention. They form the largest global network of “protected areas”, currently (as of November 2008) covering over 168 million hectares in over 1,822 sites.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.4

**Establishing a Transition Committee of the Management Working
Group**

1. RECALLING that the Conference of the Contracting Parties (COP), in Resolution IX.24 (2005), established the Management Working Group (MWG) within the Standing Committee to review the various management structures and systems in place within the Convention, and that the MWG is composed of the Chairs and Vice Chairs of the previous and the present Standing Committee, the Chairs of the previous and present Standing Committee Subgroup on Finance and the Scientific and Technical Review Panel (STRP), the Secretary General *ex officio*, and any other interested Parties;
2. RECOGNIZING that the Management Working Group has proved to be a valuable instrument for guiding the working relationships between the Standing Committee and the Secretariat, both intersessionally and in association with Standing Committee meetings, and DESIROUS that the MWG should continue to perform that role into the future;
3. EXPRESSING APPRECIATION for the work of the MWG members who have participated in that ongoing review of management structures and in the judicious oversight of Secretariat matters within the Convention; and
4. AWARE of the importance of inherited knowledge in ensuring a smooth transition at the beginning of each triennium from one Standing Committee to the newly-elected one following each meeting of the Conference of the Contracting Parties, and CONCERNED to find a low-cost mechanism to ensure the transfer of such knowledge and experience;

THE CONFERENCE OF THE CONTRACTING PARTIES

5. REAFFIRMS the establishment of the Management Working Group into the future and ADOPTS the revised text in the annex to this Resolution for the operative paragraphs of Resolution IX.24, in order to remove time-limited language from that Resolution;
6. ESTABLISHES a Transition Committee of the MWG to meet just prior to the first full business meeting of the new Standing Committee following each COP, with an agreed agenda and for the purpose of allowing the outgoing SC officers to brief the incoming officers on customary practices and outstanding issues;

7. AGREES that the Transition Committee shall be composed of the outgoing and the newly-elected Chairs and Vice Chairs of the Standing Committee and Chairs of the Subgroup on Finance, with the Secretary General and Deputy Secretary General *ex officio*, and that it will be chaired by the incoming Chair of the SC; and
8. URGES the members of the Transition Committee to ensure that any financial implications that may be associated with this briefing session will be as low as possible.

Annex

Revised text of Resolution IX.24 (2005)

The Conference of the Contracting Parties instructs the Secretariat to amend the operative paragraphs of Resolution IX.24 by substituting the following text.

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7. ESTABLISHES a Management Working Group to examine and review the various management structures and systems in place within the Convention and to report back to each meeting of the Conference of the Parties with their recommendations on:
 - a) improving the existing terms of reference and/or operating procedures of the Standing Committee, the Subgroup on Finance, the Scientific and Technical Review Panel, Regional Meetings, and the Secretariat;
 - b) establishing any new management structures the Working Group concludes may be needed; and
 - c) strengthening linkages between the Contracting Parties and the International Organization Partners;
8. DETERMINES that the Management Working Group comprises:
 - a) the Chair and Vice Chair of the Standing Committee of the previous triennium;
 - b) the Chair and Vice Chair of the Standing Committee established for the forthcoming triennium;
 - c) the Chairs of the Subgroup on Finance of the previous and forthcoming Standing Committees;
 - d) the Chairs of the Scientific and Technical Review Panel in the previous and forthcoming triennia;
 - e) any other interested Contracting Parties, keeping in mind the desirability of equitable regional participation;
 - f) a representative of the International Organization Partners (IOPs);
 - g) the Secretary General *ex officio*; and
 - h) an appropriate expert on organizational review, as needed, to be determined by the Working Group, subject to there being no implications for the Convention's budget; and

9. INSTRUCTS the Management Working Group to report regularly to the Standing Committee on progress made and to report its findings to each meeting of the COP.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.5

Facilitating the work of the Ramsar Convention and its Secretariat

1. CONFIRMING that the Ramsar Convention on Wetlands is an international treaty deposited with the United Nations and that activities mandated by its Conference of Parties for the implementation of the Convention are activities carried out under the legal authority of an international treaty and its Contracting Parties;
2. NOTING that the Conference of Parties wishes to implement efficient and effective measures to improve the capacity and operation of the Secretariat to support and facilitate the implementation of the Convention and serve the interests of the Contracting Parties, and that it has instructed the Secretary General in Resolution IX.10 (2005) “to engage in a consultative process with appropriate bodies such as IUCN and UNESCO, as well as the government of the host country and other interested organizations and governments, regarding the options, as well as legal and practical implications, for the transformation of the status of the Ramsar Secretariat towards an International Organization or other status whilst still recognizing and maintaining its links with IUCN and the host country”;
3. EXPRESSING appreciation of the key role played by IUCN in the negotiation and conclusion of the Convention and the continuing support it has provided as the organization designated by Article 8 of the Convention to carry out its secretariat functions until such time as another organization or government is appointed by a majority of two-thirds of all Contracting Parties;
4. ALSO EXPRESSING appreciation to the United Nations Environment Programme (UNEP) for its willingness to engage with the Secretariat and the Contracting Parties and to review the possibility of providing the Ramsar Secretariat;
5. TAKING NOTE with appreciation of the significant work that has been carried out on this matter by the Standing Committee from the 34th to 38th sessions as well as by the Secretariat, which has presented informative reports to COP10 contained in documents COP10 DOC. 20, COP10 DOC. 20 Add.1, and COP10 DOC. 35;
6. RECOGNIZING the urgent need to successfully conclude the consultative process that Resolution IX.10 (2005) instructed the Secretary General to carry out and that a decision on this issue bears no undue delay and should be taken at the latest by the 11th meeting of the Conference of the Parties; and

7. WISHING to facilitate the current and future work of the Ramsar Secretariat without further delay;

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8. CALLS UPON the Secretary-General of the Convention, the Director-General of the IUCN, and the government of Switzerland to continue to work together to resolve the challenges identified in SC DOC 37-2 and other related documents, and any other impediments that the Secretariat faces in carrying out its functions;
9. ASKS the Executive Director of UNEP to use his good offices to facilitate, where possible, the participation of the Ramsar Secretariat staff and other persons who have formal roles under the Ramsar Convention as representatives of an international treaty, at meetings of the governing bodies and secretariats of UNEP and of multilateral environment agreements to which UNEP provides secretariats, when they relate to subject matters within the competence of the Ramsar Convention;
10. REQUESTS that, where necessary, the Secretariat seek the assistance of the Contracting Parties in a timely manner to:
 - a) take appropriate action in intergovernmental processes and organizations of which they are members to secure the participation of Ramsar Secretariat staff and other persons who have formal roles under the Ramsar Convention, designated appropriately as representatives of an international treaty;
 - b) facilitate the work of the Secretariat in their respective countries by expeditiously arranging for the issue of visas and other required support and assistance;
11. CALLS UPON the Contracting Parties to cooperate, as appropriate, with the Secretariat on activities in the area of competence of the Ramsar Convention which are carried out in their respective countries, including those that are carried out in collaboration with intergovernmental organizations, that could advance the objectives and purposes of the Convention;
12. ESTABLISHES an open-ended Ad Hoc Working Group, reporting to the Standing Committee, in accordance with the terms of reference attached in the Annex. The Working Group will evaluate the success of steps already taken and recommend additional ways of improving the current operations of the Secretariat and determine whether the Secretariat should be provided by UNEP. The Standing Committee may authorize the Working Group to consider the alternative possibility of the Secretariat becoming an independent international organization, should this course be recommended by the Working Group on completion of its primary tasks;
13. DIRECTS the Standing Committee to:
 - a) authorize the Secretariat to implement any recommendations of the Ad Hoc Working Group with which the Standing Committee agrees and which can be given effect without a decision of the Conference of Parties, and
 - b) report to the next Conference of Parties its recommendations on the conclusions of the Ad Hoc Working Group which require a decision by the Conference of Parties.

Annex

Ad Hoc Working Group on Administrative Reform: Terms of Reference

Objective

To recommend efficient and effective measures to improve the capacity and operation of the Secretariat to support and facilitate the implementation of the Convention and serve the interests of the Contracting Parties.

Work Required

- 1) Recommend to the Standing Committee immediate actions that may be taken to improve the effectiveness of the Convention, including assessing their costs. These actions should address any issue the Working Group considers relevant for this purpose, including the issues identified in SC DOC. 37-2 (page 3).
- 2) Evaluate the success of steps already taken to improve the operations of the Secretariat, review the progress made under Work Required Number 1, and recommend to the Standing Committee other possible actions that could be taken by the Secretariat to further improve its operations.
- 3) Recommend through approval by the Standing Committee to Contracting Parties and the Conference of the Parties whether the Secretariat should be provided by UNEP or continue to be hosted by IUCN, with the following issues fully addressed:
 - a) The reasons for and benefits of a change in the status quo for the Secretariat and for Contracting Parties
 - b) The costs and consequences for the operation of the Secretariat and its engagement with the Contracting Parties, including
 - i) staffing costs and composition of the Secretariat under the UN system, including any resources that will be provided by UNEP
 - ii) options for possible location of the Secretariat
 - iii) implications for any future budget of the Secretariat, including any transition costs
 - iv) role of the International Organization Partners (IOPs)
 - v) advantages and disadvantages of the institutional context in which the Secretariat would operate
 - c) How this should be implemented, legally and administratively
 - d) Ability to meet the future needs of the Convention
 - e) Opportunities to further improve the implementation of the Convention
 - f) Timeframe for the implementation of any reforms.

Work-plan

At its first meeting, the working group shall develop a detailed work-plan. Following the completion of its report on *Work Required 1* above, the Standing Committee may make

amendments to the content and timeframe for the reports on *Work Required 2* and *Work Required 3* above.

Timeframe

The Working Group should hold its first meeting within three months of the 10th meeting of the Conference of the Parties. The Working Group should report on *Work Required 1* above within six months of its first meeting. If the Working Group considers that any measures may be implemented more quickly than this, it may make an interim report to the Standing Committee.

The Working Group should report on *Work Required 2* and *Work Required 3* above within twelve months of its first meeting.

The Standing Committee may request the Working Group to provide updates of its reports prior to the 11th meeting of the Conference of the Parties.

Composition

The Working Group will comprise at least two members from each Ramsar region. The members shall appoint a chairperson or co-chairs. Members of the Working Group should facilitate sharing of information about the work of the Working Group within their region. The Secretariat should also place any agenda papers and documents agreed by the Working Group on the Secretariat Web site. As meetings will take place in Gland, encouragement is given to participation by Geneva-based representatives of the Contracting Parties to assist in minimizing costs to the Parties.

The Working Group may invite attendance by IUCN and other IOPs, UNEP, and other organizations relevant to the fulfillment of its mandate.

Funding

Members of the Working Group should meet their own costs. The Secretariat should seek extra budgetary contributions from Parties and other interested bodies to assist in meeting any other costs incurred in servicing the Working Group, such as the engagement of a facilitator if the Working Group considers this necessary to progress its work in a timely manner.



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“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.6

**Regional initiatives 2009-2012 in the framework of the Ramsar
Convention**

1. RECALLING that regional initiatives under the Ramsar Convention are intended as operational means to provide effective support for an improved implementation of the objectives of the Convention and its Strategic Plan in specific geographical regions, through international cooperation on wetland-related issues of common concern;
2. ALSO RECALLING that the *Guidelines for international cooperation under the Ramsar Convention* (Resolution VII.19, 1999) provide the appropriate framework for promoting international collaboration amongst Contracting Parties and other partners;
3. ALSO RECALLING that in Resolution VIII.30 (2002) the Contracting Parties recognized the importance of regional initiatives in promoting the objectives of the Convention and established *Guidelines for the development of regional initiatives in the framework of the Convention on Wetlands*;
4. FURTHER RECALLING that Resolution IX.7 (2005) endorsed a number of regional initiatives as operating within the framework of the Convention in 2006-2008 and recognized the potential of a number of other initiatives to become operational within the framework of the Convention;
5. NOTING the substantial progress that many of these initiatives have made during the years 2006-2008 as regularly reported and assessed by Standing Committee;
6. FURTHER NOTING that a number of new proposals were submitted to Standing Committee prior to this meeting of the Conference of the Contracting Parties; and
7. TAKING INTO ACCOUNT the experience gained through the first operational years of these initiatives and the conclusions derived from the assessment by Standing Committee with a strategic view for the future development of regional initiatives;

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8. ADOPTS the annexed Operational Guidelines for regional initiatives to support the implementation of the Convention, which shall serve as a reference to assess the operation of regional initiatives and their success – the Operational Guidelines are based upon, and

they replace, the guidance for the development of proposals for regional initiatives adopted by COP8 (Annex I to Resolution VIII.30), without prejudice to Regional Initiatives already approved or announced by Contracting Parties in previous COPs;

9. AUTHORIZES the Standing Committee to examine and approve, between meetings of the Conference of the Contracting Parties, new initiatives selected from those which fully meet the Operational Guidelines listed in the annex to this Resolution as operating within the framework of the Convention. Such new approved initiatives should be reported to the following COP;
10. AGREES to earmark a global amount of financial support in the Convention core budget line "Support to Regional Initiatives", as listed in Resolution X.2 on financial and budgetary matters, to be allocated to regional initiatives during the period 2009-2012, elements of which are either regional centres for training and capacity-building or regional networks for cooperation and capacity-building, or both, provided that they fully meet the Operational Guidelines;
11. DECIDES that the levels of financial support to individual initiatives for the years 2009, 2010, 2011 and 2012 through this budget line will be determined by the Standing Committee during its annual meetings at the beginning of these years, based upon updated financial and work plans to be submitted in the required format and in good time prior to the annual meetings, and following the specific recommendations made by the Subgroup on Finance;
12. INSTRUCTS all initiatives under the present Resolution, and particularly those funded from the core budget, to submit to the Standing Committee annual reports on progress and operations of the initiatives concerned, and specifically on their success in fulfilling the Operational Guidelines;
13. ENCOURAGES Contracting Parties, intergovernmental agencies, International Organization Partners, national NGOs and other potential donors to support such regional initiatives seeking financial assistance from the Ramsar Convention with additional voluntary contributions;
14. STRONGLY URGES those regional initiatives that receive initial financial support from the core budget to use this support *inter alia* to seek alternative flows of sustainable funding;
15. INSTRUCTS the Secretariat to develop for Standing Committee approval evaluation criteria and procedures for evaluations of the regional initiatives operating within the framework of the Convention;
16. INSTRUCTS the Secretariat to develop for approval by the Standing Committee the standard formats for annual, financial, and work plan reporting required from the coordinating bodies or mechanisms of regional initiatives under the annexed Operational Guidelines 2009-2012; and
17. REQUESTS the Standing Committee and the Secretariat, particularly in relation to those initiatives funded by the core budget, to review their success and submit a summary report for consideration at COP11.

Annex

Operational Guidelines 2009-2012 for regional initiatives in the framework of the Convention on Wetlands

The aim of regional initiatives

1. Regional initiatives under the Ramsar Convention are intended as operational means to provide effective support for an improved implementation of the objectives of the Convention and its Strategic Plan in specific geographical regions, through international cooperation on wetland-related issues of common concern.
2. Geographical regions to be covered by specific initiatives are defined according to the wetland-related needs of the relevant actors in the region. In practical terms, a regional initiative may correspond to one of the six regional groups established by the Convention through Resolution VII.1 (1999), but it may also be more restricted in geographical focus or span several regional groups defined in Resolution VII.1, if the Contracting Parties concerned consider that to be more appropriate.
3. Because regional initiatives are intended to provide lasting, structural and operational support to facilitating and improving the implementation of the Ramsar Convention in a defined geographical region, it is important to make sure that there is support from all participating Contracting Parties or a significant number of Contracting Parties in the region concerned. Sufficient support is essential to setting up a minimal operational structure for effective work in the region.
4. Regional initiatives that are fully consistent with the aims listed above are different from regional projects. Regional projects are joint activities or programmes proposed by several Contracting Parties for a given geographical region, focusing on specific aspects, often limited in time. Regional projects can be the operational means for delivering specific aspects of regional initiatives, but should not be confused with the latter.

Coordination between regional initiatives and the Secretariat

5. The development of effective coordination between regional initiatives, acting regionally, and the Ramsar Secretariat, acting globally and being responsible to the Standing Committee and the COP, is essential.
6. The Ramsar Secretariat has no capacity to develop, coordinate or run regional initiatives; but it will endeavour to the best of its ability to assist them, including through mobilization of additional resources. The role of the Secretariat is to maintain regular links with the regional initiatives, to advise them, to make sure that global Ramsar guidelines are applied throughout the different regions, and that their strategic and operational targets are fully aligned with the Convention's Strategic Plan. The Secretariat must receive regular reports from the regional initiatives to be able to report to Standing Committee and the COP on their progress as required.

7. The complementary roles of the coordinating mechanisms of regional initiatives and the Ramsar Secretariat and their respective responsibilities may be defined in written arrangements, if agreed by all participating Contracting Parties.
8. The establishment of regional initiatives is a process over time. In order to fulfill their aims, regional initiatives depend on the services provided by professional staff who can assure a minimal coordination between the Contracting Parties and other members participating in the initiative. Contracting Parties or other members participating in a regional initiative need to provide such services, as the Ramsar Secretariat is unable to so do.
9. The regional initiatives should aim to develop the capacity to take on the additional role of coordinating and supervising regional projects that are developed under the framework of such regional initiatives. Projects and programmes to support the initiative through actions with a geographically or thematically more restricted focus, often limited in time, are likely to develop increasingly over time. They should be supervised by the coordinating bodies or mechanisms of regional initiatives.
10. Professional staff involved in regional initiatives who supervise regional projects add substantial implementation capacity for the Convention in the region.

Governance of initiatives

11. Regional initiatives need to become firmly established in their geographical region. They must establish their own governance and advisory mechanisms, involving all relevant Contracting Parties and other appropriate stakeholders, in order to provide guidance and insight.
12. In order to establish a professional coordination body or mechanism, the support of a host country or a host intergovernmental organization is essential. If established, the coordination body will be responsible to all members that constitute a regional initiative (Contracting Parties and other members), not only to the host country. Elaborating equitable and transparent governing and organizational structures is essential. They need to be laid down in commonly agreed terms of reference, rules of procedure, or operational guidance.
13. The Conference of the Parties and the Standing Committee shall receive, through the Secretariat, reports on the activities of regional initiatives and shall oversee their general policies relating to the implementation of the Convention.

Substantive elements of initiatives

14. Regional initiatives should be based on a bottom-up approach. As a matter of priority, the involvement of all Contracting Parties of the specific region covered by the initiative should be sought from the start.
15. Each initiative should entail the participation, from the start, not only of the Administrative Authorities responsible for the application of the Convention in the Contracting Parties involved, but also of all other relevant stakeholders with an interest in and directly or indirectly responsible for wetland issues, including the ministries

responsible for the environment and water issues, intergovernmental bodies, Ramsar International Organization Partners (IOPs), other NGOs, academia, local communities, and economic actors.

16. A regional initiative should base its operation on the development of networks of collaboration established upon a clearly defined framework, thus creating an enabling environment for the involvement of all stakeholders at all levels.
17. At an early stage, a regional initiative should seek collaboration with other intergovernmental or international partners and Ramsar IOPs operating in its region, by establishing complementary and non-duplicative activities.
18. The operation of a regional initiative should be focused upon making optimal use of the Ramsar tools (frameworks, guidelines, guidance, methodologies, etc.) published in the Ramsar Handbook and Technical Reports series, and it should be based upon strong scientific and technical backing provided by relevant institutions which should be recognized as partners in the initiative.
19. The strategic and operational targets of a regional initiative should be fully aligned with the Strategic Plan of the Convention by means of policy and site technical work and activities.
20. Regional initiatives need to raise the visibility of the Ramsar Convention and the general awareness of Ramsar objectives. Specific activities in the fields of communication, education and participatory processes with relevant stakeholders should be included in their work plans. The outcomes of such activities should be communicated to the Secretariat for use by the Ramsar CEPA Oversight Panel.

Financial and other support

21. A regional initiative requires both political support from all participating Contracting Parties and financial support from one or more Contracting Parties and other relevant partners in the region. Substantial support from a host country is especially important if a coordinating office is to be established.
22. The launching of a regional initiative needs to rely upon secured funding for planned work, activities and projects.
23. Financial support for a regional initiative from the Convention's core budget, should the COP and Standing Committee so decide, will only be provided as start-up funding, time-limited for a pre-determined period – in principle not more than the interval between two meetings of the COP. After that period, the initiative should be self-sustaining, and the Ramsar core support for it will be allocated to other initiatives instead. However, in cases where a regional centre continues to fully meet the Operational Guidelines such support may continue.
24. The Ramsar meeting of the COP allocates a specific amount of funding to the core budget line for regional initiatives for the time until the next meeting of the COP. Based on this global amount, the Standing Committee allocates specific funds to individual initiatives on an annual basis. This annual allocation will be based on individual reports to be submitted in good time in a standard format to the Secretariat. These reports will provide

information on the operational readiness and the urgency of Ramsar core funding needs by the initiative during the coming year.

25. Regional initiatives need to generate their own resources and become financially self-sufficient after an initial start-up phase and in the long term. When deciding financial support from the Convention's core budget, geographically equitable distribution will be taken into account over the long term. This is not always possible during a single interval between two meetings of the COP, for which proposals must be weighed on their merits and readiness to operate.

Reporting and evaluation

26. Regional initiatives that are recognized by the COP as operating within the framework of the Convention must submit progress reports to the Secretariat, according to a standard format, in time to allow adequate reporting to the next meeting of the COP.
27. Annual reports of progress and financial status are required from regional initiatives requesting funding from the Ramsar core budget. Such reports have to reach the Secretariat in time for the preparation of the annual meeting of Standing Committee.
28. Disbursement of Ramsar funds will be undertaken at six-monthly intervals, based on a short progress report of activities and financial status to be submitted by the beneficiaries to the Secretariat.
29. Periodic assessment and review processes for the initiatives are needed and will be coordinated by the Ramsar Secretariat according to specific rules to be approved by the Standing Committee. These review procedures are meant to assure that the regional initiatives are operating within the framework of agreed work plans and following the approaches approved by the Ramsar Convention through COP decisions.



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Resolution X.7

**Optimizing the Ramsar Small Grants Fund during the period
2009-2012**

1. RECALLING Resolution VI.6 (1996) which renamed the Wetland Conservation Fund, originally established through Resolution IV.3 (1990), as the Ramsar Small Grants Fund for Wetland Conservation and Wise Use (SGF), reviewed its operation, and made recommendations on its level of funding;
2. NOTING WITH PLEASURE that since its inception in 1991 the SGF has provided funding for 203 small projects in 53 developing countries and countries in economic transition for a total amount of 7.6 million Swiss francs;
3. EXPRESSING SINCERE APPRECIATION to those Contracting Parties and organizations that have made voluntary contributions to the SGF over all these years;
4. NOTING WITH CONCERN that the level of voluntary contributions has only been sufficient to fund 17 projects during the triennium 2006-2008, while another 77 valuable proposals submitted by eligible Contracting Parties could not be funded because of a serious lack of funds;
5. RECOGNIZING the desire of the Standing Committee to broaden the current spectrum of potential donors through the submission of non-funded valuable projects to a different group of donors subsequent to each annual SGF evaluation cycle;
6. COMMENDING the Ramsar Secretariat for its initiatives to improve the project assessment process, administration and monitoring of projects supported by the SGF, as well as for its fundraising efforts for the Fund; and
7. RECALLING Resolution IX.13 (2005), which requested the Standing Committee to bring to COP10 new proposals for establishing a more vigorous mechanism to support the SGF, including the possible development of regional support funds;

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8. REAFFIRMS its conviction that the Ramsar Small Grants Fund for Wetland Conservation and Wise Use (SGF) should continue to be an extremely valuable mechanism for

facilitating the implementation of the Convention in developing countries, especially Small Island Developing States, and countries with economies in transition;

9. REITERATES its conviction that the level of resources available to the Ramsar SGF should be increased to 1 million Swiss francs annually, and INVITES the developed Contracting Parties to make voluntary donations to the SGF and to seek the assistance of other organizations to meet this target in time for each annual funding cycle;
10. INSTRUCTS the Secretariat to package those project proposals that were evaluated and approved for SGF funding but could not be funded because of a lack of money in the unrestricted SGF fund into an attractive, low-cost Small Projects Portfolio (SPP), once the annual SGF allocations have been made by Standing Committee from within the available unrestricted SGF funds, and, according to the priorities of the Contracting Parties as authorized through the Standing Committee Subgroup on Finance, to make that Portfolio as widely available as possible to potential new donors who are additional to those traditionally supporting the SGF, *inter alia*, by placing the portfolio on the Web site of the Ramsar Convention;
11. ENCOURAGES all potential donors who are not able to make an unrestricted voluntary contribution to the Small Grants Fund to contribute to the funding of specific projects described in the Ramsar Small Projects Portfolio, with a view to funding a maximum total number of valuable projects each year;
12. URGES continued development of the Ramsar Signature Initiatives as a mechanism for facilitating regional funding support, available within other international financial mechanisms such as the GEF, for the SGF, with submission for COP consideration following their development;
13. Pending completion of item 12 above, INSTRUCTS the Ramsar Secretariat, with the Subgroup on Finance, to prepare advice for Contracting Parties on the development and preparation of Signature Initiatives in relation to the operations of the Convention's Small Grants Fund;
14. Pending completion of item 12 above, ENCOURAGES the regional groups of the Convention, as identified in Resolution VI.1 (1996), including through their regional intersessional meetings, to identify Signature Initiatives as region-wide projects to address regionally-identified priorities;
15. ALSO ENCOURAGES Contracting Parties in partnership with donors to help identify sources of funding for such proposals;
16. FURTHER ENCOURAGES potential donors to contact the Ramsar Secretariat whenever funding opportunities may arise in order to make voluntary donations to the Small Grants Fund, or if such unrestricted funding is not possible for them, to fund specific projects initially submitted to the SGF that form part of the Small Projects Portfolio; and
17. INSTRUCTS the Ramsar Secretariat to report to the 11th meeting of the Conference of the Contracting Parties on the functioning and success of the combined project funding strategy of the Ramsar Small Grants Fund, Projects Portfolio, and Signature Initiatives, in

order to guarantee that Parties will have an opportunity to review the operation of these mechanisms.



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Resolution X.8

**The Convention’s Programme on communication, education,
participation and awareness (CEPA) 2009-2015**

1. RECALLING that Resolution VII.9 adopted the Convention’s first Outreach Programme for the period 1999-2002, and that Resolution VIII.31, *The Convention’s Programme on communication, education and public awareness (CEPA) 2003-2008*, continued the CEPA programme for the next two triennia;
2. EXPRESSING APPRECIATION for the work done by the Ramsar Secretariat and the CEPA Oversight Panel that was established under Resolution IX.18 (2005);
3. RECOGNIZING that, as requested by Resolutions VII.9 and VIII.31, as of 1 November 2008 129 Contracting Parties (82%) have designated their Government CEPA Focal Points and 106 Parties (67%) their national Non-governmental Organization CEPA Focal Points, but CONCERNED that a significant number of Parties have not yet done so, thus limiting the opportunities for coordinating CEPA delivery under the Convention;
4. CONGRATULATING the 29 Contracting Parties that have reported forming national CEPA Task Forces and in particular Australia, Azerbaijan, Belize, Dominican Republic, France, Germany, Hungary, Mali, Samoa, Spain, St Lucia and the United Kingdom for having reported the development of National Wetland CEPA Action Plans as urged by Resolution VIII.31, as well as the countries that have prepared CEPA plans at site level, but CONCERNED that so few Parties have thus far done likewise;
5. EXPRESSING GRATITUDE to the Ramsar International Organization Partners (IOPs) for their ongoing support to CEPA activities globally and within many Contracting Parties, and also to the Danone Group for its continuing sponsorship of outreach activities under the Convention;
6. RECOGNIZING that, with support from the Netherlands Government, the Advisory Board on Capacity Building for the Ramsar Convention, with input from the CEPA Panel, is developing a framework for capacity building for wetland wise use as a practical guide for Contracting Parties; and
7. RECOGNIZING the contribution that many of the Ramsar Regional Initiatives will make to implementation of the Annex to this Resolution;

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8. ADOPTS the Convention's *Programme on communication, education, participation, and awareness (CEPA) 2009-2015*, contained in the Annex to this Resolution, as an instrument to provide guidance to Contracting Parties, the Ramsar Secretariat, the Convention's International Organization Partners (IOPs), other NGOs, community-based organizations, local stakeholders and others in the development of appropriate actions to support the implementation of the Convention at the international, regional, national and local levels;
9. CONFIRMS that this Resolution and its Annex incorporates the key recommendations from Resolutions VII.9 and VIII.31 and their Annexes in an expanded framework that reflects the broader approach proposed in this CEPA Programme 209-2015;
10. REQUESTS the CEPA Oversight Panel to give priority in its work plan to developing a short advisory document which shows the relationships between Resolutions VII.9 and VIII.31 and Resolution X.8 to assist CEPA Focal Points in the ongoing implementation of the CEPA Programme;
11. REQUESTS the CEPA Oversight Panel to monitor and report on CEPA issues within the Convention and the progress of implementation of the CEPA Programme as established by this Resolution, and to advise the Standing Committee and the Secretariat on the CEPA work priorities at the national and international levels, including the CEPA priorities of the Scientific and Technical Review Panel (STRP);
12. REAFFIRMS the call made in Resolutions VII.9 and VIII.31 for all Contracting Parties that have yet to do so to nominate as a matter of priority suitably qualified Government and Non-governmental Organization Focal Points for wetland CEPA and to inform the Ramsar Secretariat accordingly, and URGES Parties to ensure that the CEPA Focal Points are members of the National Ramsar/Wetlands Committee where these exist;
13. URGES all Contracting Parties, as suggested in Resolutions VII.9 and VIII.31 and in the CEPA Programme 2009-2015, to establish appropriately constituted Task Forces, where no mechanism exists for this purpose currently, to undertake a review of needs, capacities and opportunities in the field of wetland CEPA, and based upon the results of that review to formulate their Wetland CEPA Action Plans (at national, subnational, catchment, or local levels) for priority activities that address international, regional, national, and local needs, and to provide copies of these to the Ramsar Secretariat to make available to other Contracting Parties and organizations;
14. STRONGLY URGES all Contracting Parties to seek to develop and implement their Wetland CEPA Action Plans as integrated components of their broader environment, biodiversity, wetland and water management, education, health, and poverty reduction policy instruments and mainstreamed in relevant programmes, at decentralized level where appropriate, and to ensure that CEPA is recognized as underpinning the effective delivery of these activities;
15. CALLS UPON those Contracting Parties with wetland CEPA plans to evaluate the effectiveness of those plans on a regular basis, to amend their priority actions where necessary, and to provide feedback to the CEPA Oversight Panel on such reviews and revisions;

16. REITERATES the call to multilateral and bilateral donors and private sector sponsors to support appropriate actions as set out in the Ramsar *CEPA Programme 2009-2015*;
17. URGES the Ramsar Secretariat to assist in strengthening the capacity of the CEPA Focal Points by the provision of training, toolkits, and templates, e.g., for CEPA action plans and CEPA training aids, possibly with the assistance of the Advisory Board on Capacity Building for the Ramsar Convention;
18. RECOGNIZES the growing celebration of World Wetlands Day in a large number of countries, and URGES Contracting Parties to continue, or to begin, to use this occasion to bring attention to their achievements and continuing challenges in wetland conservation and wise use;
19. ENCOURAGES those Contracting Parties with established, or proposed, wetland education centres and related facilities to support the development of those centres as key places of learning and training about wetlands and wetland-related CEPA and to support their participation in the global (and developing regional and national) network of such centres under the Wetland Link International programme of the Wildfowl & Wetlands Trust, WWT (UK);
20. ALSO ENCOURAGES Contracting Parties to utilize the capacity of the Ramsar Regional Centers in wetland training in their respective regions;
21. INSTRUCTS the Secretary General to strengthen collaboration with the members of the Biodiversity Liaison Group, especially the Executive Secretary of the Convention on Biological Diversity, through the mechanism of the established Joint Work Plan, for harmonising the respective CEPA programmes of the two conventions, including collaboration with the CBD's CEPA Informal Advisory Committee;
22. INVITES the Ramsar International Organization Partners (IOPs) and other organizations with which the Ramsar Secretariat has collaborative agreements to support the implementation of the Ramsar CEPA Programme at the global, regional, national or local levels, as appropriate, with the expertise, networks, skills and resources they have at their disposal; and
23. URGES those Parties with other national and local languages different from the three official languages of the Convention to consider translating key Ramsar guidance and guidelines into those languages in order to make them more widely available.

Annex

Programme on communication, education, participation and awareness (CEPA) 2009-2015 of the Convention on Wetlands (Ramsar, Iran, 1971)

Background

1. This third CEPA Programme, as presented below, is intended to operate for a six-year period (2009-2015) in conjunction with the third Strategic Plan of the Convention adopted at COP10, and it has been formulated to be consistent with the structure of the Strategic Plan and Work Plan. It replaces the annexes to Resolutions VII.9 and VIII.31. An explanation of the terms ‘communication’, ‘education’, ‘participation’ and ‘awareness’ are available in Appendix 1.
2. There is considerable evidence of a continuing interest in and increasing commitment to wetland CEPA within the Convention:
 - a) CEPA was formally recognized as a high priority, cross-cutting area of work for the Convention at the 29th meeting of the Standing Committee in February 2003, and, through Resolution IX.11, a CEPA expert has been appointed to the Convention’s Scientific and Technical Review Panel (STRP) with the role of providing expert input to all stages of the STRP’s work in developing new guidance on wetland issues. This expert will draw *inter alia* on the Convention’s CEPA networks and those of the Convention’s International Organization Partners (IOPs).
 - b) Although only five Contracting Parties (Australia, Germany, Hungary, Spain and the United Kingdom) have forwarded their National CEPA Action Plans to the Ramsar Secretariat, there are many other Parties that are currently working towards that goal or implementing CEPA action plans at other scales. There is growing evidence that Parties are recognizing CEPA as an integral part of site and basin-level management planning and incorporating appropriate CEPA activities into such plans.
 - c) There is administrative and other support within the Ramsar Secretariat dedicated to CEPA, and a modest budget to support the Programme was included as part of the Convention’s core budget for 2006-2008.
 - d) There is an evolving approach within the Convention to wetland management planning that includes community participation and education, as well as considerable evidence of rapidly growing knowledge at all levels within the Convention of participatory techniques and the CEPA skills that underlie them.
 - e) The relationship between the Convention and the Wetland Link International (WLI) programme of the Wildfowl & Wetlands Trust (WWT) has been strengthened through the signing of a Memorandum of Cooperation in November 2005. The WLI network continues to grow and has evolved to include national and regional networks within the global network.

Vision and guiding principles

Vision

3. The vision of the Ramsar Convention's CEPA Programme is:

“People taking action for the wise use of wetlands”

Guiding principles

4. The guiding principles that underpin the Ramsar CEPA Programme are:
- a) The CEPA Programme offers tools to help people understand the values of wetlands so that they are motivated to become advocates for wetland conservation and wise use and may act to become involved in relevant policy formulation, planning and management. Key target groups and stakeholders of this CEPA Programme are identified in Appendix 4.
 - b) The CEPA Programme fosters the production of effective CEPA tools and expertise to engage major stakeholders' participation in the wise use of wetlands and to convey appropriate messages in order to promote the wise use principle throughout society.
 - c) The Ramsar Convention believes that CEPA should form a central part of implementing the Convention by each Contracting Party. Investment in CEPA will increase the number of informed advocates, actors and networks involved in wetland issues and build an informed decision-making and public constituency.

Goals and strategies to pursue the Vision

5. The Programme identifies what needs to be achieved (the Goals), how these goals can be realized (the Strategies), and what results should be achieved (Key Results Areas). An overview of the Goals and Strategies is provided in Box 1.

Box 1: Overview of the Programme's Goals and Strategies

Goal 1: Communication, education, participation and awareness are used effectively at all levels of the Convention to promote the value of wetlands.

This goal includes recommendations that relate to using CEPA to enhance awareness of wetland values, promotion of CEPA as a valuable process, and integration of CEPA into policies and planning at multi-scalar levels from global and national to basin to site level.

Strategy 1.1 Foster sustained national and subnational campaigns, programmes and projects to raise community awareness of the important ecosystem services provided by wetlands, including their social, economic, and cultural values.

Strategy 1.2 Demonstrate that CEPA processes are effective in achieving Ramsar's wetland wise use objectives at the global, national and local levels.

Strategy 1.3	Integrate CEPA processes into all levels of policy development, planning and implementation of the Convention.
Strategy 1.4	Support and develop mechanisms to ensure that CEPA processes are incorporated into wetland site management plans.
Goal 2: Support and tools have been provided for the effective implementation of national and local wetland-related CEPA activities.	
This goal is focused on establishing the enabling environment for the effective implementation of CEPA. This includes mechanisms such as frameworks and action plans, the establishment of CEPA focal points, including individuals, organizations and centres, and mechanisms such as networks for information exchange and access to resources, experts and training.	
Strategy 2.1	Ensure that national and local leadership, networks and cohesive frameworks are developed to support and catalyse CEPA for the wise use of wetlands.
Strategy 2.2	Transfer, exchange and share CEPA information and expertise that promotes and results in the wise use of wetlands.
Strategy 2.3	Recognize and support the role of wetland centres and other environment centres as catalysts and key actors for CEPA activities that promote Ramsar objectives
Goal 3: People are motivated and enabled to act for the wise use of wetlands.	
This goal is focused on using the CEPA framework and its tools and products to motivate and enable new actors to be actively involved for the wise use of wetlands.	
Strategy 3.1	Improve the individual and collective capacity and opportunities of people to participate in and contribute to using wetlands wisely.
Strategy 3.2	Support and develop mechanisms to ensure multi-stakeholder participation in wetland management.

6. To be effective, implementation of this Programme must be undertaken by the following responsible bodies and collaborative partners of the Convention:

AA:	The Administrative Authority in each country
CEPA:	The Convention's CEPA National Focal Points
NRC:	National Ramsar Committees / National Wetlands Committees (or equivalent bodies), where they exist
STRP:	The Scientific and Technical Review Panel, its CEPA Expert, and its network of National Focal Points
Secretariat:	The Ramsar Convention Secretariat
IOPs:	International Organization Partners, at present BirdLife International, the International Water Management Institute (IWMI), IUCN, Wetlands International, and the World Wide Fund for Nature (WWF) International
RRCs:	The Ramsar Regional Centres endorsed by the Convention as Ramsar Regional Initiatives

OCs: Other collaborators, such as national non-governmental organizations (NGOs) and community-based organizations, including organizations with which Ramsar has agreements in place.

7. Those responsible for implementing the Programme, or who are urged to assist in implementing it, as shown in paragraph 6, constitute the Programme's key list of actors, but this should be considered as indicative and may change during the life of the Programme. All involved in delivering the outcomes of the Ramsar Convention clearly need to be involved in this Programme in some way, at some time. To assist Parties in monitoring implementation, Annex 3 collates in a table the Key Result Areas to be found in subsequent paragraphs, indicates the potential implementing actors, and provides a means of tracking implementation.

Goal 1:	Communication, education, participation and awareness are used effectively at all levels of the Convention to promote the value of wetlands.
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Strategy 1.1 Foster sustained national and subnational campaigns, programmes and projects to raise community awareness of the important ecosystem services provided by wetlands, including their social, economic, and cultural values.

Key Result Areas:

- 1.1.1 Campaign, programmes or projects have been undertaken with key partners to raise awareness, build community support, and promote stewardship approaches and attitudes towards wetlands.
- 1.1.2 World Wetlands Day has been celebrated with appropriate national and local events and promotions and resource materials have been distributed, in order to raise awareness of wetland values and functions.
- 1.1.3 Collaboration with the media has helped to inform decision-makers, key wetland users, and the broader society about the values and benefits of wetlands.
- 1.1.4 Appropriate Wetlands of International Importance have been promoted as 'demonstration sites' for Ramsar's wise use principle, and these sites are suitably equipped in terms of capacity, signage, and interpretive materials.

Strategy 1.2 Demonstrate that CEPA processes are effective in achieving Ramsar's wetland wise use objectives at the global, national and local levels.

Key Result Areas:

- 1.2.1 Pilot projects are developed and evaluated for a range of approaches for applying CEPA in promoting the wise use of wetlands, in particular involving those who make a direct use of wetland resources.
- 1.2.2 Existing CEPA programmes and case studies have been reviewed and the lessons learned from these experiences regarding effective approaches have been documented.

- 1.2.3 The findings and conclusions drawn from Actions 1.2.1 and 1.2.2 have been made available to Parties and the broader community through appropriate mechanisms (see Strategies 2.1, 2.2, and 2.3).

Strategy 1.3 Integrate CEPA processes into all levels of policy development, planning and implementation of the Convention.

Key Result Areas:

- 1.3.1 CEPA is integrated into all relevant Convention work programmes, including joint work plans with other conventions and organizations, and included in the development of all further Ramsar guidance for Parties through the CEPA expertise included in the Convention's Scientific and Technical Review Panel.
- 1.3.2 Where appropriate, wetland CEPA has been integrated into the business of national and regional wetland, biodiversity, forestry, agriculture, irrigation, power generation, mining, tourism, and fisheries committees and other relevant policy and planning committees where they exist.
- 1.3.3 Through collaboration globally and nationally, synergy has been encouraged with the CEPA activities under other international conventions and programmes.
- 1.3.4 Major stakeholders have collaborated to integrate wetland CEPA into all relevant regional (where applicable), national, catchment and local wetland and other appropriate sectoral policies, strategies, plans and programmes, such as those for biodiversity conservation, water management, fisheries, poverty reduction, educational policies and curricula, etc.

Strategy 1.4 Support and develop mechanisms to ensure that CEPA processes are incorporated into wetland management plans at basin and site level.

Key Result Areas:

- 1.4.1 Case studies have been documented that show the positive role of CEPA in local management activities and the critical role of CEPA tools and skills in effective participatory wetland management, and these case studies have been made available to the Ramsar Secretariat for distribution to Contracting Parties and other interested bodies.
- 1.4.2 Multi-stakeholder bodies are in place to guide and inform catchment/river basin and local wetland-related planning and management, and these bodies include appropriate expertise in CEPA.
- 1.4.3 Catchment/river basin planning and management documents include communication, education, participation, awareness, and capacity building as central processes in the delivery of overall water and wetland management objectives.
- 1.4.4 Where they do not already exist, the appropriate strategies and actions for communication, education, participation, and awareness have been introduced into site management plans.

Goal 2:	Support and tools have been provided for the effective implementation of national and local wetland-related communication, education, participation and awareness (CEPA) activities.
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Strategy 2.1 Ensure that leadership, coordination and cohesive frameworks are developed at all levels to support and catalyse CEPA for the wise use of wetlands.

Key Result Areas:

- 2.1.1 Contracting Parties have appointed suitably qualified persons to fulfil the roles of national Government and Non-governmental Organization (NGO) Focal Points for wetland CEPA, and have advised the Ramsar Secretariat of the persons fulfilling these roles and their contact details (further information on nominating National Focal Points and their roles and responsibilities is available in Appendix 2); the CEPA Focal Points should be members of National Ramsar or Wetland Committees where these bodies exist. Where appropriate, Parties have appointed more than one NGO Focal Point.
- 2.1.2 A national Wetland CEPA Task Force has been established (if no other mechanisms exist for this purpose), including CEPA Focal Points, key stakeholder and NGO participation, and a review of needs, skills, expertise and options has been undertaken and priorities set for the co-development and implementation of this programme of work.
- 2.1.3 National CEPA Focal Points have been encouraged to collaborate with wetland and other environmental education centres and, as appropriate, a representative of such centres has been included on the Wetland CEPA Task Force or other planning bodies.
- 2.1.4 A national (or, as appropriate, a subnational, catchment or local) CEPA Action Plan has been formulated, drawing upon the CEPA toolkit developed for this purpose [the CEPA toolkit is in progress, further details to follow] and the Convention's guidelines on participatory management, and the conclusions emerging from Key Result Area 2.1.2 above have been incorporated into it. A copy of the Action Plan has been sent to the Ramsar Convention Secretariat so that it can be made available to other Parties and interested organizations and individuals. (The participatory management guidelines, adopted by Resolution VII.8 (1999), are incorporated in Handbook 5 of the 3rd edition of the Ramsar Handbook series.)

Strategy 2.2 Transfer, exchange and share CEPA information and expertise that promotes and results in the wise use of wetlands.

Key Result Areas:

- 2.2.1 Attention has been given to the effectiveness of communication and information-sharing systems among relevant government ministries, departments and agencies, such as education, land and water management, and agriculture, and where necessary mechanisms have been developed to address any shortcomings.

- 2.2.2 The regular updating of the Convention's Web site with appropriate materials, including key easily accessible CEPA pages and other resource materials, ensures that these remain an information source for the CEPA Programme globally.
- 2.2.3 Ramsar's International Organization Partners (IOPs), especially IUCN's Commission on Education and Communication (CEC), and other organizations with which collaborative agreements are in place have been encouraged to make suitable resource materials available to assist the global CEPA Programme and provide information on effective CEPA approaches.
- 2.2.4 Increased engagement with international organizations involved in education, particularly UNESCO, and UNESCO's Man and the Biosphere Programme encouraged to invite Biosphere Reserve site managers to carry out relevant actions of the CEPA Programme, where appropriate;
- 2.2.5 Resource materials to support wetland CEPA actions continue to be produced, distributed and shared.
- 2.2.6 The Ramsar global e-mail networks include Ramsar Administrative Authorities, Ramsar National CEPA Focal Points, CEPA professionals, Ramsar site managers, local stakeholders, and those facilities dedicated to environmental education and awareness raising, and these have been maintained and expanded. Similar national e-groups and the linking of these with the global networks have been established and supported.
- 2.2.7 An on-line searchable listing of expertise in CEPA and of the CEPA Focal Points has been established and maintained to assist CEPA at national and international levels, and this service has been promoted to assist CEPA programmes and activities.
- 2.2.8 A Ramsar electronic photolibrary has been established, resources permitting, to support global, national and local efforts to raise awareness and appreciation of wetland resources and how these can be used wisely.

Strategy 2.3 Recognize and support the role of wetland education centres and other environment centres as catalysts and key actors for CEPA activities that promote Ramsar objectives.

Key Result Areas:

- 2.3.1 Education centres have been established at Ramsar and other wetland sites to provide focal points for local and national CEPA activities.
- 2.3.2 The capacity of existing centres at wetlands and the development of new centres to deliver high quality CEPA programmes has been supported and enhanced.
- 2.3.3 Where wetland education centres exist, the information they present has been reviewed to ensure that it is helping to promote the Ramsar Convention and its wise use principle in suitable ways. The centres have helped to foster communication and, where appropriate, participation among local wetland management 'actors' and stakeholders.

- 2.3.4 Wetland education centres have been encouraged to participate in the Wetland Link International network of WWT (the Wildfowl & Wetlands Trust, UK) as a mechanism for gaining access to global and national expertise in CEPA and sharing of experience.
- 2.3.5 Efforts have been made to promote and resource the twinning of wetland education centres to encourage the exchange and transfer of information and expertise among centres in developed countries and those in developing countries and countries in transition.

Goal 3:	People are motivated and enabled to act for the wise use of wetlands.
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Strategy 3.1 Improve the individual and collective capacity and opportunities of people to participate in and contribute to using wetlands wisely.

Key Result Areas:

- 3.1.1 A review has been carried out on current national needs and capacities in the areas of wetland CEPA, including in relation to the establishment and operations of wetland education centres (see strategies 2.1. and 2.3.), and this has been used to define training and capacity-building priorities within the national wetland CEPA action plan, including training for the CEPA NFPs.
- 3.1.2 In collaboration with the Advisory Board on Capacity Building for the Ramsar Convention and Ramsar's International Organization Partners, sources of expert wetland information and training opportunities have been identified to facilitate the sharing of expertise and knowledge at the local, national, regional and global levels.
- 3.1.3 Resources have been sought through appropriate mechanisms to support the training and capacity building identified as priorities through Key Result Areas 3.1.1 and 3.1.2, ensuring that key groups such as women and indigenous and rural communities have not been overlooked.

Strategy 3.2 Support and develop mechanisms to ensure multistakeholder participation in wetland management.

Key Result Areas:

- 3.2.1 Active participation as an effective process for building skills for wetland management is nationally recognized.
- 3.2.2 Participation of stakeholder groups with cultural or economic links to wetlands or those communities who depend on the wetlands for their livelihoods is given a high priority and is promoted at the national level, drawing upon the guidance available in Resolution VII.8 *Guidelines for establishing and strengthening local communities' and indigenous people's participation in the management of wetlands*, incorporated in Handbook 5 of the Ramsar Handbooks for the Wise Use of Wetlands.
- 3.2.3 Where local wetland knowledge is held by indigenous and local communities, this knowledge is respected and integrated into site management plans.

Appendix 1

Understanding what is meant by the terms “communication, education, participation, awareness, capacity-building and training”

1. In applying this Programme, it is important that Contracting Parties and other interest groups share a common understanding of what is meant by the acronym CEPA, “Communication, education, participation, and awareness”, and also the terms “training” and “capacity-building”. The advice presented below is based, in part, on the *Mainstreaming Biological Diversity* publication (produced by UNESCO, the Convention on Biological Diversity, and IUCN). The definitions are intended to give a sense of what practitioners in this field commonly mean by these terms, as well as the perspectives which have been used in formulating this programme.
2. **Communication** is a two-way exchange of information leading to mutual and enhanced understanding. It can be used to gain the involvement of ‘actors’ and stakeholders and is a means to gain cooperation of groups in society by listening to them first and clarifying why and how decisions are made. In an instrumental approach, communication is used with other instruments to support wetland conservation, to address economic constraints, and to motivate action.
3. **Awareness** brings the issues relating to wetlands to the attention of individuals and key groups who have the power to influence outcomes. Awareness is an agenda-setting and advocacy exercise that helps people to know what and why this is an important issue, the aspirations for the targets, and what is being and can be done to achieve these.
4. **Education** is a process that can inform, motivate, and empower people to support wetland conservation, not only by fostering changes in the way that individuals, institutions, business and governments operate, but also by inducing lifestyle changes. It may take place in both formal and informal settings. Education in the broadest sense is a life-long process.
5. **Training** is the process of increasing or strengthening specific knowledge, skills, attitudes and behaviours that can be taken back to the workplace. It may take place in both formal and informal settings.
6. **Capacity-building** includes a range of processes by which individuals, organizations and institutions develop abilities for effective implementation of wise use of wetlands. Abilities include *inter alia* facilities, funding and resources, infrastructure, enabling environments, etc
7. **Participation** is the active involvement of “stakeholders” in the common development, implementation and evaluation of strategies and actions for the wise use of wetlands. Levels and kinds of participation can be highly variable, depending upon both the specific context and the decisions of the individuals and institutions leading the process. An indicative list of the range of possible levels and kinds of participation is shown in Box 2.

Box 2. Levels of participation

1. Manipulative Participation

At this extreme, participation is simply a pretence, with ‘people’s’ representatives on official boards but who are unelected and have no power.

2. Passive Participation

People participate by being kept up to date on what has been decided or has already happened. It tends more to involve announcements by an administration or project management than to reflect active attention to people’s responses. The information being shared tends to belong only to project professionals.

3. Participation by Consultation

People participate by being consulted or by answering questions. Project authorities define problems and information-gathering processes, and thus tend to control analysis of the responses. Such a consultative process need not typically imply a share in decision making, and professionals are not under an obligation to take people’s views on board.

4. Participation for Material Incentives

People can participate by contributing resources, for example labor, in return for food, cash or other material incentives. Farmers may provide the fields and labor, for example, whilst not being directly involved in experimentation or the process of learning. It is not uncommon to see this called ‘participation’ in a full sense, but in this case people typically have no stake in prolonging technologies or practices when the incentives end.

5. Functional Participation

Participation is sometimes seen by the relevant authorities chiefly as a means to achieve project goals, especially reduced costs. People may participate by forming groups to meet predetermined objectives related to the project. Such involvement may be interactive and involve shared decision making, but it frequently tends to arise only after the most important decisions have already been made by the authorities.

6. Interactive Participation

People participate in joint analysis, development of action plans, and formation or strengthening of local institutions. Participation may be seen as an inherent right, not just as a means to achieve project goals. The process involves interdisciplinary methodologies that seek multiple perspectives and make use of systemic and structured learning processes. As groups take control over local decisions and determine how available resources should be used, they often feel an increasing stake in maintaining structures or practices.

7. Self-Mobilization

In this model, people participate by taking initiatives to change systems independently of external institutions. They develop contacts with external institutions for the resources and technical advice they need, but retain control over how resources are used. Self-mobilization can spread if governments and NGOs provide an enabling framework of support. Such self-initiated mobilization may or may not challenge existing distributions of wealth and power, but they do tend to foster the most long-lasting sense of “ownership” in the outcomes.

Adapted from: *Participation in Strategies for Sustainable Development*, Environmental Planning Issues No. 7, May 1995 by Stephen Bass, Barry Dalal-Clayton and Jules Pretty, Environmental Planning Group, International Institute for Environment and Development.

Appendix 2

Roles and responsibilities of the CEPA National Focal Points

1. In Resolution IX.18 adopted at COP9 in November 2005, the Parties instructed the Standing Committee at its 34th meeting to establish a CEPA Oversight Panel, one of the key tasks of which would be to clarify the broad roles of the two Government and Non-governmental CEPA National Focal Points (NFPs) nominated by each Party. (Full details on the task of the CEPA Oversight Panel are available at http://www.ramsar.org/outreach_oversight_panel.htm.)
2. The roles and responsibilities of the CEPA NFPs were discussed at the first meeting of the CEPA Panel in May 2006 and recorded in the Meeting Report (available at the above URL), and this report was endorsed by SC35. The text below reflects their deliberations and should be used by Parties to guide their decisions on the nomination, roles, and responsibilities of their CEPA NFPs.
3. The rationale for the nomination of CEPA NFPs and key factors to be taken into consideration by Contracting Parties:
 - It is important that both CEPA NFPs be nominated since they bring different skills to the CEPA Programme, with the NGO NFP in many cases more actively engaged at the grass roots level.
 - Nominating a representative of an active NGO engages the NGO members in the CEPA Programme, gives recognition to their work, and can often bring additional funding to a CEPA programme.
 - While it is preferable that the Government NFP should be a CEPA expert, it is recognized that many Parties may not be willing to nominate a person outside of their Administrative Authority, which frequently means that the nominated person will not be a CEPA expert per se.
 - It is unfortunate that the Government NFP changes rather frequently in some Parties, since this does not support continuity in the national CEPA programme. Frequently, in some Parties, the NGO NFP is the longer-term representative.
 - It is important that the two NFPs should agree and collaborate on their country's CEPA programme.
 - It is important that the NFPs should be key members of the National Ramsar/Wetland Committee, where these exist, and that they should be in contact with other key Administrative Authority personnel (such as the Daily Contact and the STRP NFP).
 - It is important that the CEPA NFPs be consulted by the Administrative Authority when completing the CEPA questions in the National Reports to the COPs.
 - While the previous CEPA Programme (2003-2008) required the nomination of a Non-governmental rather than NGO (Non-governmental organization) NFP, this current guidance specifies NGO because of the critical role NGOs play as CEPA actors.
4. It is ultimately the task of each Contracting Party to agree precise roles and responsibilities for their nominated CEPA National Focal Points (NFPs). These roles and expectations

must reflect the capacity to operate at different levels and the resourcing of the individuals filling the positions. The Contracting Parties should provide some information to potential NFPs of the expected time required to fulfill their role and responsibilities.

5. **Suggested major roles and responsibilities of the CEPA NFPs.** In providing a supportive environment in which wetland CEPA planners and practitioners can develop their work, NFPs should:
- provide leadership for the development and implementation of a wetland CEPA Action Plan at an appropriate level (national, subnational, local) as described in this Resolution and annexed Programme;
 - be the main points of contact on CEPA matters between a) the Secretariat and the Contracting Party and b) between Contracting Parties;
 - be key members of the National Ramsar/Wetland Committees (if such a body exists) or similar national structures;
 - assist in the practical CEPA implementation at the national level and in national reporting on CEPA activities to the Ramsar Conference of the Parties;
 - ensure a high, positive public profile for the Ramsar Convention and its conservation and wise use goals;
 - be active spokespersons for wetland CEPA; and
 - establish and maintain any contacts, networks, structures and mechanisms necessary to ensure the effective communication of information between relevant actors at all levels and in all sectors.

Appendix 3

Tracking key actors and implementation of the CEPA Programme

The indicative list of key actors in the Convention's CEPA Programme from paragraph 6 of the CEPA Programme is reproduced below. To assist Parties in identifying actors and monitoring implementation, the table below collates a summary of the Key Result Areas in the Programme and indicates suggested actors from the indicative list (•). Additional columns are provided for other key implementers that may be identified. For each actor, two columns are provided, the first to identify their involvement in a particular Key Result Areas, and the second to be used to track implementation. If desired, the level of implementation, whether national (N), catchment (C), or local (L) could be noted in this column.

AA:	The Administrative Authority in each country
CEPA:	The Convention's CEPA National Focal Points
NRC:	National Ramsar Committees / National Wetlands Committees (or equivalent bodies) where they exist
STRP:	The Scientific and Technical Review Panel, its CEPA Expert and its network of National Focal Points
Secretariat:	The Ramsar Convention Secretariat
IOPs:	International Organization Partners, at present BirdLife International, the International Water Management Institute (IWMI), IUCN, Wetlands International, and the World Wide Fund for Nature (WWF) International
RRCs:	The Ramsar Regional Centres endorsed by the Convention as Ramsar Regional Initiatives
OCs:	Other collaborators, such as national non-governmental organizations (NGOs) and community-based organizations, including organizations with which Ramsar has agreements in place

Key Result Areas		AA		NWC		CEPA NFPs		STRP		IOPs		RRCs		OCs		Secr't							
1.1.1	Campaigns, programmes or projects have been undertaken with key partners to raise awareness, build community support, & promote stewardship approaches towards wetlands.	•				•								•									
1.1.2	WWD has been celebrated with national & local events & promotions, & awareness-raising resource materials have been distributed.	•				•				•						•							

Key Result Areas		AA		NWC		CEPA NFPs		STRP		IOPs		RRCs		OCs		Secr't					
1.1.3	Collaboration with the media has helped to inform decision-makers, key wetland users, & the broader society about the values & benefits of wetlands.	•								•				•		•					
1.1.4	Appropriate Ramsar sites have been promoted as 'demonstration sites' for the wise use principle, & these sites are suitably equipped in terms of capacity, signage, and interpretive materials.	•		•		•															
1.2.1	Pilot projects have been developed & evaluated for a range of approaches for applying CEPA in promoting wise use, in particular involving those who make a direct use of wetland resources.	•				•		•		•											
1.2.2	Existing CEPA programmes and case studies have been reviewed & the lessons learned have been documented.	•				•										•					
1.2.3	The findings & conclusions drawn from Actions 1.2.1 & 1.2.2 have been made available to Parties & the broader community through appropriate mechanisms.	•				•										•					
1.3.1	CEPA is integrated into all relevant Convention work programmes, including joint work plans with other conventions & organizations, & included in the development of all further Ramsar guidance for Parties.	•		•				•								•					

[illegible]

Key Result Areas		AA		NWC		CEPA NFPs		STRP		IOPs		RRCs		OCs		Secr't					
2.1.4	A national (or subnational, catchment or local) CEPA Action Plan has been formulated, drawing upon the <i>CEPA toolkit</i> & the Convention's guidelines on participatory management, & the conclusions to emerge from 2.1.2 above have been incorporated. A copy of the Plan has been sent to the Secretariat.	•		•		•															
2.2.1	Attention has been given to the effectiveness of communication & information-sharing systems among relevant government ministries, departments and agencies, & key stakeholders, & mechanisms have been developed to address any shortcomings.	•		•		•															
2.2.2	Regular updating of the Convention's Web site with appropriate materials, including key CEPA pages and other resource materials, ensure that these remain an information source for the CEPA Programme globally.													•							
2.2.3	Ramsar's IOPs, especially IUCN's CEC, and others have been encouraged to make suitable resource materials & information available on effective CEPA approaches.	•		•		•															
2.2.4	Increased engagement with international organizations involved in education, particularly UNESCO, and UNESCO's Man and the Biosphere Programme encouraged to invite Biosphere Reserve site managers to carry out relevant actions of the CEPA Programme, where appropriate.	•		•		•							•	•							

Key Result Areas		AA		NWC		CEPA NFPs		STRP		IOPs		RRCs		OCs		Secr't					
2.3.3	Where wetland education centres exist, the information they present has been reviewed to ensure that it is helping to promote the Convention; the centres have helped to foster communication &, where appropriate, participation among local wetland management 'actors' & stakeholders.	•		•		•				•				•							
2.3.4	Wetland education centres have been encouraged to participate in the WLI network of WWT, UK.	•		•		•				•				•							
2.3.5	Efforts have been made to promote & resource the twinning of wetland education centres to encourage the exchange & transfer of information & expertise among centres in developed countries & those in developing countries & countries in transition.	•		•						•											
3.1.1	A review has been carried out of current national needs & capacities in wetland CEPA, including in relation to the establishment & operations of wetland education centres, & this has been used to define training & capacity-building priorities within the national wetland CEPA action plan, including training for the CEPA NFPs.	•		•		•															
3.1.2	In collaboration with the Advisory Board on Capacity Building & Ramsar's IOPs, sources of expert wetland information & training opportunities have been identified.	•		•		•				•						•					

Key Result Areas		AA		NWC		CEPA NFPs		STRP		IOPs		RRCs		OCs		Secr't					
3.1.3	Resources have been sought to support the training & capacity building identified as priorities, ensuring that key groups such as women, indigenous & rural communities have not been overlooked.	•		•		•				•		•									
3.2.1	Active participation as an effective process for building skills for wetland management is nationally recognized.	•		•																	
3.2.2	Participation of stakeholder groups with cultural or economic links to wetlands or those communities who depend on the wetlands for their livelihoods is given a high priority & is promoted at the national level.	•		•		•															
3.2.3	Where local wetland knowledge is held by indigenous & local communities, this knowledge is respected & integrated into site management plans.	•		•		•				•				•							

Appendix 4

Possible target groups and stakeholders of the CEPA Programme of the Convention on Wetlands

1. There are a large number of possible target groups for this CEPA Programme which fall within the broadest category of the general community or civil society. To assist Contracting Parties and others using this Programme to decide on the actions they will take, this Appendix describes 27 subgroups of civil society which have been identified as those people who can make a significant and immediate difference in the status and long-term sustainability of wetlands.
2. In developing national or local programmes of action based on this CEPA Programme, Contracting Parties and others are urged to take this Appendix into consideration for their own situations in determining which of these are their highest priority target groups.
3. A fundamental assumption of the CEPA Programme is that, as a consequence of the actions taken in response to it, there will be an increasing number of “actors” who become agents, ambassadors or advocates for the Convention on Wetlands and the principles it seeks to encourage. Support for the CEPA Programme should therefore be seen as an investment which aims to help decision-makers and mobilise local-scale actions directed at achieving the conservation and wise use of wetlands.

A) PEOPLE IN GENERAL

Target Group/Individuals	Rationale
Landowners (especially those who are responsible for managing wetlands)	These are the people who are making decisions which impact directly upon wetlands. Parties and Ramsar must inform them and provide them with access to expert information and expertise.
National and local non-government organizations	In many countries local NGOs are vital for achieving action. They need to have expert information and expertise available to them.
Indigenous people and local communities	Many indigenous people and local communities associated with wetlands have great knowledge of managing these ecosystems in a sustainable way, and in some instances have an ongoing cultural association with wetlands. Ramsar should aim to encourage the sharing of this experience with other wetland managers and acknowledge indigenous peoples' stewardship of wetlands.
Women	Engaging more women in wetland management is a priority, as in many cultures they tend to be more entrepreneurial in the family unit and more amenable to changing lifestyle habits. They may also tend to communicate more often with the children within the family.

Children	Children are the next generation of environmental managers and caretakers, and Ramsar must ensure that they are aware of the importance of wetlands and how to use them wisely. Children can also become teachers of their parents through their own education.
Those responsible for electronic and print media	Conveying positive and informative messages about wetlands to the general community can be accelerated through news and other stories in the electronic and print media.
Community leaders and prominent people – athletes, sports people, religious leaders, artists, royalty, teachers, opinion leaders, etc. – grassroots/community organizations	Community leaders can use their public profile to draw attention to issues, and those who have empathy for wetland conservation may be ideal ambassadors to promote the Ramsar message.

B) GOVERNMENTS AT ALL LEVELS

Target Group/Individuals	Rationale
Environmental policy makers and planners within local administrations, provincial/ state and national government administrations.	These officials are key decision-makers at the local level and subregional and national scales. Their actions can impact directly on wetlands, positively or negatively, either at the local level or catchment/river basin scale.
Wetland site managers (wardens, rangers, etc.) within local, provincial/state and national government administrations, including catchment or river basin authorities.	These people have a special need to receive advice on the best practices in managing wetland ecosystems, and on gaining public support and participation for their work, especially where they are responsible for managing a Ramsar site. Site managers also have valuable first-hand experience with wetland management, and finding ways to allow these experiences to be shared between them and with others is a priority.
National Administrative Authorities of the Ramsar Convention	They should have the best information at their disposal for efficient application and dissemination.
National Administrative Authorities and Focal Points for other environment-related conventions	If there is to be a more integrated approach to managing land and water resources, including wetlands, there is a need to create greater understanding of and empathy for the Ramsar Convention among those implementing the other conventions.
National consultative and advisory committees for the Ramsar Convention and other environment-related conventions (such as National Ramsar Committees).	Similarly, there is a need to create greater understanding of and empathy for the Ramsar Convention among those who are advising governments on implementation of Ramsar and the other conventions.

The Ministers responsible for all sustainable development and education portfolios and environment-related conventions as well as Members of Parliament - National, State/Provincial and local.	Ramsar needs to gain the support of these Ministers and all government members, for they have direct input to policy setting, budget allocation, etc. Those Members of Parliament in the opposition parties may be in this position in the future.
National aid agencies, bilateral donors	The Convention needs to ensure that there is a good general understanding about what it does within those organizations that are dealing with governments on a range of sustainable development issues. Ramsar must ensure that the relevant officials are well briefed and able to support Ramsar principles through on-ground projects in the Contracting Parties.
Ambassadors and the staff of overseas missions.	It is important that these officials fully understand the Ramsar Convention and its <i>modus operandi</i> so that national governments can be better informed.

C) INTERNATIONAL AND REGIONAL ORGANIZATIONS

Target Group/Individuals	Rationale
Global organizations – World Bank, Global Environment Facility, United Nations Development Programme, United Nations Environment Programme, Global Water Partnership, etc.	The Convention needs to ensure that there is a good general understanding about what it does within those organizations that are dealing with governments on range of sustainable development issues. Where the organizations have funding programmes, Ramsar must ensure that the relevant officials are well briefed and able to support Ramsar principles through on-ground projects in the Contracting Parties.
Regional organizations – South Pacific Regional Environment Program, European Commission, Southern Africa Development Community, Regional Development Banks, ASEAN Environmental Programme, etc.	As above.
Global NGO partners and other international and regional NGOs	Ramsar's five official NGO partners (BirdLife, IWMI, IUCN, Wetlands International, and WWF) are all active and effective in promoting the Ramsar Convention. There is a need to involve more of these regional and international NGOs in communicating the Ramsar message.
The secretariats of other environment-related instruments (CBD, UNCCD, CMS, UNFCCC, CITES, World Heritage, MAB)	This is essential if there is to be increasing synergy among the conventions at the global and national scales.

D) THE BUSINESS SECTOR

Target Group/Individuals	Rationale
Potential sponsors, supporters	Ramsar promotes sustainable use of wetlands and must therefore engage with the business sectors to ensure that the activities being undertaken by them are not contrary to the objectives of the Convention.
Key business sectors <ul style="list-style-type: none"> • Water and sanitation • Irrigation and water supply • Agriculture • Mining • Forestry • Fishing • Environmental managers • Tourism • Waste disposal • Energy 	Within the business sectors these, and some others, are the industries which have the potential for major negative impacts on wetlands. Ramsar must promote practices within these industries to ensure that their activities are not resulting in wetland loss.
Professional Associations	Ramsar should encourage the application of Ramsar wise use practices through these professional associations.

E) THE EDUCATION SECTOR AND LEARNING INSTITUTIONS

Target Group/Individuals	Rationale
Education ministries, curriculum development authorities, examination boards and universities, in-service trainers, etc.	All of these can assist in gaining the inclusion of wetland conservation and wise use issues in school and other formal curricula.
National and international teachers' associations	The incorporation of Ramsar principles into curricula and learning programmes generally can be accelerated through working collaboratively with teacher associations.
National and international networks, associations and councils of environmental education	Wetlands and water issues can be incorporated into the curricula and other materials being developed by these organizations.
Wetland/ Environment Centres, Zoos, Aquaria, Botanic Gardens, etc.	These are ideal venues for promoting the Ramsar message and efforts should be intensified, in order to have suitable information and materials and programmes available within them.
National and international networks of libraries	The library networks provide an excellent avenue for making information on Ramsar and wetlands more accessible to the general community.



10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)

“Healthy wetlands, healthy people”

Changwon, Republic of Korea,
28 October-4 November 2008

Resolution X.9

**Refinements to the *modus operandi* of the Scientific & Technical
Review Panel (STRP)**

1. RECALLING the establishment by Resolution 5.5 (1993) of the Scientific and Technical Review Panel (STRP), which was to be made up of members with appropriate scientific and technical knowledge, appointed by the Conference of the Contracting Parties (COP), but participating as individuals and not as representatives of their countries of origin;
2. ALSO RECALLING Resolutions VI.7, VII.2, VIII.28 and IX.11 on this matter, which made successive modifications in the way in which the STRP and its work were organized;
3. THANKING members of the STRP and its observer organizations and invited experts for their contributions since COP9 and for their expert advice on numerous scientific and technical issues important for implementation of the Convention, including the new and revised guidelines and reports provided to this meeting of the Conference as the Annexes to Resolutions X.14 to X.21 and others being prepared as *Ramsar Technical Reports*;
4. ALSO THANKING the government of Sweden for its financial contributions in support of the substantive work of the STRP during 2006-2008, and BirdLife International, the International Water Management Institute (IWMI), and the Joint Nature Conservation Committee (JNCC-UK) for their in-kind support to the work of the Panel;
5. WELCOMING the fact that the STRP has indicated that its revised *modus operandi* for the 2006-2008 triennium, with the budget provided for its work by Resolution IX.12 (2005), has enabled the Panel to develop and deliver its work plan and required tasks with increased capacity, efficiency, and timeliness;
6. RE-EMPHASIZING the need to continue establishing closer links between the STRP and the network of scientists and experts in each Contracting Party, so that the Convention may benefit from the array of existing knowledge and experience, but CONCERNED that the STRP has reported continuing difficulties in establishing effective contact and working relationships with many STRP National Focal Points;
7. THANKING the government of Austria for its initiative in calling and hosting an intersessional meeting for European STRP National Focal Points, and NOTING that the recommendations from that meeting have been taken into account in the refinements to

the STRP *modus operandi* annexed to this Resolution and in the revised Terms of Reference for STRP National Focal Points;

8. RECOGNIZING the importance for the STRP to work in partnership with the scientific and technical bodies of the conventions and programmes with which Memoranda of Cooperation and/or joint work plans are in place, namely the Convention on Biological Diversity, the Convention on Migratory Species, the Convention to Combat Desertification, the World Heritage Convention, the UNESCO Man and the Biosphere Programme, and other conventions and agreements;
9. ALSO RECOGNIZING the need for continuing cooperation between the STRP and a number of expert networks, specialist groups and societies that exist, some in association with the official International Organization Partners of the Convention; and
10. FURTHER RECOGNIZING that the high priorities for the work of the STRP for 2009-2012 are identified in the Annexes to Resolution X.10 on *Future implementation of the scientific and technical aspects of the Convention*;

THE CONFERENCE OF THE CONTRACTING PARTIES

11. REAFFIRMS the critical importance to the Convention of the work and advice of the Scientific and Technical Review Panel (STRP) in providing reliable guidance to the Conference of the Contracting Parties for the Parties' implementation of the Convention;
12. CONFIRMS that the *modus operandi* for the STRP adopted by Resolution IX.11 (2005) shall, with the refinements listed in the annex to this Resolution, apply for the 2009-2012 period and for subsequent periods unless further amended by COP decisions;
13. AGREES that thematic expert members shall be appointed to the Panel by the STRP Oversight Committee for the following areas of priority STRP work for the 2009-2012 period, to lead implementation of priority work areas for the Panel as set out in the Annex to Resolution X.10:
 - Wetland inventory, assessment and indicators
 - Ramsar site designation
 - Wetland restoration and management
 - Wetlands and climate change
 - Wetlands and human health
 - Wetlands and water resources
 - Wetlands and agriculture
 - CEPA
14. AGREES that in other work areas indicated in the Annexes to Resolution X.10, the Panel shall seek additional expertise as and when required through various means, including through collaboration with the scientific advisory bodies of other international conventions and agencies, and through the International Organization Partners, STRP invited observers, and STRP invited experts;

15. CONFIRMS that the Standing Committee will continue to have overall responsibility for the work of the STRP, that the Chair of the STRP will report to each Standing Committee meeting on the Panel's progress with its programme of work and priorities as established by the COP (Resolution X.10) and Standing Committee, and that the STRP will report to Standing Committee on any adjustments to its programme it considers necessary and on new tasks proposed during the intersessional period in relation to emerging issues;
16. ALSO CONFIRMS that the STRP support functions will continue to be provided during the 2009-2012 period from the Ramsar Secretariat;
17. RECOGNIZES the continuing need to ensure both that the Panel is provided with the necessary resources to undertake its work effectively and that the Ramsar Secretariat has sufficient capacity to support this work, and URGES Contracting Parties and others to contribute to securing continuity of such funding;
18. REVISES the existing list of bodies and organizations invited to participate as observers in the meetings of the STRP and INVITES the following bodies and organizations to consider establishing close working cooperative arrangements with the STRP on matters of common interest:
 - the Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity (CBD)
 - the Scientific Council of the Convention on Migratory Species (CMS)
 - the Committee on Science and Technology of the Convention to Combat Desertification (UNCCD)
 - the Subsidiary Body on Scientific and Technical Advice of the United Nations Framework Convention on Climate Change (UNFCCC)
 - the Secretariats of the CBD, CMS, CITES, UNCCD, UNFCCC, the World Heritage Convention (WHC); UNESCO – Man and the Biosphere Programme (MAB), the UNECE “Water Convention” and the Antarctic Treaty
 - the Secretariat of the Intergovernmental Panel on Climate Change (IPCC)
 - the UN Food and Agriculture Organization (FAO)
 - the UNEP – World Conservation Monitoring Centre (UNEP-WCMC)
 - the World Health Organization (WHO)
 - the Society of Wetland Scientists (SWS)
 - the Coordinating Committee for the Guidelines for Global Action on Peatlands (GGAP-CoCo)
 - the International Association for Impact Assessment (IAIA)
 - the International Network of Basin Organizations (INBO)
 - The Nature Conservancy (TNC)
 - Ducks Unlimited (DU)
 - the Global Water Partnership (GWP)
 - the Wildfowl and Wetlands Trust (WWT)
 - the Society for Ecological Restoration (SER)
 - the International Society for Ecological Economics (ISEE)
 - the European Space Agency – ESRIN (ESA-ESRIN)

- the Japanese Aerospace Exploration Agency (JAXA)
 - UNESCO-IHE Institute for Water Education
19. URGES Contracting Parties to ensure that the persons they appoint as their STRP National Focal Point are appropriately qualified for this role as defined in the Terms of Reference provided as the appendix to this Resolution; that their STRP National Focal Points have contact with national experts relevant to the work areas of the Panel; that their STRP National Focal Points are involved in all Ramsar processes within the Contracting Party (including participating in any National Ramsar or Wetland Committee); and that the contact information for their STRP National Focal Points are kept up-to-date and functional;
 20. ALSO URGES the 17 Contracting Parties¹ that have not thus far appointed an STRP National Focal Point to do so without delay, taking into account the Terms of Reference for STRP National Focal Points in the appendix to this Resolution;
 21. FURTHER URGES those Contracting Parties that have designated their STRP National Focal Point to review the skills and capacity of that person in relation to the Terms of Reference for STRP National Focal Points in the annex to this Resolution and, as appropriate, determine if an alternative appointment should be made, and if so to advise the Secretariat accordingly;
 22. REQUESTS the STRP, working with the STRP National Focal Points, to consider mechanisms for identifying task-based national expert contacts to undertake a) participation in specialist work on specific STRP tasks and b) review of draft documents;
 23. REQUESTS the STRP and Secretariat to identify opportunities and mechanisms for holding intersessional regional or subregional meetings of STRP National Focal Points; and
 24. EMPHASIZES the value of participation by STRP members in meetings of the COP and Standing Committee and REQUESTS Contracting Parties, the Standing Committee, and the Secretariat to seek to secure any additional funding that might be necessary for this purpose.

Annex

The *modus operandi* of the Scientific & Technical Review Panel

I. Key objective of the STRP *modus operandi*

1. The key objective of this *modus operandi* is to establish ways and means of ensuring that the STRP mechanism delivers the best available scientific and technical advice to the

¹ As at 4 November 2008: Antigua and Barbuda, Azerbaijan, Bangladesh, Belize, Djibouti, Finland, Guinea, Guinea-Bissau, Lesotho, Madagascar, Malta, Nepal, Nigeria, Panama, Papua New Guinea, Paraguay and South Africa.

Convention, in the most efficient and cost-effective manner, through the work of widely recognized wetland conservation and wise use experts and networks.

II. Establishment and responsibilities of the STRP Oversight Committee

2. The STRP Oversight Committee will report to the Standing Committee and will be composed of the Chair and Vice Chair of the Standing Committee, the Chair and Vice Chair of the STRP, and the Secretary General and the Deputy Secretary General *ex officio*. The Oversight Committee will be chaired by the Chair of Standing Committee.
3. The responsibilities of the STRP Oversight Committee are to:
 - i) appoint the members, Chair and Vice Chair of the STRP;
 - ii) provide intersessional advice, guidance and support to the operations and work of the Panel;
 - iii) keep under review, and advise the Standing Committee on, the operations of the Panel under this revised *modus operandi*; and
 - iv) provide advice to the Secretariat on expenditures under the STRP budget line.
4. The Standing Committee continues to have overall responsibility for the work of the STRP, and the Chair of the STRP will report to each Standing Committee meeting on progress with the STRP programme of work and priorities as established by the COP and Standing Committee.

III. Criteria and characteristics of candidate STRP members

5. Candidates for appointment as members of the STRP must have the following:
 - i) demonstrated capacity for networking with wetland conservation and wise use experts at local, national and international scales², and demonstrated engagement in such expert networks; and/or
 - ii) widely recognized experience and expertise in one or more aspects of wetland conservation and wise use, particularly those relevant to the priority work areas and tasks identified by the COP for the forthcoming work of the Panel;
 - iii) experience of working with wetland experts at local, regional and national levels, including, when appropriate, STRP National Focal Points;
 - iv) full access to electronic mail and Web-based information and communication systems, through which the intersessional work of the Panel will take place;
 - v) full fluency in understanding, and fluent written and oral communication in, English (which remains the working language of the Panel); and

²

Note that access to such networks is also one of the key purposes of the standing membership on the STRP of the Convention's International Organization Partners and the invitation to relevant scientific and technical organizations to participate as observers to the Panel.

- vi) commitment to undertake the work required of the Panel and its Working Groups with the support, where relevant, of the member's organization or institution.

IV. Composition of the Panel

6. One Panel member shall be appointed from each Ramsar region. These members shall have experience with, and access to, networks of wetlands experts (at local, regional and/or international scales).
7. Further Panel members shall be appointed as wetlands experts with recognized experience and expertise in aspects of wetland conservation and wise use relevant to the priority thematic work areas of the Panel. The areas of thematic expertise required for each triennium will be approved through an operative paragraph of a COP Resolution. For these members, regional balance will be sought, with appointed members based in different Ramsar countries or regions and/or from northern and southern parts of the world. Gender balance will also be sought.
8. One additional member will be appointed with expertise in Communications, Education & Public Awareness (CEPA), with the role of providing input to all stages of the Panel's work on each task, from scoping the needs of the identified users to the finalization of outputs, drawing *inter alia* on the Convention's CEPA networks and those of the Convention's International Organisation Partners (IOPs).
9. In recognition of their ongoing scientific and technical support for the Convention, each of the Convention's International Organization Partners (IOPs) will continue to be a member of the Panel. So as to ensure continuity of representation throughout STRP processes and meetings during and between inter-COP periods, each IOP will be requested to nominate its representative on the Panel, and this nomination will be considered and confirmed by the STRP Oversight Committee as part of their Panel appointment role. Such IOP nominees should be wetland experts and have a role within their IOPs for maintaining and accessing the wetland conservation and wise use expertise of their organization's regional and global networks.
10. The appointed members will lead (or co-lead) the STRP's Working Groups (see below) responsible for delivering the COP-approved tasks on these themes – they will oversee the work of any task forces established within a Working Group to deliver a specific priority task, and should be prepared to undertake such a role.
11. The thematic work areas for which Panel members will be appointed will be reviewed for each inter-COP period and will be approved by the COP. The thematic work areas will depend on the priority themes and tasks identified by the Standing Committee and COP for the STRP in the next period.
12. The schedule of Panel meetings will be confirmed by the STRP Oversight Committee and may include up to two plenary meetings between COPs, one meeting not later than six months after the previous COP and the other not later than six months before the next COP.

V. Procedure for identification and appointment of candidates

13. Appointments for each inter-COP period will be made by the STRP Oversight Committee.
14. Nominations of candidates for appointment will be invited from:
 - i) the Convention's national Administrative Authorities;
 - ii) STRP National Focal Points (in consultation with their Administrative Authority);
 - iii) the current Chair and Vice Chair of the STRP; and
 - iv) current STRP members and observers.
15. Nominations can include existing appointed STRP members, observers, and invited experts if they have a proven track record of expert contribution to the work of the Panel. Appointment of such experts to the Panel will ensure continuity in the Panel's work on ongoing thematic work areas.
16. Nominations are not restricted to people from the same country of origin as the nominator, since it is networking capacity and/or relevant expertise that is sought, regardless of the nationality or country of current domicile of the expert.
17. The nominator of each candidate will provide the Oversight Committee with a short summary of the expertise and experience of the candidate and the relevance of this to the work of the Panel for the given period, in the form of a letter of recommendation.
18. Candidates being nominated will provide a declaration that they are willing to be considered for appointment to the Panel, that they have the full support of their organizations or institutions to deliver the work expected of Panel members, including time and availability for meetings, and that they have the necessary English language skills to engage fully in the work of the Panel; they will note whether they will need financial support to participate in meetings and will provide a brief summary of how they see their skills and expertise contributing to the Panel's work, along with a *curriculum vitae*.
19. On the basis of the nominations received, the Secretariat will prepare an assessment and recommendations for appointments for consideration by the STRP Oversight Committee, which will reach its decisions on appointments through electronic communication and teleconferences as soon as possible after each COP, in order to permit the Panel to initiate its new programme of work as early as possible.
20. In the event that a vacancy for a member of the Panel arises between COPs, the STRP Oversight Committee will review other nominees and appoint a replacement member as soon as practicable.

VI. Appointment of Chair and Vice Chair of the Panel

21. The Chairperson of the Panel will be appointed by the STRP Oversight Committee as a supernumary post (i.e., additional to the appointments of regional and thematic expert members). The Chairperson must have broad knowledge of wetland issues and be familiar with the work of the Panel and the Convention. The Chairperson will lead the Panel's thematic work on strategic and emerging issues and future priorities.
22. The Vice Chairperson will be appointed from amongst the appointed members to the Panel. The Vice Chairperson will lead the Panel's thematic work on regional networking.

23. The outgoing STRP Chair and Vice Chair will excuse themselves from the STRP Oversight Committee decisions concerning these appointments.

VII. STRP observer organizations

24. The work of the Panel will continue to benefit from the involvement and input of other relevant scientific and technical organizations and their networks, invited by the COP as observers to the Panel. Each organization invited by the COP as an observer to the STRP will be requested to nominate its representative on the Panel, in order to ensure continuity of participation. The representative should have the capacity to access his or her organization's national, regional and international network of wetland experts. In order to continue contributing to the efforts to streamline and harmonize the implementation of multilateral environmental agreements, invited observers to the STRP will continue to include the chairs of the equivalent scientific and technical subsidiary bodies and relevant staff of the secretariats of other environmental conventions and agreements.

VIII. Establishment and operation of Working Groups and task forces

25. The appointed STRP members will, where appropriate and with the assistance of the Secretariat's STRP support, establish Working Groups at the start of the inter-COP period and will act as their leads or co-leads to develop and progress the tasks requested by the COP.
26. Membership of any Working Group will be established by its lead or co-leads, with the advice of the STRP Chair and Vice-Chair and the Secretariat. Membership may include *inter alia* other appointed STRP members, representatives of STRP observer organizations, STRP National Focal Points with relevant expertise, and other invited experts with relevant expertise.
27. As part of the Panel's work in its strategic review function on emerging issues and related matters, the Chairperson will coordinate the Panel's advice to the next COP concerning high and emerging priorities for its work in the next period.
28. Each Working Group will develop the scope and contents of any advice, guideline, review or other output requested by COP within its thematic work area as a high priority for the inter-COP period; will identify the mechanism for its delivery (including through an expert consultancy contract if necessary and resources permitting); and will oversee and review progress in the drafting and finalization of such materials.
29. As soon as possible after his or her appointment, the Working Group lead or co-leads will establish the initial membership of her or his Working Group and will undertake initial scoping work for undertaking each of the high priority tasks, for circulation in advance of, and discussion during, the first plenary meeting of the Panel following a COP.
30. When appropriate, a Working Group or the Chairperson can establish a small task force for the delivery of a particular high priority task in the STRP's programme for the period.
31. Each Working Group will keep under review opportunities for initiating other tasks requested of the Panel within its thematic work area, and will develop mechanisms for the

delivery of any such tasks as and when capacity permits. If opportunity arises to initiate new tasks between COPs, the Chair of the Panel will seek the advice of the STRP Oversight Committee about establishing appropriate ways and means of developing this work.

32. Each Working Group will work largely electronically (through e-mail, the Web-based STRP Support Service mechanism, and teleconferences) but will, resources permitting, meet in a workshop at least once during the inter-COP period, in order to progress its work efficiently.

IX. Ensuring continuing national and regional applicability in the work of the STRP

33. One key to ensuring full national and regional input to the STRP's work is the continuing activation of the network of STRP National Focal Points (NFPs) appointed by each Contracting Party. A revised Terms of Reference and skills profile for STRP NFPs is provided as the appendix to this *modus operandi*.
34. The Secretariat will support the development of the STRP National Focal Point network through identification of the expertise and capacity needs of STRP National Focal Points, including seeking ways and means of supporting their development of national networks.
35. The Secretariat and STRP will identify opportunities and mechanisms for holding intersessional regional or subregional meetings of STRP National Focal Points;
36. A second aspect of ensuring regional input to, and relevance of, the STRP is to have as part of its mandate the task of responding to regional scientific and technical priorities. In doing so, the STRP will consult with Contracting Parties through their STRP National Focal Points. The Panel will continue to develop mechanisms for the delivery of this aspect of its work, which may include *inter alia* responding to regional scientific and technical priorities identified by Ramsar regional meetings and those identified by regional initiatives operating by COP decision under the framework of the Convention (Resolution X.6).

X. Continuity of Panel membership

37. In order to ensure continuity of expertise and working practices, a minimum of one-third of the appointed members of the STRP should be reappointed for a second term, as appropriate.
38. The Chair of the STRP, following appropriate consultations with current members, will recommend to the STRP Oversight Committee the names of those members who should be considered for reappointment, on the basis of their contributions to the work of the Panel and the relevance of their areas of expertise to the priority tasks assigned to the Panel by COP.
39. Members being proposed for reappointment must have demonstrated a capability of contributing effectively to the work of the Panel and have confirmed their willingness to be reappointed.

Appendix

Terms of Reference for STRP National Focal Points

1. The Ramsar Administrative Authority for the Contracting Party is responsible for ensuring:
 - i) the appointment of that Party's STRP National Focal Point (NFP);
 - ii) that the STRP NFP is appropriately qualified for this role as defined in this Terms of Reference, and that the Secretariat and STRP are provided with information on this in line with the STRP NFP expertise, skills and capacity profile provided in this Terms of Reference;
 - iii) that the STRP NFP has contact with national experts relevant to the work areas of the Panel;
 - iv) that the STRP NFP is involved in relevant Ramsar processes within the Contracting Party (including participating in any National Ramsar or Wetland Committee); and
 - v) that the contact information for the STRP NFP is notified to the STRP through the Ramsar Secretariat, and that it is kept up-to-date and functional.
2. The main function of the STRP NFP in each country is to provide input and support to the implementation of the Work Plan of the STRP, as approved by the first full meeting of the Standing Committee that follows each COP.
3. An STRP NFP is a person appointed to the role in his or her own right for their scientific and technical expertise in wetland conservation and wise use issues, and he or she does not act to represent any organization or government in the work of the STRP.
4. In order to undertake their work, the STRP NFPs should maintain regular contact and communication with the other Ramsar NFPs (Administrative Authority and the CEPA Focal Points) in their country and, as much as possible, with other STRP NFPs in the region.
5. The STRP NFP should, to the extent possible, consult with and seek input from other experts, expert bodies and wetland centres in his/her country. In this regard, the NFP should mobilize local capacity at the country level, e.g., through the establishment of a Ramsar/wetland scientific and technical committee.
6. The STRP NFPs can identify and recommend other people in their countries who have the specialist expertise and experience to participate in a thematic work area of the STRP. Additionally, the NFPs are encouraged to provide information to the STRP on local or national initiatives that are relevant to the STRP's work.
7. The NFPs are encouraged to use the opportunities of suitable national meetings, newsletters, e-mail, etc., to canvas the views of the expert community and, when feasible, to organize expert consultations on key issues in the STRP Work Plan. The latter should

be done in coordination with the appropriate regional networking member of the STRP or relevant thematic Working Group Lead.

8. STRP NFPs in each country are expected to maintain regular contact, and endeavour to identify and undertake activities of common interest, with their equivalent National Focal Points of the technical and scientific bodies of other relevant international and regional environment-related Conventions, and especially for those with which the Ramsar Convention has in place a Memorandum of Cooperation or Understanding, namely, the Conventions on Biological Diversity, Desertification, Migratory Species, and World Heritage.
9. The STRP NFPs are also expected to be involved in the monitoring and evaluation of projects funded under the Ramsar Small Grants Fund for Wetland Conservation and Wise Use (SGF), as may be required by the Ramsar Administrative Authority in each country and/or the agency implementing the project.
10. The National Focal Points should take an active role in supporting national wetland inventory activities and in supporting the efforts of their Contracting Parties to implement the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance*.
11. The STRP NFPs should provide advice to, and participate in, meetings of the National Wetland/Ramsar Committee or similar bodies (e.g., National Biodiversity Committees) where they exist, and provide advice in the preparation of National Reports to Conferences of Contracting Parties. They should also assist in disseminating information on the work of the STRP, interpreted as appropriate to the national context, to relevant individuals and bodies in their countries.
12. The input of the STRP NFPs should be channeled, by preference, through the STRP member leading each thematic area of the Work Plan or through the appropriate regional networking member of the STRP. When this is not practical, the input of the NFP may also be channeled through the appropriate Senior Regional Advisor within the Ramsar Secretariat.
13. In general, the STRP network of NFPs will operate through correspondence and as much as possible through e-mail and the Web-based STRP Support Service. To this effect, the Ramsar Secretariat will include the NFPs with access to e-mail connections to any list-server devoted to STRP members. In addition, the Secretariat has created a dedicated section of the STRP Support Service Web site for the presentation and consideration of STRP matters.
14. As, due to financial limitations, the main working language of the STRP and its network of NFPs is English, the NFP is required to be suitably proficient in the English language, especially written English.
15. STRP NFPs will provide the STRP and Ramsar Secretariat with information concerning their thematic areas of wetland conservation and wise use interest and expertise (though a short questionnaire) and the STRP Working Groups in which they wish directly to participate;

16. STRP NFPs are provided with full access to the Web-based STRP Support Service mechanism so that they may have input to all stages of the Panel's work, including the development of the scope of delivery of each priority task, the review of draft materials as they are prepared by the Working Groups and task forces, and contribution to the peer review of reports and other documents being considered for publication in the *Ramsar Technical Report* series.

An expertise, skills and capacity profile for STRP NFPs

17. For consideration for appointment by their Contracting Party Administrative Authority, an STRP NFP should have:
 - i) a good understanding of national/regional issues and priorities concerning water and wetlands;
 - ii) a demonstrated capacity for networking with wetland conservation and wise use experts at local and national scales (and international scale if appropriate), demonstrated engagement in such networks, and ability to facilitate consensus among people with different backgrounds (e.g., scientists, government and NGO sector);
 - iii) widely recognized experience and expertise within his or her country in one or more aspects of wetland conservation and wise use, particularly those relevant to the priority work areas and tasks identified by the COP for the forthcoming work of the STRP;
 - iv) experience of working with wetland experts at local to national levels, and facilitating discussions and coordinating and consolidating review responses on science-based documents;
 - v) full access to electronic mail and Web-based information and communication systems, through which the intersessional work of the STRP will take place;
 - vi) full fluency in understanding, and fluency in reading and writing, English (which remains the working language of the STRP); and
 - vii) full commitment and the time necessary to undertake the work required of the STRP NFP, and with the support, where relevant, of the NFP's organization or institution.
18. When a Contracting Party appoints a new STRP NFP, or reaffirms the appointment of an existing STRP NFP, the Party should provide to the Secretariat information on the expertise, skills and capacity of their STRP NFP in relation to the criteria listed in paragraph 17 above.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.10

**Future implementation of scientific and technical
aspects of the Convention**

1. RECALLING Resolution IX.2 (2005), in which the Contracting Parties for the first time adopted a complete, unified and prioritized programme of scientific and technical implementation activities for a triennium, and AFFIRMING that experience indicates this to have been an efficient and effective way of providing an overall picture of such activities, for planning and delivering work, deciding further priorities, and allocating resources;
2. HAVING REGARD TO Resolution IX.11 on the revised *modus operandi* of the Scientific and Technical Review Panel (STRP), as updated and refined by Resolution X.9 adopted by the present meeting of the Conference of the Contracting Parties;
3. AWARE that it has not been possible to progress some elements of STRP's priority work in the 2006-2008 triennium and that full delivery of the Panel's programme remains subject to resources, in particular to voluntary contributions from Parties and others; and
4. WARMLY THANKING those Parties and organizations that have contributed financially and in kind to the work of the STRP in the 2006-2008 triennium, and NOTING the significant benefits to the scope of the Panel's work that are afforded by voluntary contributions from Contracting Parties;

THE CONFERENCE OF THE CONTRACTING PARTIES

5. APPROVES the high priority actions for the STRP for the 2009-2012 period in Annex 1 to this Resolution, and ALSO APPROVES the list of tasks in Annex 2 as the basis for the programme of work for the Panel;
6. INSTRUCTS the Secretariat to consolidate into Annex 2 of this Resolution any additional or amended scientific and technical implementation actions for the STRP arising from other Resolutions adopted by the present meeting of the Conference of Parties;
7. CONFIRMS that this Resolution supersedes all those aspects of Resolution IX.2 and its Annexes relating to the work of the STRP; and
8. URGES Parties, donors, intergovernmental agencies, International Organization Partners, national NGOs, and others to use this programme, including the costed programme for

high priority STRP actions in Annex 1 of this Resolution, in deciding priorities for their financial and other material support towards the scientific and technical implementation of the Ramsar Convention, and FURTHER URGES Parties to consider making voluntary contributions to support the Panel's programme of work, particularly for those tasks indicated as being of a high priority.

Annex 1

High priority tasks for the STRP for the 2009-2012 period and estimated costs for their delivery

1. The 30 tasks listed in the tables below, and their estimated costs, have been recommended by the Scientific and Technical Review Panel (STRP) and COP10 as high priority activities for the STRP work plan for 2009-2012, selected from the full range of STRP tasks listed in Annex 2.
2. Provisional estimated costs are based on each task requiring the engagement by the STRP of an expert (or experts) to undertake the work required. Estimated costs have been provided by the STRP and its expert Working Groups – more precise costings and ways and means for the delivery of these tasks, not all of which may prove to require such funded expert consultancies, will be developed at the beginning of the 2009-2012 cycle through the mechanisms established under the revised STRP *modus operandi* (Resolution IX.11, as refined by Resolution X.9) for the development of STRP's work plan and reported to the Standing Committee.
3. Provisional estimated costs for the 30 2009-2012 High Priority tasks are CHF 635,000.
4. A summary title for each task and its anticipated type of output for each High Priority task is provided below. Task numbers refer to those in Annex 2. For a full description of each task, please refer to the relevant numbered task in Annex 2.

High Priority tasks and outputs	Provisional estimated cost (Swiss francs)
1. Ongoing functions of the STRP	
1.3 STRP National Focal Points support and network development	20,000
1.4 CEPA advice on guidance preparation	10,000
Subtotal:	30,000
2. Strategic scientific & technical implementation	
2.1 Agriculture and wetlands - guidelines	50,000
2.3 Wetlands and extractive industries - guidance review	20,000
2.4 Wetlands and energy issues – scoping review	10,000
2.6 Wetlands and poverty reduction – determine scope of guidance	Cost to be determined
2.10 Highly Pathogenic Avian Influenza (HPAI) – continuing review	5,000
Subtotal:	85,000
3. General wise use of wetlands	
3.1 MA response options – further advice	15,000
3.2 Wise Use case studies - dissemination	20,000
Subtotal:	35,000

4. Wetland inventory, assessment, monitoring and reporting	
4.2 Global Wetland Observing System (G-WOS) - development	20,000
4.3 Ramsar data and information needs – further elaboration	30,000
4.4 Describing ecological character – additional guidance	15,000
4.5 Harmonization of Ramsar Information Sheet (RIS) - options review	20,000
4.6 Detecting, reporting and responding to change in ecological character – further guidance	Cost to be determined
4.8 Indicators of effectiveness – operationalising the 1 st tranche	25,000 (for coordination: costs of operationalising specific indicators additional and being estimated)
4.9 Indicators of effectiveness – development of the 2 nd tranche	25,000
Subtotal:	135,000

5. Wetlands and human health	
5.1 Wetlands and human health – advice and guidance	60,000
Subtotal:	60,000

6. Wetlands and climate change	
6.1 Wetlands and climate change – further review and updated guidance	35,000
6.2 Climate change and wetlands mitigation and adaptation – collaborative activities	30,000
Subtotal:	65,000

7. Wetlands and water resources management	
7.3 Wetlands and water quality - guidance	20,000
7.4 Wetlands and water storage interactions – review and guidance	25,000
7.5 Water resources management in dry and sub-humid lands – guidance	25,000
7.7 Ramsar water and wetlands Resolutions – review of consolidation options	15,000
Subtotal:	85,000

8. Wetlands of International Importance (Ramsar sites)	
8.4 <i>Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance</i> – review and harmonization of Criteria, targets and guidance	25,000
8.6 Biogeographic regionalization schemes – availability and further assessment	25,000
8.7 Assessing under-representation in the Ramsar List – advice on gaps, targets and data and information sources	15,000
8.8 Reservoirs and other human-made wetlands – ecological significance review and designation guidance	20,000
Subtotal:	85,000

9. Wetland management – restoration, mitigation and compensation	
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9.1 Mitigation and compensation for wetland loss – guidance	25,000
9.2 Wetland restoration – updating and expansion of guidance	15,000
Subtotal:	40,000

10. Communication, education, participation & awareness (CEPA)	
10.3 Contracting Party training and capacity-building in using Ramsar guidance	15,000 (development only; implementation costs additional)
Subtotal:	15,000

TOTAL PROVISIONAL ESTIMATED COSTS for 2009-2012: CHF 635,000

Annex 2

Full list of tasks for the Scientific and Technical Review Panel

Notes: References in parentheses (...) after each listed task give the main origins/sources of mandates for that task. Where a mandate from the COP9 scientific and technical priorities Resolution (Resolution IX.2) remains relevant, the Resolution IX.2 reference is given without (in most cases) specifying its antecedents. Giving such a reference does not necessarily mean that the wording of the task presented here is a verbatim transcription of the wording in Resolution IX.2.

The tasks identified as “HIGH PRIORITY”, and listed in summary in Annex 1 above, are those which the STRP should, resources permitting, start working on as soon as possible.

Certain other tasks listed here (notably the “ongoing functions” tasks 1.1, 1.2 and 1.5) are also recognized as essential for the STRP to undertake, but they will be addressed, resources and capacity permitting, throughout the triennium as and when the need or request arises. Some additional resources may be needed to fully deliver this work.

As capacity and resources permit, the STRP will also seek ways and means of initiating implementation of certain other tasks listed here.

List of thematic sections in this Annex

1. Ongoing functions of the STRP
2. Strategic scientific & technical implementation
3. General wise use of wetlands
4. Wetland inventory, assessment, monitoring and reporting
5. Wetlands and human health
6. Wetlands and climate change
7. Wetlands and water resources management
8. Wetlands of International Importance (Ramsar sites)
9. Wetland management, mitigation, restoration and compensation
10. Communication, education, participation and awareness (CEPA)

1. Ongoing functions of the STRP

Note. All functions listed in this section, whether or not identified as High Priority, are treated by the STRP as “essential tasks” to be undertaken as and when required.

1.1 Strategic scientific and technical advice. Provide both proactive and reactive advice to the Convention on relevant strategic scientific and technical matters, including overall progress with scientific and technical aspects of the implementation of COP Resolutions, trends, emerging issues, and other priority matters requiring expert review (see also tasks listed in section 2 of this annex).
(Resolution IX.2 tasks 2 & 3)

1.2 Ongoing advisory functions. Continue to provide advice under the following functions as and when requested:

- i) advising, when requested, on Ramsar site designation and management issues, including on Article 3.2 reports concerning change in ecological character;
- ii) advising the Secretariat on requests from Contracting Parties for removing Ramsar sites from the Montreux Record of sites facing damaging change in ecological character;
- iii) advising on any request from a Contracting Party to participate in the activities of a different Ramsar region to that which it is assigned under the regional categorization of the Convention;
- iv) assisting Contracting Parties and bilateral development agencies in screening, developing and evaluating wetland projects;
- v) receiving progress reports and advising on future needs and developments of the Ramsar Sites Information Service; and
- vi) ensuring cooperation, exchange of information, and coordination of activities related to wetlands science, where appropriate, with the scientific and technical subsidiary bodies (and their related processes) of other MEAs and relevant regional fora, through actions defined in Joint Work Plans, through the Chairs of Scientific Advisory Bodies (CSAB) process and by other means, with a view *inter alia* to: promoting cross-adoption and endorsement of principles, guidance, resolutions; sharing work programmes in order to identify common areas, gaps and opportunities for joint work; and improving scientific collaboration in general.

(Resolution VIII.28; Resolution IX.11, Resolution IX.2 task 4, Resolution X.11, Resolution X.1: strategies 1.5, 3.1)

1.3 STRP National Focal Points - support and network development. Continue to strengthen the role and participation of STRP National Focal Points (NFPs) in the work of the Panel, *inter alia* by:

- i) enhancing the methods for and frequency of regular contacts between Panel Members and STRP NFPs;
- ii) identifying opportunities and mechanisms for holding intersessional regional or subregional meetings of STRP NFPs;
- iii) compiling improved information on the interests and expertise of all STRP NFPs;
- iv) engaging the STRP NFPs in the identification of relevant national experts who may, in relation to specific individual STRP tasks, be able to review draft documents and make other inputs as appropriate;
- v) at the request of a given Administrative Authority, involving its STRP NFP in monitoring and evaluating any SGF projects in that country;
- vi) keeping the terms of reference and *modus operandi* of STRP NFPs under review, with a view to identifying potential future improvements and to providing any further guidance to STRP NFPs that may be required.

(Resolution VIII.28; Resolution IX.11, Resolution IX.2 task 4, Resolution X.9)

HIGH PRIORITY

1.4 CEPA advice on guidance preparation. Ensure that the preparation of STRP guidance and advice materials draws fully on expertise available to the Convention concerning Communication, Education, Participation and Awareness (CEPA) in order to optimize the effective drafting, design, targeting and uptake of such materials; and ensure that CEPA experts also contribute to promoting and researching uptake of such materials and the

scientific and technical profile of the Convention in general, including the ongoing documentation of lessons learned. (see also related tasks in section 10 CEPA.)

(Annex to Resolution IX.11, Resolution IX.2 task 152)

HIGH PRIORITY

- 1.5 Review of draft COP Resolutions.** Review and comment on proposals from Contracting Parties for COP Resolutions with scientific or technical content, and provide this advice to the Standing Committee and COP.
(Resolution IX.2 task 1)

2. Strategic scientific and technical implementation

Note. Tasks in this section cover STRP work on strategic and emerging issues and on specific sectoral issues. Where possible, the STRP will draw on successful experiences from the different Ramsar regions in order to support their work on these tasks.

- 2.1 Agriculture and wetlands - guidelines.** In the light of the outcomes of the “Comprehensive Assessment on water management in agriculture” (CA), the “Water for food and ecosystems” initiative and the “Guidelines on Agriculture and Wetland Interactions” (GAWI) Framework for guidance, contribute to the testing of existing guidance and/or development of further guidance on wetlands and agriculture interactions, in the context of Resolution VIII.34.

(Resolution IX.2 tasks 149 and 150, STRP 14)

HIGH PRIORITY

- 2.2 Agriculture and wetlands – advice on assessments.** Prepare further advice to the Contracting Parties on the interrelated Comprehensive Assessment of Water Management in Agriculture (IWMI, CGIAR initiative) and Global Environment Outlook-4 (GEO-4) of UNEP.

(STRP14, Resolution X.18]

- 2.3 Wetlands and extractive industries - guidance review.** Working with UNEP, IUCN, and other relevant organizations:

- i) Review available technical guidance on assessing, avoiding, minimizing and mitigating the direct and indirect impacts of extractive industries on wetlands in the exploration, development, operation, closure and post-closure phases, taking into account the potential for adoption of new or emerging extraction technologies and paying particular attention to restoration options, and
- ii) on the basis of this review, to make recommendations regarding the suitability of available technical guidance and the need, if any, for development of new technical guidance.

(STRP14, Resolution X.26)

HIGH PRIORITY

- 2.4 Wetlands and energy issues - review.** Conduct a scoping review of the implications for wetlands of energy generation and distribution activities, covering both the conventional and renewable energy sectors, having regard to issues concerning climate change and wetlands, linking as appropriate to work done in relation to the task on extractive

industries defined separately in the present Annex above, and taking account of up-to-date evolving policy perspectives in these sectors and on issues of energy security in general. (STRP14)

HIGH PRIORITY

- 2.5 Economic sector issues for wetlands - review.** Conduct a scoping review of technical aspects of relevance to the Ramsar Convention in the finance, banking, investment, insurance and other economic sectors, with a view to developing enhanced understanding of the implications for wetland-related policy and decision-making of economics-based approaches to investment and insurance risk analysis, tradeoffs, incentives, perverse incentives, modelling, forecasting, water and wetland commodities pricing, hunting and harvesting in wetlands, trade in wetland products, flood risk management, floodplain planning controls, health costs and benefits, and other aspects, taking into account evolving perspectives on valuation of wetland ecosystem services, having regard to opportunities for raising awareness of wetland issues in the financial sector. (Resolution IX.2 task 167, STRP14)

- 2.6 Wetlands and poverty eradication – guidance scope.** Working with the IOPs and other interested organizations and networks to review the framework for actions set out in Resolution IX.14 and Resolution X.28, and on the basis of this to develop proposals for the most appropriate form and specific scope of scientific and technical guidance on wetlands and poverty eradication for Contracting Parties to support the implementation of these Resolutions, which might include *inter alia*:

- i) development of an integrated framework for linking wetland conservation and wise use with poverty eradication, including the identification of the most appropriate scale at which each type of poverty eradication action should take place, and also taking into account the possible effects of hunting and harvesting in wetlands;
- ii) identification and development of indicators relating wetland wise use with livelihoods and poverty eradication;
- iii) development of a practical structured ‘guide to the available guidelines and tools’ for addressing poverty eradication in relation to wetlands; and
- iv) collation and review of examples of how wetland degradation affects people’s livelihoods and how maintenance or restoration of the ecological character of wetlands can contribute to poverty alleviation, including from documented case studies provided Contracting Parties, the IOPs, and others that demonstrate that the wise use of wetland resources by local communities can provide a significant contribution to poverty eradication

(Resolution IX.14, Resolution IX.2 task 19, Resolution X.28)

HIGH PRIORITY

- 2.7 Planning and management of urban and peri-urban wetlands - guidance.** In the light of advice from Contracting Parties through their STRP National Focal Points on issues concerning urban and peri-urban wetlands that would benefit from additional scientific and technical guidance, consider the preparation of guidance for Contracting Parties and consider ways to disseminate information to Contracting Parties on managing urban and peri-urban wetlands, in accordance with an ecosystem approach, and taking into account issues such as climate change, ecosystem services, food production, human health and livelihoods. (STRP14, Resolution X.27)

2.8 Wetlands and fisheries – guidance needs review. Review remaining needs and gaps in guidance relating to wetlands and fisheries, taking account of the materials produced to date in response to tasks 17 and 18 in Resolution IX.2, and prepare advice on what further scientific and technical guidance may be required, if any, with a suggested work plan for its completion.

(STRP14)

2.9 Wetlands and tourism - scoping review. Conduct a brief scoping review of needs, options and opportunities for development of advice on scientific and technical aspects of tourism, sustainable tourism, ecotourism and other recreational activities in relation to wetlands, also taking into account the effects of tourism-related hunting and harvesting in wetlands.

(Resolution IX.2 task 164, STRP14)

2.10 Highly Pathogenic Avian Influenza (HPAI) – continuing review.

- i) Maintain an active overview of and input to issues relating to Highly Pathogenic Avian Influenza (HPAI), especially in relation to surveillance, information-exchange and response strategies, including by continued participation in the Scientific Task Force on Avian Influenza and Wild Birds, and including a determination of whether lessons learnt from best practice responses to HPAI H5N1 have implications for Ramsar guidance relating to protected sites and other aspects of wetland wise use, followed by the development of any necessary proposals for modifying such guidance; and
- ii) in collaboration with other relevant organisations, consider how best to develop practical guidance on the prevention and control of other diseases of either domestic or wild animals in wetlands, especially those diseases that have implications for human health, and how such guidance can be best incorporated into management plans at Ramsar sites and other wetlands.

(Resolution IX.23, Resolution IX.2 task 62, STRP14, Resolution X.21)

HIGH PRIORITY

2.11 Waterbird flyway initiatives – knowledge-sharing. Contribute as appropriate to joint efforts with the Ramsar Secretariat and the secretariats and subsidiary bodies of the Convention on Migratory Species, the Agreement of African-Eurasian Waterbirds, and other interested organizations to establish a mechanism for sharing knowledge and experience on best practices in the development and implementation of flyway-scale waterbird conservation policies and practices, including successful means of disseminating critical supporting data and information to stakeholders and others.

(Resolution X.22 Resolution X.1: strategy 3.5)

2.12 Invasive species and wetlands guidance. Prepare comprehensive and up-to-date global guidance on invasive species in relation to wetlands and their management, in cooperation with the Global Invasive Species Programme (GISP) and other relevant organizations. (See also task 6.1 iv.)

(Resolution X.1: strategy 1.9)

2.13 Corporate “water footprint” assessments. Assess guidelines, such as those of the Water Footprint Network, that have been developed to support companies in assessing their

water ‘footprint’ as a part of programmes of corporate environmental and social responsibility.

(Resolution X.12)

2.14 Rice paddy biodiversity and management. Working with other interested organizations:

- i) prepare a technical report on the role of rice paddy in supporting the conservation of wetland biodiversity and the delivery of wetland ecosystem services, taking into account differences in the ways in which rice fields are managed, considering also the work of the GAWI partnership; and
- ii) review, disseminate, and exchange available guidance and information related to rice paddy planning, management practices and training on sustainable rice farming that protect or enhance wetland biodiversity and ecosystem services while also supporting essential food production, in collaboration especially with FAO, IWMI, the International Rice Research Institute (IRRI), the Africa Rice Centre (WARDA), the GAWI partnership, and others.

(Resolution X.31)

2.15 Other sectoral and/or emerging issues – watching brief. Maintain a “watching brief”, including opportunistic collation of relevant information, on the following issues:

- i) soil and land degradation impacts on wetlands, including the potential scope for collaboration with the UN Convention to Combat Desertification;
- ii) shifting patterns of human population distribution and the impacts of these on wetlands, including the potential scope for developing a better understanding of information needs, linked *inter alia* with relevant aspects of work on climate change;
- iii) beyond the consideration of forest issues within the tasks defined elsewhere in the present Annex on climate change and energy, other aspects of the effects on wetlands of afforestation, deforestation and reforestation, awareness needs in the forests sector concerning forested wetlands and wetland-dependent forests, and knowledge needs concerning representation of relevant wetland types in the Ramsar List of Wetlands of International Importance (Resolution IX.2 task 165);
- iv) governance issues of relevance to wetlands, including policy options concerning corporate social responsibility, and prevention of and responses to governance failures (including corruption), having regard *inter alia* to Resolution X.18;
- v) wetlands and conflict, taking account of the background information exchanged within the STRP during the 2006-2008 triennium, and having regard as appropriate to Article 5 of the Convention;
- vi) any need for guidance on specific scientific and technical implementation issues in transboundary contexts;
- vii) wetlands and genetically modified organisms (GMOs), in collaboration where appropriate with the Convention on Biological Diversity.

(STRP 14)

2.16 Future priorities - assessment. In addition to any proposals arising from the “watching brief” task defined above, consider what priority, if any, might need to be given to work or further work in relation *inter alia* to the following issue areas:

- i) social aspects of water management and social impact assessment;

- ii) industrial sectors not mentioned in the list of other tasks defined in the present Annex;
 - iii) biodiversity conservation, protected areas and wildlife population management;
 - iv) hunting and harvesting in wetland ecosystems, whether for subsistence, commerce or recreational purposes;
 - v) and in general utilise the “Changwon Declaration” (Resolution X.3 *The Changwon Declaration on human well-being and wetlands*) in the establishment of priorities, feeding back experiences on its uptake to the Secretariat.
- (Resolution IX.2 task 167, STRP14, Resolution X.3)

3. General wise use of wetlands

- 3.1 MA response options – further advice.** Continue to develop ways in which to further promote and best utilize the findings of the Millennium Ecosystem Assessment, especially those concerning response options, and in particular by developing Ramsar guidance on response options which address broad implementation themes not currently covered by the toolkit of Ramsar Wise Use Handbooks, including *inter alia* nutrient cycling, food, and climate change, and including advice on responses at sub-global scales.

(Resolution IX.2 task 13, STRP 14, Resolution X.18)

HIGH PRIORITY

- 3.2 Wise Use case studies - dissemination.** Prepare advice on maximizing the utility, both to the STRP and others, of case studies prepared in recent years on aspects of wetland wise use, to include proposals for the design of appropriate Web-based resources to assist in making such case studies more widely available.

(STRP14)

HIGH PRIORITY

4. Wetland inventory, assessment, monitoring and reporting

- 4.1 Status of wetland inventories.** Prepare a summary update report on the status of global and regional wetland inventories, referring as appropriate *inter alia* to the update of the *Global Review of Wetland Resources and Priorities for Wetland Inventory* (GroWI-2), the WSSD Type II partnership with FAO-GTOS, Web-based dissemination of regional inventories and directories, and other relevant collaborations, in particular those with earth observation agencies, and including appropriate recommendations on methodologies, coverage gaps, harmonization, awareness and knowledge-exchange.

(Resolution IX.2 task 51, STRP14, Resolution X.1: strategy 1.1)

- 4.2 Global Wetland Observing System (G-WOS) - development.** Draw up a specification for a global system for wetland observation (G-WOS), which would:

- i) draw on collaboration, data and analyses from relevant earth observation programmes and agencies, the WSSD Type II partnership with FAO-GTOS, the Millennium Ecosystem Assessment, and other relevant sources;
- ii) include elements of a Web-based wetland inventory meta-database; and
- iii) serve to support relevant Ramsar effectiveness indicators (primarily indicator A(i) on status and trends in ecosystem extent) and other needs specified in Resolution X. [COP10 DR 14 on Data and information needs for management of wetlands],

including those relating to inventory and wetland condition associated with agriculture, climate change, and human health.

(Resolution IX.2 task 50, STRP14, Resolution X.14, Resolution X.1: strategy 1.2)

HIGH PRIORITY

4.3 Ramsar data and information needs – further elaboration. In relation to Resolution X.14 on *A framework for Ramsar data and information needs*:

- i) update and further develop the Convention's *Framework for Ramsar data and information needs*, drawing on implementation experience, end-user perspectives, and analysis of further needs defined in the decisions of COP10, in particular in relation to the data and information needs for identification and designation of Ramsar sites;
- ii) produce a companion document identifying actions and action gaps of relevance to meeting the needs defined in the Framework at different scales;
- iii) make use of the Framework *inter alia* to inform harmonization/interoperability activities with other MEAs; construction/prioritization of relevant project proposals either developed or supported by the Ramsar Convention; and the future development of the Ramsar Sites Information Service;
- iv) with the Secretariat, continue to cooperate with the CBD Secretariat, UNEP, and UNEP-WCMC in the development of a framework for harmonized reporting on implementation on inland waters for the CBD and the Ramsar Convention.

(Resolution IX.2 task 52, STRP14, Resolution X.11, Resolution X.14)

HIGH PRIORITY

4.4 Describing ecological character - guidance. Develop further the Convention's guidance on describing ecological character (Resolution X15) to include, to the extent practicable:

- i) further operational guidance for practitioners on completing the ecological character description sheet for sites;
- ii) guidance and information on using relevant conceptual models;
- iii) cross-references, where available, from each relevant description sheet data field to worked examples, case studies or other appropriate sources of potential, actual or *de facto* standards for completing the fields;
- iv) guidance on the scope for using Ramsar information fields in enhancing harmonisation and streamlining of reporting under related MEAs; and
- v) a review of practical implementation experiences, with lessons learned.

(STRP14, Resolution X.15)

HIGH PRIORITY

4.5 Harmonization of RIS - options review. Review options for, and as necessary prepare proposals for, re-structuring and/or revising the format of the Information Sheet on Ramsar Wetlands (RIS) and its accompanying Explanatory Notes and Guidelines to take account of the recommendations in Resolution X.15 on *Describing wetland ecological character, and data needs and formats for core inventory: harmonized scientific and technical guidance*, other relevant decisions adopted by COP10, other requirements (including protocols regarding shared sites), and the outcome of other tasks listed in the present Annex which relate specifically to the RIS, including (but not necessarily limited to) the tasks on Ramsar site Criteria, ecological character description, and Ramsar site information needs.

(Resolution IX.2 task 106, STRP14, Resolution X.15)

HIGH PRIORITY

- 4.6 Detecting, reporting and responding to change in ecological character – further guidance.** In the context of Article 3.2 and the guidance in the Annex to Resolution X.16 on *A framework for processes of detecting, reporting and responding to change in ecological character*, develop further guidance on issues including:

- i) “limits of acceptable change”, including guidance on defining the range of natural variability of a site;
- ii) determining confidence limits and degree of likelihood in cases of “likely” change in the context of Article 3.2;
- iii) the application of a precautionary approach in the Ramsar Convention; and
- iv). appropriate procedures for the Secretariat and Contracting Parties to consider reports made by third parties of change or likely change to the ecological character of Ramsar sites.

(STRP14, Resolution X.13, Resolution X.16)

HIGH PRIORITY

- 4.7 Montreux Record questionnaire redesign.** Prepare advice on redesigning the Montreux Record questionnaire to ensure consistency with the recommendations in Resolution X.15 on *Describing wetland ecological character, and data needs and formats for core inventory: harmonized scientific and technical guidance* and Resolution X.16 on *A framework for processes of detecting, reporting and responding to change in ecological character*, and to take account of other perceived priority requirements.

(Resolution IX.2 task 56, STRP14)

- 4.8 Indicators of effectiveness – operationalizing the 1st tranche.** Assist the Secretariat in operationalizing the first tranche of Ramsar indicators of effectiveness of implementation of the Convention agreed by COP9, including implementation of Indicator Collaboration Agreements, publishing and disseminating results and conclusions, contributing to 2010 biodiversity target activities and other relevant assessments, and reporting to Standing Committee and COP11.

(Resolution IX.1 Annex D, Resolution IX.2 task 59, STRP14, Resolution X.1: strategy 2.6)

HIGH PRIORITY

- 4.9 Indicators of effectiveness – development of the 2nd tranche.** Further develop, test and put forward for use by Parties and others as appropriate the second tranche of indicators of effectiveness of the implementation of the Convention agreed by COP9.

(Resolution IX.1 Annex D, Resolution IX.2 task 60, STRP14, Resolution X.1: strategy 2.6)

HIGH PRIORITY

- 4.10 Convention monitoring and assessment – scientific and technical aspects.** In ways which are complementary and supplementary to the work on effectiveness indicators specified in other tasks in the present Annex above, assist the Secretariat, Standing Committee and Parties in relation to the scientific and technical aspects of their monitoring and assessment of the performance of the Convention through the Key Result Areas defined in the Ramsar Convention Strategic Plan 2009-2015 and assessment of information in COP National Reports.

(STRP14, Resolution X.1)

4.11 Status and trends of wetlands, including Ramsar sites - assessment. Prepare an analysis of the status and trends in the ecological character of sites in the Ramsar List, set as far as possible in the context of the status and trends of wetlands more generally and drawing as appropriate on the Ramsar Sites Database, the Convention's indicators of implementation effectiveness, the results of the Millennium Ecosystem Assessment, and other assessment initiatives, and seeking in turn to contribute to relevant assessment processes including those relating to international 2010 biodiversity targets.
(Resolution IX.2 tasks 57 and 58, Resolution X.1: strategies 1.2 & 2.6)

4.12 Management effectiveness tools – guidance. Prepare guidance on how the Management Effectiveness Tracking Tool (METT) developed by WWF, the World Bank and others can be applied by Contracting Parties for regularly assessing detection, reporting and responses to change in wetland ecological character.
(Resolution X.16)

5. Wetlands and human health

5.1 Wetlands and human health – advice and guidance. Investigate further the links between wetlands and human health and well-being, in particular by:

- i) developing, from the STRP's 2008 report and other relevant sources, further products for the human health sector concerning human health and wetlands;
- ii) further assessing the interactions between wetland ecosystems and their services and human health and well-being, having regard also to the human health dimension of the task defined separately in the present Annex above concerning Highly Pathogenic Avian Influenza H5N1, and the risks posed to human health and to wetlands by the spread of diseases through illegal trade in or movement of wetland products and species;
- iii) developing interpretations and conceptual thinking in a Ramsar context of the applicability or otherwise of "health" to wetland ecosystems, the relationship of wetland ecosystem health to the concepts of ecological character and ecosystem services, and the implications for implementing and monitoring wise use and ecological character objectives under the Convention, taking into account both socioeconomic and ecological considerations;
- iv) identifying gaps in knowledge and information on wetlands and human health for different regions, and identifying ways and means of filling such gaps;
- v) identifying opportunities to promote the importance of Ramsar sites which are significant for human health; and
- vi) preparing guidance for wetland managers and the human health sector on processes for identifying appropriate responses to the co-management of wetlands and human health issues, including trade-offs and including application of health impact assessment approaches, increased transparency of information, representation of marginalized stakeholders, and engagement with the core business of other sectors such as water management.

(STRP14, Resolution X.23)

HIGH PRIORITY

6. Wetlands and climate change

6.1 Wetlands and climate change – further review and guidance. Develop guidance, working with the IPCC and others, on the latest knowledge of the current and potential impacts of climate change on wetlands and on appropriate policy and management responses for addressing these impacts on wetlands, including *inter alia*:

- i) building on initial work done in the 2006-2008 triennium, further development of methods for assessment of hydro-ecological impacts of climate change on wetlands, including the testing of such methods in data-poor areas;
- ii) a review of wetland distribution in relation to land use and population distribution trends, in order to demonstrate potential effects on human health if wetlands are lost due to climate change impacts;
- iii) guidance on how wetland management and restoration can contribute to improving adaptation to climate change (linking as appropriate with the other tasks on wetland restoration and rehabilitation defined separately elsewhere in the present Annex);
- iv) review emerging information on the ways in which, *inter alia*, changes in wetland thermal and chemical regimes, hydro-patterns, and increases in water storage and conveyance infrastructure, including impoundments, potentially alter the pathways by which non-native species invade wetlands and influence their spread, persistence and ecological impacts on native species (see also task 2.12); and
- v) liaise with the Arctic Council on an assessment of the vulnerability of Arctic wetlands to climate change and the development of guidelines for wise use while taking account of the ongoing Arctic Biodiversity Assessment.

(STRP 14, Resolution X.24)

HIGH PRIORITY

6.2 Climate change and wetlands mitigation and adaptation – collaborative activities.

In conjunction with the Ramsar Secretariat, collaborate with relevant international conventions and agencies, including UNFCCC, CBD, UNCCD, IPCC, UNEP, UNDP, FAO and World Bank, in the development of a multi-institutional coordinated programme of work to investigate the potential contribution of wetland ecosystems to climate change mitigation and adaptation, in particular for reducing vulnerability and increasing resilience to climate change, and in addition:

- i) establish ways and means of collaborating with the UNFCCC and other relevant bodies to develop guidance for the development of mutually supportive adaptation and mitigation programmes that recognize the critical role of wetlands in relation to water and food security as well as human health;
- ii) bring scientific issues and information on wetlands and climate change to the attention of the Chairs of the Scientific Advisory Bodies of the Biodiversity-related Conventions (CSAB) at the next available opportunity, and use this forum to encourage enhanced scientific collaboration on issues related to wetlands and climate change;
- iii) establish ways of collaborating with the IPCC on scientific issues specifically related to wetlands and climate change, and contribute to its future work in order to raise the awareness of the climate change community regarding the importance of wetlands, including through the preparation and publication of relevant scientific reports on wetlands and climate change.

(STRP 14, Resolution X.24)

HIGH PRIORITY

6.3 Biofuels and wetlands – review and guidance.

- i) review the global distribution of biofuel production in relation to impacts on wetlands;
 - ii) review and collate existing best management practice guidance and social and environmental sustainability criteria for growing biofuel feedstocks in relation to wetlands, and where appropriate develop such guidance and criteria;
 - iii) consider further discussion between the Contracting Parties on addressing sustainable biofuel issues in relation to wetlands;
 - iv) advise the Standing Committee of the conclusions; and
 - v) work with relevant international bodies dealing with biofuels.
- (Resolution X.25)

7. Wetlands and water resources management

7.1 Implementation of river basin management plans - review. Review, to the extent practicable, available experience in implementation of river basin management plans, including experience in applying national laws on environmental flows, and document the lessons emerging.
(STRP14)

7.2 Integrated water and coastal management - case studies. Investigate ways of making optimal use of existing collated case studies for illuminating good practice concerning river basin management, integrated coastal zone management, and national laws on environmental flows and other water management issues, with reference to relevant volumes in the Ramsar Wise Use Handbooks series.
(STRP14, Resolution X.1: strategy 1.7).

7.3 Wetlands and water quality - guidance. Develop guidance on water quality issues related to wetlands, building on the materials collated and drafted by the STRP during the 2006-2008 triennium, with a view to integrating the final outputs into the *Integrated Framework for the Ramsar Convention's water-related guidance*.
(Resolution IX.2 task 91, STRP14).

HIGH PRIORITY

7.4 Wetlands and water storage interactions - guidance. Prepare a technical report on wetlands and water storage (including *inter alia* dams and groundwater) interactions, to provide further information and expanded guidance for supporting the implementation of the Resolution IX.1 Annex C ii *Guidelines for the management of groundwater to maintain wetland ecological character*, including *inter alia*:

- i) issues concerning emerging perspectives on water storage in relation to security of supply of water, food and energy *inter alia* in the context of climate change;
- ii) options for guidance on optimizing the operation of dams and other water management infrastructure (including flood defence and flood alleviation systems) for the benefit of upstream and downstream wetland ecosystems; and
- iii) taking into account the ecological roles played by reservoirs and other human-made wetlands (task 8.8).

(Resolution IX.1 Annex C ii, Resolution IX.2 task 90; STRP14).

HIGH PRIORITY

- 7.5 Water resources management in dry and sub-humid lands – guidance.** Develop guidance on water resources management in dry and sub-humid lands, including aspects relating to climate change and desertification, in consultation with the Convention on Biological Diversity in the context of the Ramsar-CBD Joint Work Plan, and in consultation with the UN Convention to Combat Desertification.
(Resolution IX.2 task 86, STRP14).
HIGH PRIORITY
- 7.6 Environmental water requirements for palustrine wetlands – options for guidance.** Review needs and possible options for development of guidance on the determination of environmental water requirements for palustrine wetlands.
(Carried forward from STRP 2003-5 work plan, STRP14).
- 7.7 Ramsar water and wetlands Resolutions – review of consolidation options.** Building on work done through the Standing Committee in the 2006-2008 triennium under Resolution IX.17 on the *Review of the decisions of the Conference of the Contracting Parties*, by COP12 review all adopted Ramsar COP Resolutions concerning water and wetland interactions, make recommendations concerning consolidation, updating and retirement of aspects of these Resolutions in relation to recent developments, and prepare a new draft Resolution concerning water and wetlands issues, including any necessary updating of the *Integrated Framework for the Ramsar Convention's water-related guidance* adopted by COP9 in Resolution IX.1 Annex C.
(STRP14, Resolution X.19).
HIGH PRIORITY

8. Wetlands of International Importance (Ramsar sites)

- 8.1 Ramsar site Criteria and Guidelines - ongoing review.** In addition to specific tasks listed below concerning the Ramsar site Criteria, keep the Criteria and Guidelines as a whole under review on an ongoing basis to ensure that they reflect global wetland conservation and wise use priorities (ongoing STRP function).
(Resolution IX.2 task 112).
- 8.2 Population estimates for applying Ramsar site Criteria 6 & 9 – updating.** Periodically secure the updating (by other qualified bodies where appropriate) of the list of relevant population estimates and 1% thresholds for the application of Ramsar site Criteria 6 and 9 (ongoing STRP function).
(Resolution IX.1 Annex B, STRP14)
- 8.3 Guidance on selection of Ramsar sites for particular wetland types – user-needs review.** Following, and in light of, the findings of the general review of the availability and utility of the Convention's scientific and technical guidance undertaken during the 2006-2008 triennium, conduct with input from CEPA experts a more detailed and specific review of user needs in relation to the Convention's guidance on selection of Ramsar sites for particular wetland types and the effectiveness of the guidance in meeting those needs; and develop proposals for any improvements or additions that may be necessary.
(Resolution IX.2 task 107, STRP14).

- 8.4 Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance – review and harmonization of Criteria, targets and guidance.** Building on preliminary analyses begun during the 2006-2008 triennium, and without prejudice to the ongoing task of keeping the Ramsar site Criteria and Guidelines generally under review (task 8.1 above), conduct a thorough review and make proposals concerning the consistency, completeness, logic, coherence and clarity of the targets, guidelines and other materials that support the implementation of the Criteria, including (but not limited to) targets in the Convention's Strategic Plan, sources of contextual data for scientific evaluations, and guidance in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* as amended. (Resolution IX.2 tasks 110 and 112, STRP14).

HIGH PRIORITY

- 8.5 Criterion 9 contextual information needs - review.** Conduct a specific review of the contextual information that can and should support the application of Criterion 9, and make recommendations in this regard. (STRP14)

- 8.6 Biogeographic regionalization schemes – availability and further assessment.**

Following the work completed during the 2006-2008 triennium on biogeographic regionalization schemes of relevance to the application of the Ramsar Criteria:

- i) develop a Web-based portal for downloadable GIS-based information on the relevant schemes for realms, provinces, and ecoregions, to be hosted within the Ramsar Sites Information Service;
- ii) investigate further the usefulness of existing terrestrial and inland biogeographical regionalization schemes for supporting the application of the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance*.

(STRP14, Resolution X.20).

HIGH PRIORITY

- 8.7 Assessing under-representation in the Ramsar List – advice on gaps, targets and data and information sources.** Further develop advice on identifying and addressing under-representation in the Ramsar List, and investigate methods for defining targets for representation of wetland types in the List, including advice on data sources and methods for evaluating representativity of particular wetland types, and making links to relevant indicators of Convention effectiveness, with an overall emphasis on connectivity and other aspects of functional coherence of site networks, and including a review of experience at regional and other levels with such network concepts.

(Resolution IX.2 task 104, STRP14, Resolution X.20).

HIGH PRIORITY

- 8.8 Reservoirs and other human-made wetlands – ecological significance review and designation guidance.** Having regard to the tasks defined separately elsewhere in this Annex relating to urban wetlands and to dams and other water management infrastructure:

- i) review the ecological significance of reservoirs and other human-made wetlands, including their use by aquatic and other water-dependent biota; and
- ii) prepare further guidance for Contracting Parties concerning the identification and designation of such wetlands for the Ramsar List, taking into account the experience

gained by Parties that have already done so and in collaboration with other interested bodies.

(Resolution IX.2 task 108, STRP14).

HIGH PRIORITY

- 8.9 Management of transboundary Ramsar sites – review of case studies.** Assess a selection of case studies drawn from the Transboundary Ramsar Sites initiative, in order to summarise the existing range of flexible options regarding the designation and management of Transboundary Ramsar Sites.
(Standing Committee Decision 38-6; COP10 plenary)

9. Wetland management – restoration, mitigation and compensation

- 9.1 Mitigation and compensation for wetland loss – guidance.** Develop guidance on mitigation of and compensation for losses of wetland area and wetland values, in the context of Resolution X.16 on *A Framework for processes of detecting, reporting and responding to change in ecological character*, and including lessons learned from available information on implementation of “no net loss” policies, the “urgent national interest” test, and other aspects relating to situations in which Article 2.5 and 4.2 and/or Resolution VII.24 are relevant.
(Resolution IX.2 tasks 128 and 166, STRP14, Resolution X.16).
- HIGH PRIORITY**
- 9.2 Wetland restoration – updating and expansion of guidance.** Prepare proposals for updating and expanding existing Ramsar guidance on restoration and rehabilitation of lost or degraded wetlands, in the context of Resolution X.16 on *A Framework for processes of detecting, reporting and responding to change in ecological character*, including approaches to prioritization and links with other Ramsar tools and guidance, *inter alia* those on climate change and on economic values of ecosystem services.
(Resolution IX.2 task 127, STRP 14, Resolution X.16, Resolution X.1: strategy 1.8).

HIGH PRIORITY

10. Communication, education, participation and awareness (CEPA)

- 10.1 Optimal presentation of Ramsar guidance – further advice.** Make further contributions to proposals concerning optimal presentation of scientific and technical aspects of Ramsar guidance in the light of findings from reviews of uptake and effectiveness of existing guidance, and in conjunction with actions flowing from Resolution IX.17 concerning consolidation and retrieval of COP decisions.
(Resolution IX.2 tasks 3 & 5, STRP14).
- 10.2 Preparation of outreach materials based on STRP substantive guidances.** Seek opportunities to prepare materials for outreach purposes, particularly for decision-makers and other key stakeholders in relevant sectors, to support increased awareness and understanding on topics that are the subject of substantive guidance prepared by the STRP.
(Resolution IX.2 task 153).
- 10.3 Contracting Party training and capacity-building in using Ramsar guidance.** Develop effective ways of providing training and capacity-building for relevant stakeholders in Contracting Parties to assist with the interpretation and implementation of

scientific and technical guidance and other materials prepared by STRP, with the assessment and definition of future needs.
(STRP14, STRP Chair at SC36).

HIGH PRIORITY



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.11

**Partnerships and synergies with Multilateral Environmental
Agreements and other institutions**

1. NOTING the benefits to be gained from synergy and integrated implementation, where appropriate, among environment-related conventions, at all levels: global, regional, national and local, and from mutually supportive collaboration amongst all relevant players, as increasingly recognized in Resolutions VII.4 (1999), VIII.5 (2002), and IX.5 (2005), while also RESPECTING the independence of the mandates embodied in each convention;
2. WELCOMING the progress made by the Ramsar Convention in the past triennium in cementing and expanding its cooperation with other Multilateral Environmental Agreements (MEAs) and with other institutions working in fields relevant to the conservation and wise use of wetlands;
3. RECOGNIZING the generous support from the United Nations Environment Programme (UNEP) for the “Strengthening the Implementation of the Biodiversity-related Conventions through the Strategic Use of Information” project, led by the World Conservation Monitoring Centre (UNEP-WCMC), which with Ramsar participation is working to streamline and harmonize on-line tools for conventions and their secretariats;
4. NOTING that the 8th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) in its decision VIII/20 invited the Ramsar Convention to take the lead in developing a framework for harmonized reporting on inland waters, and that UNEP and UNEP-WCMC have commenced this work, as acknowledged by decision IX/19 of the 9th meeting of the CBD COP;
5. ALSO NOTING that the 9th meeting of the Conference of the Parties to the CBD in its decision IX/27 invited the scientific bodies of the biodiversity-related conventions and the Liaison Group of Biodiversity-related Conventions (BLG) to address at their future meetings options for enhanced cooperation with regard to work on cross-cutting issues, such as climate change and invasive alien species;
6. WELCOMING the endorsement in its decision IX/19 by the 9th meeting of the Conference of the Parties to the CBD of the Fourth Joint Work Plan (2007-2010) between the Ramsar Convention and the CBD;

7. AWARE that 2010 has been declared the International Year for Biological Diversity by the United Nations General Assembly at its sixty-first session (in decision 61/203 of 20 December 2006) and that there are close links between wetlands and biodiversity;
8. ALSO AWARE that 2011 has been declared the International Year of Forests by the United Nations General Assembly at its sixty-first session (in decision 61/193) and that some wetlands are forested;
9. RECOGNIZING that the UNEP/IUCN TEMATEA project has developed “issue-based modules for the coherent implementation of biodiversity-related conventions” including the Ramsar Convention, which *inter alia* provides thematically-organized modules for inland waters, protected areas, biodiversity and climate change, invasive species, and sustainable use, designed to support collaborative national planning and implementation among conventions; and
10. EXPRESSING AGAIN ITS APPRECIATION to the five International Organization Partners (BirdLife International, IUCN, the International Water Management Institute, Wetlands International, and WWF International) for their invaluable efforts in the past triennium to support the Ramsar Convention globally, nationally, and locally;

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11. REQUESTS the Secretariat to continue to cooperate closely with relevant conventions through its observer status in the Joint Liaison Group for the three Rio Conventions – the UN Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and UN Convention to Combat Desertification (UNCCD) – and through the work of the UNEP Environment Management Group (EMG), of which the Ramsar Secretariat is a member;
12. ALSO REQUESTS the Secretariat to continue to be fully involved in the work of the Biodiversity Liaison Group (BLG) established under the *aegis* of the CBD and to report regularly to Standing Committee on progress achieved by this group;
13. ENCOURAGES the Secretariat to continue its close collaboration with the Secretariat of the CBD presently under the 4th Joint Work Plan between the two conventions; URGES the Secretariat to pursue as actively as possible, time and resources permitting, the review and streamlining of its joint work programme with the Convention on Migratory Species (CMS) and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and to explore development of a joint programme with UNCCD under the existing Memorandum of Cooperation; and URGES the Secretariat to review its joint programmes of work with the UNESCO Man and the Biosphere Programme and the World Heritage Centre with a view to reinvigorating those collaborative mechanisms;
14. INVITES the Secretariat to continue to develop cooperative relations with UN agencies such as UNEP, UNESCO, the UN Food and Agriculture Organization (FAO), UN-Water, the World Tourism Organization, and the World Health Organization (WHO), as well as with other relevant intergovernmental organizations such as the Global Biodiversity Information Facility (GBIF), UNEP-WCMC, and the CGIAR networks, to seek membership in the Collaborative Partnership on Forests, and to seek to reduce duplicative activities;

15. REQUESTS the Secretariat to undertake a review of its memoranda of cooperation, resources permitting, with other global and regional environment agreements and other organizations with a view to renewing and reinvigorating those most likely to be beneficial to the work of the Convention within the time and resources available;
16. ENCOURAGES the Secretariat to establish and strengthen partnerships to develop closer working relations with intergovernmental regional groups (such as, for Africa, SADC, EC, ECOWAS, IGAD, etc.) with a view to enhancing the role of the Convention in those regions;
17. ALSO REQUESTS the Secretariat to develop closer working and consultative relationships with financial institutions, such as the Global Environment Facility, regional development banks, other environment funding organizations, and other institutions such as the European Commission and its relevant divisions for environment and biodiversity funding, with a view to facilitating greater access to those resources by the Parties to the Convention;
18. URGES the Secretariat to continue its extremely valuable collaboration with the five International Organization Partners and ENCOURAGES the IOP representatives to take steps to increase awareness of Ramsar objectives and the collaborative relationship with the Convention to the greatest extent possible throughout their organizations, including coordination with IOPs' country and regional offices, where appropriate, in the context of Joint Work Plans prepared with the Ramsar Secretariat;
19. FURTHER URGES the Secretariat to remain alert for opportunities for developing similarly fruitful relationships with other non-government organizations as they may appear and, following a review of MOUs already in place with other NGOs, to foster increased cooperation with those NGOs that can most benefit the work of the Convention;
20. REQUESTS the Scientific and Technical Review Panel (STRP), subject to the availability of time and resources, to exchange information and coordinate activities with the equivalent subsidiary bodies of other MEAs and relevant regional fora, including through continued active involvement in meetings of the chairs of scientific and technical subsidiary bodies (CSAB) convened by the Secretariat of the CBD, and to report through the Standing Committee to the Conference of the Parties on these activities;
21. REQUESTS the Secretariat to continue its participation in the UNEP-WCMC project for developing tools for the on-line use of the biodiversity-related conventions, including those for possible on-line harmonized reporting by the respective parties;
22. ALSO REQUESTS the Secretariat and the STRP to continue to cooperate with the CBD Secretariat, UNEP, and UNEP-WCMC in the development of a framework for harmonized reporting on implementation on inland waters for the CBD and the Ramsar Convention;
23. CALLS UPON Contracting Parties, other governments, International Organization Partners and other relevant organizations to make a special effort to contribute to the International Year of Biological Diversity (2010) by all appropriate means, including, *inter*

alia, by drawing special attention to: the critical role of wetlands in supporting many components of biodiversity in the terrestrial, freshwater, and marine biomes; raising awareness of the linkages between wetlands, biodiversity, and the achievement of human development targets; the role of wetlands in responding to climate change; and the contribution of the wise use of wetlands to the conservation and sustainable use of biodiversity;

24. ENCOURAGES Contracting Parties and other governments and organizations to make use of the web-based UNEP-IUCN “TEMATEA” issue-based modules resource (<http://www.tematea.org>) when developing and implementing mutually supportive activities among biodiversity-related conventions so as to improve coherence in the implementation of these conventions;
25. URGES Contracting Parties to take active steps at national level to improve regular liaison and collaboration between Ramsar Administrative Authorities and focal points and the focal points for related conventions and agreements, including as appropriate through their inclusion in National Ramsar/Wetland Committees, in order to ensure national responses to global environmental issues that will be as consistent as possible with the objectives and values of the Ramsar Convention;
26. URGES the Secretariat to support the work of the STRP in implementing Resolution VIII.26 on developing biological indicators on the results of the Convention’s activities, such that the evaluation of the effectiveness of the Convention occurs at least once in each reporting cycle, and REQUESTS the Secretariat and STRP to provide advice on how reporting on these indicators may be incorporated into the National Reports of the Parties; and
27. REQUESTS that the collaboration between the Secretariat and the other conventions should include a provision for harmonizing their reporting needs with a view to lightening the burdens on the Contracting Parties.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.12

**Principles for partnerships between the Ramsar Convention and
the business sector**

1. RECOGNIZING the importance of the ecological and socio-economic values of wetlands and the vital roles of wetland ecosystems in delivering a wide range of critical benefits and services to all human beings;
2. RECALLING that in Resolutions VIII.31 (1999) and X.8 (2008) on the Convention's CEPA programme, the Parties recognized that wetland issues can increasingly become part of the business of other sectors and not just that of the environment sector, thereby mainstreaming the conservation and wise use of wetlands into society and government;
3. AWARE of the fact that several business organizations and networks have developed and adopted their own guidelines to seek to share good practices relating to ecosystem management;
4. WELCOMING the Business and Biodiversity Initiative launched at the 9th Conference of the Parties to the Convention on Biology Diversity (CBD), and RECALLING CBD Decision IX/26 on Promoting Business Engagement;
5. CONSIDERING the potential that the wise use of wetlands can offer to sustain the economic and social activities of a wide range of public and private stakeholders;
6. RECOGNIZING the vital role of an effective communication between governments and other decision makers, managers, and various groups of interests, including governments, business leaders and communities in the implementation of the Ramsar Convention;
7. NOTING that promoting greater involvement and the adoption of commitments by the private sector in the conservation and wise use of wetlands is emphasized in Strategy 1.10 of the Strategic Plan 2009-2015; but
8. RECOGNIZING the role that the business sector plays in improving the management of water resources and reducing the risk of unsustainable environmental management, and their need to make efficient use of water, and NOTING the potential for sustainable water management to be addressed throughout a supply chain; and

9. EXPRESSING APPRECIATION to the Danone Group for its continued generous support for the Convention, and in particular for the communications activities of the Ramsar Secretariat over ten years' time, its World Wetlands Day materials, and the Evian Special Prize associated with the triennial Ramsar Conservation Award, and WELCOMING the recently launched "Biosphere Connections" partnership with the Star Alliance, which has been very helpful in supporting travel for sponsored delegates to Ramsar regional meetings;

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10. WELCOMES the "Principles for partnerships between the Ramsar Convention and the business sector" provided in the annex to this Resolution;
11. URGES Contracting Parties, the Secretariat and the Ramsar partners to make good use of these Principles, as appropriate, including within the frameworks of existing national, regional, and global initiatives and commitments;
12. ENCOURAGES Parties' Administrative Authorities to draw these principles to the attention of relevant stakeholders, including *inter alia* private companies, government ministries, departments and agencies, water and basin management authorities, non-governmental organizations, and civil society at large;
13. ENCOURAGES the business sector to seek practical ways, in collaboration with the Ramsar Secretariat as resources permit, to understand the linkages between their activities and wetlands ecosystems, to avoid negative impacts, and to mitigate unavoidable effects throughout the supply and production chain; to assess the status and trends of conservation of wetlands, including the threats and opportunities to maintain the structure and functions of wetland ecosystems throughout various stages of commercial activities; and to understand and appreciate the values of the ecosystem services and products on which they rely and the wetland types that produce those benefits;
14. ENCOURAGES private and public companies in the business sector to calculate their water 'footprint', expressed in both local and global contexts, and to reduce impacts in areas where water is either already scarce or is likely to become scarce, using the background information from the assessment of the Scientific and Technical Review Panel (STRP) mentioned in paragraph 21 below;
15. ENCOURAGES decision makers, especially business leaders, to develop and adopt policies, strategies and operational approaches according to existing national and international guidelines and standards for ecosystem management, including wetlands, which avoid, remedy or as a last option "offset" adverse impacts on wetland ecosystems, including considering the potential benefits that could be derived from the Business and Biodiversity Offsets Programme (BBOP) and outputs from The Economics of Ecosystems and Biodiversity (TEEB) initiative;
16. SUPPORTS joint efforts between the Ramsar structures and partners and the business sector in building alliances with scientific and research organizations, with a view to improving understanding of wetland ecosystem services, identifying and scaling up solutions, and sharing their tools and experience;

17. ENCOURAGES governments, donors, international organizations, and the civil society at large, including business companies, NGOs and local communities, to join their efforts to stop and reverse the degradation of wetlands in order to sustain the services they provide as a prerequisite for future growth opportunities;
18. ENCOURAGES private and public companies to develop alliances with relevant stakeholders to implement collective agreements and economic incentives such as payment for those environmental services which contribute to the conservation of wetlands and water resources;
19. INVITES concerned business enterprises to discuss with the Ramsar Secretariat possible ways and means of developing mutually beneficial partnerships, in accordance with the annexed principles, and INVITES concerned business enterprises to consider joining the Business and Biodiversity Initiative;
20. ENCOURAGES the Secretariat to continue working closely with the Danone Group and the Star Alliance in mutually beneficial ways and to be prepared to develop similar relationships with the private sector where these can be beneficial to the Convention and consistent with the Convention's mission and objectives;
21. REQUESTS the STRP to assess guidelines, such as those of the Water Footprint Network, that have been developed to support companies in assessing their water 'footprint' as a part of programmes of corporate environmental and social responsibility;
22. REQUESTS the Ramsar Secretariat, in all cases of developing projects or activities in partnership with the private sector in the territory of one or more Contracting Parties, to inform and consult in advance with the applicable Administrative Authorities for their agreement; and
23. INSTRUCTS the Ramsar Secretariat to give effect to the annexed principles when exploring new opportunities and pursuing new joint initiatives with private or public companies.

Annex

Principles for partnerships between the Ramsar Convention and the business sector

In giving effect to the following guiding principles, the Ramsar Contracting Parties encourage the Secretariat to further develop partnerships with the business sector, in the spirit of Strategy 1.10 of the Strategic Plan 2009-2015, in order to promote co-operation with a view to maintaining the ecological values of wetlands as assets for sustainable development.

Objectives

- To improve environmentally sustainable business practices by increasing dialogue and understanding of the socio-economic benefits and business opportunities provided by the ecosystem services of fully functioning wetland systems.

- To expand the resource base of the Convention and its activities by developing mutually beneficial relationships with the business sector.
- To promote the engagement of the business sector directly in the conservation and wise use of wetlands.
- To facilitate dialogue between business and key stakeholders of wetlands, particularly governments and relevant communities, in order to build trust, stimulate and develop concrete partnership activities.
- To increase local, national and regional investments in promoting wetland conservation, wise use, restoration and rehabilitation.
- To promote a better understanding of the values of wetlands and the mission of the Convention.
- To nurture and intensify the synergy between the ecological requirements for sustainable development and the socio-economic benefits derived from sound wetland management.
- To explore new areas of cooperation and develop appropriate sustainability measures for further cooperation between government and the private sector at national level.
- To identify and apply methodologies for innovative compensation of wetland loss as far as possible in the same areas with the same ecological functions in accordance with the Convention.

The key expectations of partnership development between the Ramsar Convention and the business sector are:

- to build an agreed strategy for best practices;
- to jointly carry out positive activities;
- to benefit mutually from the outcomes of joint activities.

General principles

1. There is an increasing recognition that the business sector is not only part of environmental problems but can also be part of the solutions, that sustainable development can be best achieved by the commitments and interactions of governments and civil society, including local communities, influential individuals, and private or public companies.
2. The Contracting Parties recognize that unsustainable business activities and the increasing poverty in various parts of the world are some of the root causes of environmental degradation, but that the increasing role played by globalization and economic growth is sometimes a source of great opportunities as well.

Criteria for identifying a potential private partner with the Ramsar Convention:

4. The fundamental criterion is the commitment by the company, including all its branches, to strengthen, and in no way to undermine, the integrity and reputation of the Ramsar Convention and its ability to carry out its mission in accordance with the decisions of the Conference of the Contracting Parties.

5. The second criterion is support for the mission of the Convention by the business entering in partnership with Ramsar and the recognition of environmental sustainability as one of the key conditions that sustain life and human health.
6. The third criterion is the commitment to incorporate the concept of environmental sustainability into their existing business practices and to develop and adopt new strategies that include wetland conservation and wise use, amongst the main concerns of the company.

Specific principles

7. It is imperative for the Secretariat to obtain a thorough understanding of the company, to assess the appropriateness of possible collaborative efforts, and to understand the potential mutual benefits and possible negative aspects. Care must be taken to assess the potential partner's activities throughout the world and throughout the breadth of its business strategies, and not only in the immediate area of the proposed relationship, in order to avoid any possible embarrassment to the Convention.
8. The assessment of the possible establishment of a partnership initiative should take into account immediate, short-term, and long-term mutual benefits as well as any potential negative aspects.
9. Any potential negative aspects of a partnership initiative must be carefully assessed, keeping in mind the possible immediate, underlying and root causes of misunderstandings that could damage the integrity of the Convention. In the event that negative aspects are identified, the partnership should be reconsidered or cancelled.
10. Care should be taken to avoid partnerships that require exclusivity and prohibit other partnerships of a similar nature.
11. Any suggestion about a possible Ramsar partnership with the business sector must first be discussed and assessed within the Secretariat, and then with the Standing Committee's Management Working Group. Following a preliminary assessment of any suggested initiative with the business sector, the Secretariat is responsible for undertaking the necessary consultations in order to seek the approval of the Standing Committee for further development of the new partnership relationship. Additionally, a notification should be sent to all Contracting Parties. In the event of an objection by a Contracting Party, the issue should be remitted to the next Conference of the Parties.
12. In any initiative with the business sector, the Secretariat should also consult with all applicable Contracting Parties to ensure that the relevant Administrative Authorities are kept fully informed and have agreed on the initiative.
13. Technical cooperation and capacity building programmes should be given due consideration in any planned collaborative activities with the business sector.
14. A monitoring and evaluation framework should be part of signed agreements to facilitate periodic assessment of the effectiveness of the partnership and prompt recommendations to improve the outcomes, and a mechanism should be designed to do that – all partnership

agreements should include a budget line to provide the necessary resources to carry out that process.

15. Private companies that enter into partnerships with the Ramsar Convention should align their efforts with the Ramsar Convention's policies and assist Contracting Parties in pursuing the implementation of the Convention, as resources permit.
16. Care should be taken, in developing any partnership with a business company, that both the senior officers of the company and their operational units throughout the company are fully aware of and supportive of the relationship. The Ramsar representatives must arrive at a clear understanding of the cultures of the organizations and what makes them willing to be committed to support wetland conservation and wise use.
17. Care must be taken at the outset of any such partnership that there is full agreement on its objectives, on the potential mutual benefits for both parties, and on any areas of potential friction and conflict that must be avoided.
18. The partnerships between the Ramsar Convention and the business sector could take any of several forms; for example,
 - a) informal provision of information on wetland issues to improve understanding of the trends of wetlands in a given geographic or professional area;
 - b) formal provision of information on positive and negative impacts on wetlands in a given geographic area;
 - c) long-term respective commitment through contractual arrangements to achieve previously defined goals.
19. It is important to maintain a positive attitude of frank and transparent collaboration that enables the Convention and its partners to be most effective and agree on constructive convictions, outlooks, ideas, and actions. The key approach is to build trust and add confidence in working together to identify and take actions that meet shared needs.
20. When conflict or friction cannot be avoided, however, it is necessary to take the interests of the Convention as the highest priority, in spite of possible loss of immediate or short-term benefits.
21. Since companies interested in collaboration with the Ramsar Convention might be very large, with interests and activities over a large area or throughout the world, care must be taken to monitor and evaluate, not only the ongoing partnership relationship with certain elements within the company, but also unrelated activities of the company elsewhere in the world, in order to avoid potential embarrassment to the Convention through that association.
22. Reports on the activities and progress of all such partnerships between the Convention and the business sector should be provided to each meeting of the Conference of the Parties, according to a standard summary format. All resources received from the partners for the Convention's use should be accounted for.
23. Only business companies with which formal partnerships that correspond to the above principles have been agreed may make direct reference to the Ramsar Convention and use

its logo. Other partnerships with commercial enterprises must not do so, and the Secretariat will have a watchful eye that this condition is fulfilled. Conversely, partners operating under a formal Ramsar partnership should state this in all their relevant communication and outreach activities and include the Ramsar logo in publications and other activities, whenever feasible.

24. On the other hand, the Secretariat encourages non-commercial uses of the Ramsar name and/or logo by wetland site managers, government authorities, non-governmental organizations, the press and other media without prior permission, because it is understood to be in the Convention's interests to expand the awareness of its name and objectives to the widest extent possible, and to make it as easy as possible for people to do so. The sole restriction made upon use of the Ramsar name and logo on the products of non-commercial entities is that the name and/or logo must not be positioned in such a way as to suggest that the Convention or the Secretariat has participated in or endorsed the product. (For example, publications about Ramsar sites are free to use the Ramsar logo as long as it is used in such a way as to make it clear that they are not Ramsar publications.)



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.13

**The status of sites in the Ramsar List of Wetlands of
International Importance**

1. RECALLING Article 2.1 of the Convention, which states that “each Contracting Party shall designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance”, and Resolution VIII.11 (2002), in which the Parties established that the Vision of the Ramsar List is to be achieved through the designation of coherent and comprehensive national and international networks of Ramsar sites;
2. ALSO RECALLING Article 8.2 of the Convention on the duties of the Secretariat concerning reporting on the status of Ramsar sites for the consideration and recommendations by the Parties at ordinary meetings of the Conference of the Contracting Parties on these matters, and Article 6.2(d) concerning the competence of the Conference of the Contracting Parties to make general or specific recommendations to the Contracting Parties regarding the conservation, management and wise use of wetlands;
3. CONGRATULATING the 61 Contracting Parties that since the report (COP9 DOC. 6) for the 9th meeting of the Conference of the Parties have designated a total of 317 Ramsar sites covering a total of 42,254,951 hectares as at 4 November 2008: Albania, Argentina, Australia, Barbados, Belarus, Belize, Benin, Bosnia and Herzegovina, Burkina Faso, Cameroon, Central African Republic, Chad, Colombia, Comoros, Congo, Côte d’Ivoire, Czech Republic, Ecuador, El Salvador, Estonia, Fiji, France, Gabon, Gambia, Germany, Guatemala, Guinea, Hungary, India, Indonesia, Iraq, Italy, Jamaica, Japan, Korea (Republic of), Kyrgyz Republic, Liberia, Macedonia (the FYR of), Madagascar, Malaysia, Mauritius, Mexico, Nepal, Nigeria, Peru, Portugal, Romania, Sao Tome and Principe, Serbia, Slovak Republic, Slovenia, South Africa, Spain, Sudan, Togo, Tunisia, Turkey, U.A.E., Uganda, UK, USA, Yemen, and Zambia; and ALSO CONGRATULATING the following 36 Contracting Parties that have designated or are preparing to designate a further 116 Ramsar sites (as at 4 November 2008) which are being finalised with the Secretariat for adding to the List: Bahamas, Bangladesh, Benin, Brazil, Burkina Faso, Burundi, Cameroon, China, Comoros, Congo, El Salvador, Equatorial Guinea, France, Gabon, Germany, Guinea-Bissau, Italy, Japan, Korea (Republic of), Malawi, Mauritania, Mexico, Moldova, Mozambique, Nepal, Nicaragua, Nigeria, Peru, Sao Tome and Principe, Seychelles, Sri Lanka, Sudan, Thailand, Uganda, UK, and Uzbekistan;
4. NOTING, however, that despite the fact that this represents a c. 25% increase in the number of sites being included in the List and a >25% increase in the total area designated

since COP9, there remain significant gaps in the comprehensiveness and representativeness of the global network of Ramsar sites and that the total of 1,822 sites on the Ramsar List as of 4 November 2008 falls below the targets of 2,000 sites set for the year 2005 by Resolution VII.11 (1999) and of 2,500 sites by the year 2010 that the Parties established in the *Strategic Framework and guidelines for the development of the Ramsar List* (2005);

5. CONCERNED that for 1,057 Ramsar sites (58% of all Ramsar sites) in 123 countries (see Annex 1 to this Resolution), Ramsar Information Sheets (RISs) or adequate maps have not been provided or updated RISs and maps have not been supplied to the Secretariat for more than six years, so that information on the current status of these sites is not available;
6. NOTING that changes to Ramsar site boundaries and areas reported to the Secretariat in updated Ramsar Information Sheets (RIS) concern only extensions or recalculations of areas including through more precise boundary delinérations;
7. AWARE that Article 3.2 of the Convention provides that “each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference. Information on such changes shall be passed without delay to the [Ramsar Secretariat]”;
8. RECALLING that in Resolution VIII.8 (2002) the Parties expressed concern that many Contracting Parties do not have in place the mechanisms to fulfil Article 3.2, and that they urged Contracting Parties to promptly “put in place mechanisms in order to be informed at the earliest possible time, including through reports by national authorities and local and indigenous communities and NGOs, if the ecological character of any wetland in its territory included in the Ramsar List has changed, is changing or is likely to change, and to report any such change without delay to the Ramsar [Secretariat] so as to fully implement Article 3.2 of the Convention”;
9. CONCERNED that of the 56 Ramsar sites included in the Montreux Record as at 4 November 2008 only 3 sites have been removed from the Record since COP9, but AWARE that requests from five Contracting Parties (Algeria, Germany, Italy, Mauritania and Senegal) for the removal of a further six sites from the Montreux Record are presently under review by the STRP; ALSO AWARE that the STRP has, in the light of recent consultation experience concerning the removal of sites from the Record, expressed the need to review and revise Montreux Record procedures so as to accelerate and streamline them; and NOTING that Contracting Parties have placed two further Ramsar sites on the Montreux Record since COP9: Chile (Carlos Anwandter Sanctuary (Río Cruces)) due to the mortality of Black-necked Swans (*Cygnus melanocoryphus*) and Nicaragua (Sistema de Humedales de la Bahía de Bluefields) because of potential ecological changes as a consequence of the proposed construction of an all-weather road;
10. RECOGNIZING the submission of Article 3.2 reports by the governments of 18 Contracting Parties concerning 22 Ramsar sites:
 - Argentina concerning the measures taken so far to improve the problem of overfishing at the Bahía de Samborombón Ramsar site, and concerning monitoring

the possible impacts of a road construction near the Reserva Natural Otamendi Ramsar site;

- Australia for its October 2008 updated notification concerning the status of the Coorong and Lakes Alexandrina and Albert Ramsar site and the measures and studies being implemented to address the effects of severe water shortage in that site;
- The Czech Republic and Austria concerning the proposed Danube-Oder-Elbe navigation canal and planned transport infrastructures which may significantly change the ecological character of three Czech Ramsar Sites (Floodplain of the Lower Dyje River, Litovelske Pomoraví, and Poodří) and the Donau-March-Thaya-Auen and Untere Lobau Ramsar sites in Austria;
- Belarus concerning deterioration of ecological conditions and the reduction of water levels threatening the Osveiski Ramsar site;
- China concerning the potential threat of a proposed diversion of water, now suspended, from the Dalai Lake Ramsar site for mining purposes;
- Colombia reporting on progress in addressing ecological status issues of the Sistema Delta Estuarino del Río Magdalena, Ciénaga Grande de Santa Marta Ramsar site;
- Denmark (Greenland) with preliminary information on the planned establishment of a runway, road and harbour possibly affecting Heden (Jameson Land) Ramsar site, Greenland's most important moulting area for barnacle geese;
- Honduras concerning potential ecological change at the Parque Nacional Jeanette Kawas Ramsar site due to the construction of a golf resort, following a Secretariat visit to discuss solutions with the Administrative Authority;
- Iraq reporting concern that the Hawizeh Marsh is in imminent danger of becoming hydrologically and ecologically stressed due to natural as well as human-made impacts;
- Kenya concerning threats to Lake Naivasha Ramsar site, siltation in Lake Baringo Ramsar site, and conversion of the Tana delta and a proposed sugar project there;
- Lebanon, reporting on the implementation of a project at the Palm Island Nature Reserve Ramsar site intended to clean up the effects of an oil spill from a power plant during a war in 2006, and to assess the level of ecological impact to the site;
- Mexico concerning excessive water abstraction for agriculture and industrial activities, possibly affecting Área de Protección de Flora y Fauna Cuatrociénagas Ramsar site;
- Nepal concerning severe flooding and a major change in river course through the breaching of artificial embankments which has damaged the ecological character of Koshi Tappu Ramsar site;
- Peru concerning activities to avoid ecological changes at the Reserva Nacional de Paracas Ramsar site;
- Slovenia concerning environmental impact assessments to avoid changes in the ecological character of Skocjan Caves Ramsar site due to new installations for drinking water supply;
- the Former Yugoslav Republic of Macedonia concerning eutrophication and the overexploitation of natural resources at the Prespa Lake Ramsar site; and
- the United Arab Emirates concerning proposals for canal construction and major restoration of degraded areas of the Ras Al Khor Ramsar site;

11. NOTING the steps being taken to restore the ecological character of these Ramsar sites, and ENCOURAGING the establishment of an International Wetlands Restoration Award

to encourage Contracting Parties to restore degraded wetlands by recognizing and disseminating best practices to restore wetlands;

12. ALSO NOTING that 26 Contracting Parties provided information in their COP10 National Reports, rather than without delay in reporting to the Ramsar Secretariat in line with Article 3.2 of the Convention, concerning ecological character change issues to a further 47 Ramsar sites (as listed in Annex 2 to this Resolution);
13. AWARE, however, that in general few Parties have reported instances of change or likely change in the ecological character of their Ramsar sites in line with Article 3.2, and CONCERNED at the number of reports first received by the Secretariat of Ramsar sites facing human-induced change or likely change in their ecological character came from third parties, as reported to this meeting in the Report of the Secretary General pursuant to Article 8.2 (d) concerning over 70 sites in more than 20 countries;
14. NOTING that some of these sites are parts of transboundary wetlands and river systems, such that change in their ecological character may affect the status of those parts of the wetland, including any Ramsar sites, lying within the territory of neighbouring countries, and RECALLING that Article 5 of the Convention states that “the Contracting Parties shall consult with each other about implementing obligations arising from the Convention especially in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties“, but;
15. RECALLING that in Resolution IX.15 the Parties expressed concern that in the management of some transboundary wetlands that include Ramsar sites, such as those in the Danube Delta, in relation to developments causing or likely to cause change in ecological character, fruitful international cooperation has not been achieved;
16. ALSO EXPRESSING CONCERN that the lack of Article 3.2 reporting by the Parties has meant that the Scientific and Technical Review Panel (STRP) has been unable to prepare a report to COP10 on the status and trends in the ecological character of Ramsar sites, as requested by Resolution VIII.8, but NOTING that the STRP was able to prepare for COP10 an operational tool on *Detecting, reporting and responding to change in ecological character: scientific and technical guidance* (Resolution X.16) to help Parties to address and report upon these issues in an organized way; and
17. RECOGNIZING that the pressures on Ramsar sites are likely to increase, and that many Ramsar sites have undergone or are undergoing change in their ecological character, or are likely to undergo such change, by virtue of the land use and other pressures affecting them;

THE CONFERENCE OF THE CONTRACTING PARTIES

18. REAFFIRMS the commitment made by the Parties in Resolution VIII.8 to implement fully the terms of Article 3.2 on reporting change and to maintain or restore the ecological character of their Ramsar sites, including employing all appropriate mechanisms to address and resolve as soon as possible the matters for which a site may have been the subject of an Article 3.2 report; and, once those matters have been resolved, to submit a further report, so that both positive influences at sites and changes in ecological character may be fully reflected in the reporting to meetings of the Conference of the Parties in order to establish a clear picture of the status and trends of the Ramsar site network;

19. CONTINUES TO ENCOURAGE Contracting Parties to adopt and apply, as part of their management planning for Ramsar sites and other wetlands, a suitable monitoring regime, such as that outlined in the annex to Resolution VI.1 (1996), and to incorporate within these monitoring regimes the Convention's *Wetland Risk Assessment Framework* (Resolution VII.10), so as to be able to report change or likely change in the ecological character of Ramsar sites in line with Article 3.2;
20. EXPRESSES ITS APPRECIATION to those 18 Contracting Parties that have provided reports to the Secretariat, fully in line with Article 3.2 of the Convention, on 22 Ramsar sites where human-induced changes in ecological character have occurred, are occurring, or may occur, as listed in paragraph 10 above;
21. ALSO EXPRESSES ITS APPRECIATION to those 21 Contracting Parties that in their National Reports to this meeting provided information on a further 41 Ramsar sites where human-induced changes in ecological character have occurred, are occurring, or may occur, as listed in Annex 2 to this Resolution;
22. CONTINUES TO ENCOURAGE Contracting Parties, when submitting a report in fulfillment of Article 3.2, to consider whether the site would benefit from listing on the Montreux Record, and to request such listing as appropriate;
23. REQUESTS Contracting Parties with sites on the Montreux Record to regularly provide the Secretariat with an update on progress in addressing the issues for which these Ramsar sites were listed on the Record, including reporting fully on these matters in their National Reports to each meeting of the Conference of the Parties;
24. REQUESTS the Ramsar Secretariat, in conjunction with the STRP's task on redesigning the Montreux Record questionnaire, to consider desirable frequencies of progress reporting by Contracting Parties, concerning resolution of issues that led to the inclusion of sites in the Montreux Record, and so to allow the Record to be updated before each COP;
25. REQUESTS those Contracting Parties with Ramsar sites for which the Secretary General has received reports of change or likely change in their ecological character to advise the Secretary General at the earliest opportunity of steps taken to address these changes, or likely changes, in ecological character;
26. CONGRATULATES Contracting Parties for their reports and their statements made to the Secretariat or at this meeting concerning site-specific ecological character and boundary issues, notably:
 - a) the government of Australia for information concerning measures to recover and deliver increased environmental flows to six Ramsar sites along the River Murray to meet the environmental objectives for these six sites: Riverland, New South Wales Central Murray State Forests, Barmah Forest, Gunbower Forest, Hattah-Kulkyne Lakes, and The Coorong & Lakes Alexandrina and Albert;

- b) the government of the Republic of Korea for providing information on the impacts of the major intertidal land-claim of Saemangeum, including on reported declines in the populations of migratory waterbirds;
 - c) the government of Italy for its successful application of the Montreux Record procedure and the subsequent removal of the Stagno di Molentargius Ramsar site from the Montreux Record, and for its stated intention and provision of information for removal of the Stagno di Cagliari Ramsar site as well;
 - d) the government of Poland for its successful application of the Montreux Record procedure and the subsequent removal of the Jezioro Siedmiu Wysp and Slonsk Reserve Ramsar sites from the Montreux Record;
 - e) the government of Senegal for its stated intention and provision of information for removal of the Parc National des Oiseaux du Djoudj Ramsar site from the Montreux Record;
 - f) the government of Algeria for its stated intention and provision of information for removal of the l'Oasis de Ouled Saïd and Lac Tonga Ramsar sites from the Montreux Record;
 - g) the government of Germany for its stated intention and provision of information for removal of the Wattenmeer, Ostfriesisches Wattenmeer & Dollart Ramsar site from the Montreux Record; and
 - h) the government of Mauritania for its stated intention and provision of information for removal of the Parc du Diawling Ramsar site from the Montreux Record;
27. RECOMMENDS, pursuant to Articles 6.2 (d) and 8.2 (e), the following with respect to alterations to the List or changes in the ecological character of specific Ramsar sites and other wetlands listed in the Report of the Secretary General to this Conference:
- i) pursuant to the recommendation in Resolution IX.15, paragraph 27. ii), that the government of Germany submit a consolidated report on the compensation measures taken under Article 4.2 and their effectiveness, concerning the Mühlenberger Loch Ramsar site, in line with Resolution VIII.20;
 - ii) pursuant to the recommendation in Resolution IX.15, paragraph 27. iv), that the government of Ukraine provide without delay full and updated information concerning the development of the deep water Bystroe navigation channel in the Danube Delta, including information concerning works undertaken after the adoption of Resolution IX.15 and report on progress of the transboundary cooperation with Romania and Moldova, as suggested by the Ramsar Advisory Mission in July 2008, carried out in the framework of the on-the-spot appraisal visit of the Council of Europe with the participation of other international organizations;
 - iii) pursuant to the recommendation in Resolution IX.15, paragraph 27. xi) and the recommendations of previous meetings of the COP, that the government of Greece advise the Secretary General on the general steps being taken to restore the ecological character of the seven Greek Ramsar sites included in the Montreux Record with a

view to removing these sites from the Record, and further advise the Secretary General of steps taken to maintain the ecological character of the three sites removed from the Montreux Record in 1999;

- iv) that the government of India provide further information concerning any proposals for the restriction of the boundaries of Kolleru Lake Ramsar site, that before any such restriction is considered the procedures set out in Resolution IX.6 are fully undertaken, and that the outcomes of this are reported to the Secretariat;
- v) that the government of Kenya further consider the use of the Montreux Record procedure in relation to current issues of ecological character in the Lake Naivasha and Lake Baringo Ramsar sites, and provide the Secretary General with further information concerning any changes to proposals for major conversion of the Tana delta for sugar production;
- vi) that the government of Tanzania provide the Secretary General with updated information in relation to the advice and recommendations of the Ramsar Advisory Mission to the Lake Natron Basin Ramsar site, in particular concerning the proposed development of soda ash facilities;
- vii) that the government of Nicaragua provide the Secretary General with any updated information concerning proposals for an all-weather road at the Bluefields Bay Wetland System Ramsar site, in relation to the recommendations of the Ramsar Advisory Mission to that site;
- viii) that the government of the United Arab Emirates (UAE) inform the Secretary General of any further developments in the proposals for canal construction and the rehabilitation of ecological character in the Ras Al Kor Ramsar site;
- ix) that the government of the Republic of Korea continue to provide the Secretary General with updated reports of monitoring concerning the ecological impact, especially in relation to population declines in internationally important migratory waterbird populations, of the Saemangeum land-claim, and advise the Ramsar Secretariat of any significant change in the ecological character of those Wetland Protection Areas and Ecosystem Landscape Conservation Areas that are wetlands;
- x) that the government of China advise the Secretary General of any change to the current suspension of proposed water abstraction from the Dalai Lake Ramsar site for mining purposes;
- xi) that the government of Iraq consider applying the Montreux Record procedures concerning the anticipated ecological character changes due to natural and human-made impacts on the Hawizeh Marsh Ramsar site;
- xii) that the government of Nepal consider applying the Montreux Record procedures concerning the recent ecological character changes due to flooding at the Koshi Tappu Ramsar site, and consider requesting a Ramsar Advisory Mission to advise on appropriate actions for the future management of this site;

- xiii) that the government of Malaysia provide a report to the Secretary General on the ecological character impacts to Pulau Kukup, Sungai Pulai, and Tanjung Pulai Ramsar sites from recent and planned coastal industrial developments; and
 - xiv) that the government of Australia continue to provide the Secretary General with updates on actions underway to manage the effects of severe water shortages in the Coorong and Lakes Alexandrina and Albert Ramsar site and consider the appropriateness of proposing this site for inclusion on the Montreux Record; and
 - xv) that the governments of Contracting Parties provide information promptly to the Ramsar Secretariat, upon request, concerning reports provided by third parties of change or likely change to the ecological character of Ramsar sites;
28. REQUESTS the STRP to develop advice on appropriate procedures for the Secretariat and Contracting Parties to consider reports made by third parties of change or likely change to the ecological character of Ramsar sites;
29. REQUESTS Contracting Parties to use the most up-to-date format of the Ramsar Information Sheet (RIS) in their designations of new sites, extensions to existing sites, and updates on existing sites;
30. EXPRESSES APPRECIATION to those Contracting Parties that have brought their Information Sheets for Ramsar Wetlands (RISs) up to date for all the Ramsar sites within their territory;
31. STRONGLY URGES those Parties within whose territories lie designated Ramsar sites for which official descriptions have still not been provided, and/or for which suitable maps have still not yet been submitted, to provide as a matter of the greatest urgency the Ramsar Information Sheets and/or maps in one of the Convention's official working languages, and INSTRUCTS the Ramsar Secretariat to contact the Contracting Parties listed in Annex 1 to this Resolution and request them to do so;
32. WELCOMES the statements made in the National Reports to COP10 or during this meeting concerning planned extensions to existing Ramsar sites, and future designations of new or extended Ramsar sites, from the following 68 Contracting Parties: Algeria (25 sites), Argentina (2 sites), Azerbaijan (4 sites), Belarus (2 sites), Belgium, Bolivia (3 sites), Botswana (2 sites), Bulgaria, Cambodia (3 sites), Chile (4 sites), China (44 sites by 2030), Colombia (1 site), Comoros (1 site), Congo (2 sites), Costa Rica (1 site), Côte d'Ivoire (6 sites), Croatia (1 site), Cyprus, Dominican Republic (2 sites), Ecuador (3 sites), El Salvador (15 sites), Estonia (12 sites), France (12 sites), Germany, Guatemala (6 sites), Honduras, Iceland (at least 2 sites), India (6 sites), Indonesia (3 sites), Islamic Republic of Iran ((5 sites), Israel (2 sites), Italy (5 sites), Japan (10 sites), Jordan (1 site), Kazakhstan (19 sites), Kenya (3 sites), Mali (2 sites), Mauritania (4 sites), Mauritius (1 site), Marshall Islands (2 sites), Moldova (1 site), Mongolia (26 sites), Montenegro, Nepal (5 sites), New Zealand (12 sites), Niger (5 sites), Pakistan (8 sites), Poland (at least 2 sites), Republic of Korea (5 sites), Romania, Slovenia, South Africa (2 sites), Spain (at least 5 sites), Sri Lanka (2 sites), Sudan (2 sites), Suriname (2 sites), Sweden, Switzerland, Tajikistan (3 sites), Tanzania (1 site), Turkey (8 sites), Uganda (2 sites), Ukraine, United Arab Emirates (3 sites) United Kingdom, Uzbekistan (1 site), Venezuela (14 sites), and Viet Nam (3 sites); and

33. INSTRUCTS the Ramsar Secretariat to consider options for assisting and encouraging Parties in their actions in response to change or likely change in ecological character.

Annex 1

List of Contracting Parties from which one or more Ramsar Information Sheets or updated Sheets are needed as a matter of priority

(as at 4 November 2008)

ALBANIA	ESTONIA	MALTA
ALGERIA	FIJI	MAURITANIA
ARGENTINA	FRANCE	MAURITIUS
ARMENIA	GABON	MEXICO
AUSTRALIA	GAMBIA	MOLDOVA
AZERBAIJAN	GERMANY	MONGOLIA
BAHAMAS	GHANA	MONTENEGRO
BAHRAIN	GREECE	MYANMAR
BANGLADESH	GUATEMALA	NEPAL
BELARUS	GUINEA	NETHERLANDS
BELGIUM	GUINEA-BISSAU	NEW ZEALAND
BELIZE	HONDURAS	NICARAGUA
BENIN	ICELAND	NIGER
BOLIVIA	INDIA	NIGERIA
BOSNIA & HERZEGOVINA	INDONESIA	NORWAY
BRAZIL	IRAN, I. R. OF	PAKISTAN
BULGARIA	IRAQ	PALAU
BURKINA FASO	IRELAND	PANAMA
CANADA	ISRAEL	PAPUA NEW GUINEA
CAPE VERDE	JAMAICA	PARAGUAY
CENTRAL AFRICAN REPUBLIC	JAPAN	PERU
CHAD	JORDAN	PHILIPPINES
CHILE	KAZAKHSTAN	PORTUGAL
COLOMBIA	KENYA	ROMANIA
COMOROS	KOREA, REPUBLIC OF	RUSSIAN FED.
CONGO	KYRGYZ REPUBLIC	RWANDA
CONGO, D.R. OF	LEBANON	SAMOA
CROATIA	LIBYAN ARAB JAMAHIRIYA	SAO TOME & PRINCIPE
CUBA	LIECHTENSTEIN	SENEGAL
CZECH REPUBLIC	LITHUANIA	SERBIA
DENMARK	LUXEMBOURG	SIERRA LEONE
DJIBOUTI	MACEDONIA, THE	SLOVAK REPUBLIC
ECUADOR	F.Y.R. OF	SLOVENIA
EGYPT	MADAGASCAR	SOUTH AFRICA
EL SALVADOR	MALAWI	SPAIN
	MALAYSIA	SRI LANKA

SURINAME	THAILAND	UNITED STATES OF
SWEDEN	TOGO	AMERICA
SWITZERLAND	TRINIDAD & TOBAGO	URUGUAY
SYRIAN ARAB REP	TUNISIA	VENEZUELA
TAJIKISTAN	UGANDA	VIET NAM
TANZANIA, UNITED	UKRAINE	
REPUBLIC OF	UNITED KINGDOM	

Annex 2

List of Ramsar sites in which human-induced negative changes have occurred, are occurring, or are likely to occur (Article 3.2), as indicated in COP10 National Reports

Note. This annex includes only those cases reported in National Reports received by the time of this analysis (1 October 2008). For further information on a site listed in this Annex see the COP10 National Report of the Contracting Party concerned.

Country	Sites
Algeria	Lac Tongo, Oasis d'Oule Said
Armenia	Lake Sevan
Australia	Coorong and Lakes Alexandria and Albert Gwydir Wetlands
Austria	Donau-March-Thaya-Auen, Stauseen am Unteren Inn
Belarus	Yel'nia, Osveyski, Sporovsky, Zvanets
Bosnia & Herzegovina	Hutovo Blato
Bulgaria	Belene Islands Complex, Srebarna Lake, Durankulak Lake
Comoros	Khartala, Mt Ntrigui
Croatia	Nature Park Kopacki Rit
Denmark (Greenland)	Heden (Jameson Land)
Iceland	Grunnafjörður, Myvatn-Laxá region (part), Thjörðsárver
India	Kolleru Lake (positive change)
Iraq	Hawizeh Marshes
Kenya	Lake Baringo, Lake Naivasha
Liberia	Mesurado River, Lake Piso
Mauritania	Parc National du Banc d'Arguin, Parc National du Diawling
Lebanon	Palm Islands Nature Reserve
Montenegro	Skadar Lake
Nigeria	Nguru lake
Norway	Froan, Åkersvika, Ilene/Presterødskilen, Kurefjorden, Øra
Romania	Danube Delta
Spain	Albufera de Valencia, Doñana, Las Tablas de Daimiel, Marjal de Pego-Oliva, s'Albufera de Mallorca, Txingudi
Sweden	Umeälv delta
Tanzania	Lake Natron
Ukraine	Kyliiske Mouth
Zambia	Kafue Flats



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X. 14

A Framework for Ramsar data and information needs

1. AWARE of the suite of technical and scientific guidelines and other materials prepared by the Scientific and Technical Review Panel (STRP) to support Contracting Parties in their implementation of wetland conservation and wise use;
2. ALSO AWARE of the Ramsar Sites Information Service (RSIS) developed and managed for the Convention by Wetlands International under contractual arrangements with the Ramsar Secretariat to support Contracting Parties in their implementation of wetland conservation and wise use, especially concerning Wetlands of International Importance; and FURTHER AWARE of other tools and resources available from International Organisation Partners and other organisations that contribute to supporting Ramsar data and information needs;
3. NOTING that the 9th meeting of the Conference of the Contracting Parties (COP9) instructed the STRP to prepare further advice and guidance for consideration by the Parties at their 10th meeting, which would focus on the immediate and high priority tasks set out in Annex 1 to Resolution IX.2; and
4. THANKING the STRP for its work in preparing the advice and guidance annexed to this Resolution as part of its high priority work during the 2006-2008 triennium; and ALSO THANKING the UNEP-World Conservation Monitoring Centre (UNEP-WCMC) for its support for the development of this guidance;

THE CONFERENCE OF THE CONTRACTING PARTIES

5. WELCOMES the “Framework for Ramsar data and information needs” provided in the annex to this Resolution, and URGES Contracting Parties, relevant organizations and other stakeholders to make good use of it as appropriate, adapting it as necessary to suit national conditions and circumstances, within the frameworks of existing regional initiatives and commitments and in the context of sustainable development;
6. INSTRUCTS the STRP to include in its work plan for the 2009-2012 period work to:
 - a) update and further develop the Convention’s Framework for Ramsar data and information needs, drawing upon implementation experience, end-user perspectives, and analysis of further needs defined in the decisions of COP10, in particular in

relation the data and information needed for identification and designation of Ramsar sites;

- b) produce a companion document identifying actions and action gaps of relevance to meeting the needs defined in the Framework at different scales;
 - c) make use of the Framework *inter alia* to inform harmonisation/interoperability activities with other Multilateral Environmental Agreements (MEAs), construction and prioritisation of relevant project proposals either developed or supported by the Ramsar Convention, and the future development of the Ramsar Sites Information Service; and
7. INSTRUCTS the Ramsar Secretariat to disseminate this Framework widely, especially through amendment and updating of the Ramsar Wise Use Handbooks.

Annex

A Framework for Ramsar data and information needs

1) Background

1. Access to sound, relevant data and information, including good practice advice, is key to supporting good decision-making and implementation of commitments made by Ramsar Contracting Parties to secure the wise use of wetlands and the maintenance of their ecological character.
2. Such relevant data and information is needed, not only about wetlands themselves but also about the drivers of change to wetlands by many different stakeholders in, and affecting, the Ramsar process, from local to global scales, including those responsible for wetland (including Ramsar site) management, national governments and their Ramsar Administrative Authorities, other government administrations from local to national level, National Ramsar/Wetland Committees, and global processes such as the Convention's Standing Committee, Scientific and Technical Review Panel (STRP), and Secretariat.
3. The "Framework for Ramsar data and information needs" which forms the basis of this guidance has been developed in recognition of these needs – it has been prepared by the STRP and its Working Group 1, with input from the UNEP-World Conservation Monitoring Centre (UNEP-WCMC), as a response to one aspect of the STRP's 2006-2008 work plan priority task 52.
4. In order to support clearly the implementation of the Convention through its Strategic Plan and identified priorities, the Framework provided below is structured in line with the Goals and Strategies of the Convention's Strategic Plan 2009-2015 (Resolution X.1), and it will thus need to be revised and updated, as necessary, following the adoption of the final form and content of that Strategic Plan at the 10th meeting of the Conference of the Contracting Parties.
5. In addition to providing guidance for Contracting Parties and others on such data and information needs, it is anticipated that this Framework will also assist the STRP in identifying gaps in current data and information, including guidances, and establishing priorities for filling these gaps.

2) Purposes for needing data and information under the Convention

6. Whilst the efficient and effective use of data and information is essential for effective implementation of the Convention at all levels, a key to this is ensuring that the purpose for which this data and information is being collected is clearly established and recognized.
7. Eight broad categories of "purpose" can be defined that identify the ways in which data and information can be necessary to support and assess implementation of the Convention at different levels. These are:
 - a) baseline knowledge;
 - b) compliance and accountability;

- c) performance against targets;
 - d) learning lessons;
 - e) identifying new and emerging issues;
 - f) promoting benefits, CEPA;
 - g) targeted problem solving; and
 - h) selecting sites for Ramsar site designation.
8. This broad-scale “taxonomy of purposes” has been applied in the Framework table below to cross-check against the data and information “needs” identified for each of the Strategies in the Strategic Plan 2009-2015, as a means of validating what data and information has been identified under each Strategy.
9. For each type or category of data or information there is often more than one specific purpose for its collection, provision and/or dissemination, and this should be taken into account when developing and implementing information strategies and services.

3) Guiding principles for assessing data and information needs

10. In order to ensure a common understanding of the scope of the data and information needs Framework, and hence a common approach to its implementation, the assessment of needs upon which the Framework is based was carried out according to the following guiding principles:
- i) The assessment should cover basic data and information in the forms both of analysed and assessed data and of implementation guidance.
 - ii) The assessment should cover anticipated data and information needs at all levels, including the needs of Parties, Secretariat, STRP, Standing Committee, and the COP.
 - iii) The assessment should be driven by purpose and mandate, focusing on key data and information needs for guiding the Convention implementation process.
 - iv) The assessment should focus on delivering data and information that is relevant and fit for purpose, not simply listing all data and information which might be useful.
 - v) The assessment should recognize and address the close links with strategic planning, national reporting, effectiveness indicators, and so on, which cross-cut all Convention activities.
 - vi) While the assessment should recognize and build on data and information products and processes already in place, it should be driven by what is needed, not by what already exists.
11. With respect to guiding principle vi) above, it is recognized that some data and information provision and mechanisms are already in place (e.g., existing implementation guidelines) and others will need to be developed or will require further work. The status of the current response to each identified data and information need will have to be identified, so as to help identify current gaps and future priorities.

4) The approach to developing the data and information needs Framework

12. After evaluation of several different available categorizations of the Convention's mandates and decisions (provided in the appendix), including 1) Dave Pritchard's 2007 analysis for the Ramsar Standing Committee of COP decisions in response to Resolution IX.17, 2) the themes identified and used by the UNEP/IUCN-funded *tematea* (issue-based modules for coherent implementation of biodiversity related conventions) project (at: <http://www.tematea.org/>), and 3) the Wise Use Handbooks' (3rd edition) themes and topics, the approach that was identified as most helpful to Parties and others is to base the data and needs assessment on the Ramsar Strategic Plan 2009-2015 in order to ensure that the needs identified relate directly to implementation of the Plan's Strategies and Key Result Areas.
13. Thus the attached "Framework" provides a mechanism for recognizing all the different categories of data and information needed to implement the Convention's Strategic Plan. As well as scientific and technical information on wetlands, the framework therefore identifies the need for data and information on matters such as policies, institutional arrangements, and measures taken.
14. The Framework should also be regarded as the first stage of a 'work in progress' since there are certain aspects of it that will be further reviewed by the STRP, and because certain aspects of the Framework will need further elaboration and input by the STRP as part of its 2009-2012 priority tasks, notably in relation to the full range of data and information needs for Ramsar site identification and designation.
15. Hence the types of data and information identified and listed in the attached Framework should be considered as 'indicative' rather than 'comprehensive'. Furthermore, in using the Framework, Contracting Parties and others involved in Ramsar Strategic Plan implementation should:
 - i) adapt it as necessary to suit national conditions and circumstances, within the frameworks of existing regional initiatives and commitments; and
 - ii) in so doing, determine whether there are other types of data or information needed to support delivery of one or more Strategic Plan strategies, and report this to the STRP so that such matters can be taken into account in the further development of the Framework.
16. The Framework tables below indicates, for each of the Strategic Plan's Strategies, the data and information needs at the national/subnational level and at the international level separately.
17. The Framework as presented below does not seek to provide any prioritisation for the collection of each category of data and information listed. That is a matter for each Contracting Party to consider in relation to any review of its existing data and information holdings and any priorities it has established for future implementation of the Convention through its Strategies.

18. In considering any such prioritisation, Contracting Parties may wish to take into account the Key Result Areas for each Strategy in the Ramsar Strategic Plan 2009-2015, and in order to assist with this those Key Result Areas are provided in the tables below.
19. The following additional explanatory notes are provided to aid in understanding the table's presentation and contents:
 - i) Where "guidance" information is indicated, a cross-reference to relevant existing guidance (Ramsar Wise Use Handbooks, 3rd edition) is included. An "x" against "guidance" indicates that such guidance may need to be developed in the future.
 - ii) "National level" data and information needs may range from site to country level, including those of Administrative Authorities, other government sectors, within-country scientific/technical expertise, wetland managers (Ramsar sites and other wetlands), and so on.
 - iii) "International level" data and information needs cover the anticipated needs of global Ramsar Convention bodies (SC, STRP, CEPA Panel, COP, etc.) and the Secretariat, as well as supranational/regional scales including shared systems.
 - iv) Data and information types are listed in the column (National or International level) relevant to the spatial scale at which they are developed or provided.
20. The STRP expects, following further review, to continue to elaborate the Framework, including further developing the lists of data and information types provided in the tables, for example through the addition of further information on Ramsar site data and information needs; providing guidance on data and information flows between the national/subnational and international scales; and adding a further column to the Framework tables providing information on current availability of data/information.
21. An example of guidance already developed by the STRP on data and information flows between the different Convention 'actors' at national/subnational and international scales is provided in Resolution X.16 for processes of detecting, reporting and responding to change in wetland ecological character -- in this case speaking to Strategies 2.4 (Ramsar site ecological character) and 2.6 (Ramsar site status) of the new Ramsar Strategic Plan 2009-2015.

A Framework for Ramsar data and information needs, with indicative lists of data and information types, based on the Ramsar Strategic Plan 2009-2015

Notes.

1. Where guidelines are listed as a need, references to “HBx” refer to the relevant Handbooks available in the Ramsar ‘toolkit’ of Wise Use Handbooks (3rd edition, 2007), and to “RTRx” to relevant supporting *Ramsar Technical Reports*. Where an “(x)” occurs against an indicated need of guidelines, this indicates that the Convention has not yet adopted relevant guidance.
2. “Metadata” is commonly described as “data about data”. It has many elements which can include information that describe *inter alia* the age, accuracy, content, currency, scale, reliability, lineage, authorship and custodianship of an individual dataset.

GOAL 1 Wise Use.

To work towards achieving the wise use of all wetlands by ensuring that all Contracting Parties develop, adopt and use the necessary and appropriate instruments and measures, with the participation of the local indigenous and non-indigenous population and making use of traditional knowledge, while at the same time ensuring that conservation and wise use of wetlands contribute to poverty eradication, mitigation of and adaptation to climate change, as well as prevention of disease and of natural disasters.

		Indicative list of information/data/metadata needs collected or provided at:	
Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	National level	International level

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 1.1 Wetland inventory and assessment Describe, assess and monitor the extent and condition of wetlands and wetland resources at relevant scales, in order to inform and underpin implementation of the Convention, in particular in the application of the wise use principle. (CPs, advised by STRP and assisted by IOPs)	1.1.i All Parties to have completed national wetland inventories in line with the Ramsar <i>Framework for Wetland Inventory</i> and as far as possible to have disseminated comprehensive national wetland inventories, including information on wetland importance, potential Ramsar sites, wetlands for restoration, location of under-represented wetland types, and the ecosystem services provided by wetlands. (National: CPs) 1.1.ii An easily accessible Web-based metadatabase in place, managed by the Secretariat, populated with information on all national wetland inventories, and linked to national and other international relevant databases. (Global: Secretariat)	<ul style="list-style-type: none"> • Location, distribution of wetland types (National wetland inventory) • Ecological character description(s) • Ecological character status (could be a subset of the ecological character description) • Management objectives • Change in ecological character time series (through monitoring and surveillance) • Wetland values (services) • Impacts, vulnerability and risk • National status and trends • Identification of data and information sent to the Secretariat 	<ul style="list-style-type: none"> • International status and trends • Status of national wetland inventories • Guidelines and definitions (HB11, 12 & 16; RTR1) • Identification of data and information received from Parties and others by the Secretariat
STRATEGY 1.2: Global wetland information Develop a global wetland information system, through partnerships, to be covered by voluntary contributions, to increase accessibility of data and information on wetlands (CPs, Secretariat, advised by STRP and assisted by IOPs)	1.2.i Global wetland distribution and status data and information available through Web-portal mechanisms. (Global: STRP) 1.2.ii Global wetland observing system(s) reporting on changes in wetland status. (Global: STRP)	[to be further developed by STRP following scoping of the proposed Global Wetland Observing System – G-WOS]	[to be further developed by STRP following scoping of the proposed Global Wetland Observing System – G-WOS]

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 1.3 Policy, legislation and institutions Develop and implement policies, legislation, and practices, including growth and development of appropriate institutions, in all Contracting Parties to ensure that the wise use provisions of the Convention are being effectively applied. (CPs, Secretariat)	1.3.i National Wetland Policy or equivalent instruments fully in place alongside and integrated with other strategic and planning processes by all Parties, including poverty eradication strategies, water resources management and water efficiency plans, coastal and marine resource management plans, national forest programmes, national strategies for sustainable development, and national measures on agriculture. (National: CPs) 1.3.ii Parties to have Strategic Environmental Assessment in place for policies, programmes and plans impacting on wetlands. (National: CPs)	<ul style="list-style-type: none"> • National wetland policies • Policy linkages to other sectors (water, human health and physical planning) • Legal, institutional and governance frameworks • Capacity needs • Effectiveness indicators • SEAs for policies affecting wetlands 	<ul style="list-style-type: none"> • Effectiveness indicators • Guidelines and definitions (HB2, 3 & 13, Resolution X.17) • Case studies/best practice
STRATEGY 1.4 Cross-sectoral recognition of wetland services Increase recognition of and attention in decision-making to the significance of wetlands for reasons of biodiversity conservation, water supply, coastal protection, flood defense, climate change mitigation and/or adaptation, food security, poverty eradication, cultural heritage, and scientific research, by developing and disseminating methodologies to achieve wise use of wetlands. (CPs, Secretariat, STRP, IOPs)	1.4.i Development and implementation of wetland programmes and projects that contribute to poverty eradication objectives and food and water security plans at local and national levels. (National: CPs) 1.4.ii An analysis of the ecosystem services and their values of wetlands (especially Ramsar sites) achieved for all Parties. (National: CPs) 1.4.iii The socio-economic and cultural heritage value of wetlands fully taken into account in wetland wise use and management. (National: CPs; Subnational: wetland managers)	<ul style="list-style-type: none"> • Value of ecosystem services • Key players in other sectors • Opportunities (role or potential role of wetlands in.....) • Effectiveness indicators 	<ul style="list-style-type: none"> • Effectiveness indicators • Guidelines and definitions (HB6 & 10; RTR3) • Case studies/best practice • Opportunities (role or potential role of wetlands in.....) • Value of ecosystem services

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
Strategy 1.5 Recognition of role of the Convention Raise the profile of the Convention by highlighting its capacity as a unique mechanism for wetland ecosystem management at all levels; promote the usefulness of the Convention as a possible implementation mechanism to meet the goals and targets of other global conventions and processes. (CPs, Secretariat, STRP, IOPs)	1.5.i Global environmental organizations and conventions aware of and applying the mechanisms developed by the Ramsar Convention for wetland ecosystem management, wise use, and conservation. (Global: Secretariat; National: CPs)	[to be developed]	[to be developed]
STRATEGY 1.6 Science-based management of wetlands Promote successful implementation of the wise use concept by ensuring that national policies and wetland management plans are based on the best available scientific knowledge, including technical and traditional knowledge. (CPs, Secretariat, STRP, IOPs)	1.6.i High quality research completed, widely disseminated in appropriate formats and styles and applied concerning areas of key importance for wetland sustainability, such as agriculture-wetland interactions, climate change, and valuation of ecosystem services. (Global: Secretariat; National: CPs, IOPs) 1.6.ii All wetland management plans founded on sound scientific research, including research on potential threats. (Global: Secretariat; National: CPs, IOPs)	[to be developed]	[to be developed]

		Indicative list of information/data/metadata needs collected or provided at:	
Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	National level	International level
STRATEGY 1.7 Integrated Water Resources Management Ensure policies and implementation of Integrated Water Resources Management (IWRM), applying an ecosystem-based approach, are included in the planning activities in all Contracting Parties and in their decision-making processes, particularly concerning groundwater management, catchment/river basin management, coastal and marine zone planning, and climate change mitigation and/or adaptation activities. (CPs, STRP, IOPs)	1.7.i All Parties to have made available the Ramsar guidance on water allocation and management for ecosystems to support decision-making on water resource management, as a contribution to achieving the WSSD target on water resources management and water efficiency plans. (National: CPs) 1.7.ii All Parties, in their water governance and management, to be managing wetlands as natural water infrastructure integral to water resource management at the scale of river basins (National: CPs) 1.7.iii National policies or guidelines enhancing the role of wetlands in mitigation of and/or adaptation to climate change in progress or completed. (National: CPs) 1.7.iv The Convention's role in encouraging IWRM planning established as part of international environmental efforts. (Global: Secretariat, STRP) 1.7.v Parties to have formulated plans to sustain and enhance the role of wetlands in supporting and maintaining viable farming systems. (National: CPs)	Current water resources: <ul style="list-style-type: none"> • Policies and practices • Current water allocations • Effectiveness indicators • Case studies/best practice • Wetland - climate change adaptation and mitigation 	<ul style="list-style-type: none"> • Effectiveness indicators • Guidelines and definitions (HB6, 7, 8, 9; Resolution X.19) • Case studies/best practice • Catchment level water resource management • Review methods for ecosystem based water management • Wetland - climate change adaptation and mitigation
STRATEGY 1.8 Wetland restoration Identify priority wetlands and wetland systems where restoration or rehabilitation would be beneficial and yield long-term environmental, social, or economic benefits, and implement the necessary measures to recover these sites and systems. (CPs, Secretariat, IOPs)	1.8.i All Parties to have identified priority sites for restoration; restoration projects underway or completed in at least half the Parties. (National: CPs) 1.8.ii New case studies and methods added to Ramsar wetland restoration pages on the Web site. (Global: STRP; National: CPs)	<ul style="list-style-type: none"> • Inventory of sites suitable for wetland restoration/rehabilitation (cf inventory of wetlands/assessment/monitoring) • Measures that have been taken • Impacts of measures taken 	<ul style="list-style-type: none"> • Guidelines and definitions (HB15) • Case studies/best practice

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 1.9 Invasive alien species Encourage Contracting Parties to develop a national inventory of invasive alien species that currently and/or potentially impact the ecological characters of wetlands, especially Ramsar sites, and ensure mutual supportiveness between the national inventory and IUCN's Global Register on Invasive Species (GRIS); develop guidance and promote procedures and actions to prevent, control or eradicate invasive species in wetland systems. (CPs, STRP, other agencies, IOPs)	1.9. All Parties to have a national inventory of invasive alien species that currently or potentially impact the ecological characters of wetlands, especially Ramsar sites. (National: CPs) 1.9.ii Parties to have identified more comprehensively the problems posed by invasive species in wetland ecosystems within their territories. (National: CPs) 1.9.iii National invasive species control and management policies or guidelines in place for wetlands (Subnational: wetland managers) 1.9.iv Comprehensive and up-to-date global guidance on invasive species, in cooperation with GISP, available to all stakeholders. (Global: STRP) 1.9.v Increased collaboration with the Convention on Biological Diversity on actions to address gaps in international regulations relating to invasive alien species. (Global: Secretariat)	<ul style="list-style-type: none"> • Actual or potential invasive problems • Measures that have been taken • Impacts of measures taken 	<ul style="list-style-type: none"> • Guidelines and definitions (x) • Case studies/best practice
STRATEGY 1.10 Private sector Promote the involvement of the private sector in the conservation and wise use of wetlands. (CPs, Secretariat)	1.10.i Significant progress in the private sector applying the concepts and approaches for conservation and wise use of wetlands contained in Ramsar guidance (Ramsar Handbooks 1 to 17, 3 rd edition) and other relevant guidelines in their activities and investments affecting wetlands. (Global to Subnational: private sector) 1.10.ii Increased private sector engagement in the wise use of wetlands and in the management of Ramsar sites. (Subnational: private sector) 1.10.iii Awareness-raising material made available to the public to enable wetland-friendly consumer choices. (National: private sector & CPs)	<ul style="list-style-type: none"> • Stakeholders and rights holders • Case studies/best practice • Incentives and their impacts/ potential impacts 	<ul style="list-style-type: none"> • CEPA material on wetland friendly consumer choice • Case studies/best practice • Incentives and their impacts/ potential impacts

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 1.11 Incentive measures Promote incentive measures that encourage the application of the wise use provisions of the Convention. (CPs, Secretariat, IOPs)	1.11.i Better design and implementation of incentive measures of relevance to wetlands taking place in all Parties, and better monitoring and assessment of both positive and perverse incentives affecting wetlands in place in all Parties. (National: CPs)	[to be identified subsequently]	<ul style="list-style-type: none"> • Good practice guidance on positive incentives and removal of perverse incentives (x)

GOAL 2 Wetlands of International Importance.

To develop and maintain an international network of wetlands that are important for the conservation of global biological diversity and for sustaining human life by ensuring that all Contracting Parties appropriately implement the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* and by appropriate management and wise use of those internationally important wetlands that are not yet formally designated as Ramsar sites but have been identified as qualifying through domestic application of the *Strategic Framework* or an equivalent process.

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 2.1 Ramsar site designation Apply the <i>Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance</i> (Ramsar Handbook 14). (CPs)	2.1.i All Parties to have prepared, using the <i>Strategic Framework</i> , a national plan and priorities for the designation and management of Ramsar sites, including where appropriate for shared wetlands in collaboration with neighboring Parties. (National: CPs) 2.1.ii Completed, and as appropriate updated, Ramsar Information Sheets submitted for all Ramsar sites. (National: CPs) 2.1.iii At least 2,500 Ramsar sites designated worldwide, covering at least 250 million hectares. (National: CPs) 2.1.iv Contracting Parties to have considered designating Ramsar sites from among wetland types under-represented in the Ramsar List. (National: CPs)	<ul style="list-style-type: none"> National wetland inventory and/or ecological character description National datasets (to test against each Criterion) List of candidate sites derived from national wetland inventory/ ecological character description and other national/international datasets to test against each criterion [Note. Further STRP work in 2009-2011 will elaborate this listing by Criterion]	<ul style="list-style-type: none"> Criteria and guidance (HB14; RTR1) International datasets (to test potential sites against Criteria) Status of whatever candidate listing process is applied [Note. Further STRP work in 2009-2011 will elaborate this listing by Criterion]
STRATEGY 2.2 Ramsar site information Ensure that the Ramsar Sites Information Service, including the Ramsar Sites Database, are available and enhanced as a tool for guiding the further designation of wetlands for the List of Wetlands of International Importance and for research and assessment, and is effectively managed by the Secretariat. (CPs, STRP, Secretariat, IOPs)	2.2.i Ramsar site data and information services reviewed, restructured and further developed for Web-accessibility to stakeholders, and linked to a global information and observing system for all wetlands. (Global: STRP, Secretariat, IOPs) 2.2.ii The Ramsar Sites Information Service delivering a range of tools and support to Contracting Parties to aid their identification of gaps and priorities for further Ramsar site designation. (Global: Secretariat, IOPs)	<ul style="list-style-type: none"> Data and information necessary for completion of the RIS as may be defined by COP and COP nominated processes Identification of data and information sent to the Secretariat For candidate sites - national lists as provided by CPs 	<ul style="list-style-type: none"> For designated sites: completed RIS as defined by COP and COP nominated processes For candidate sites – from national lists as provided by CPs Guidelines (x) Identification of data and information received from Parties and others by the Secretariat

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 2.3 Management planning – new Ramsar sites While recognizing that Ramsar site designation can act as a stimulus for development of effective site management plans, generally encourage the philosophy that all new Ramsar sites should have effective management planning in place before designation, as well as resources for implementing such management. (CPs, IOPs, Secretariat)	2.3.i Adequate management planning processes established and submitted with all or most new site designations or a commitment made to work towards that goal, taking into account the possible lack of financial and human resources to fulfill this objective, and recognizing that the designation of a site can work as an incentive for the establishment of future management planning. (National: CPs; subnational: wetland managers)	<ul style="list-style-type: none"> • Candidate list for Ramsar sites • Data and information for management plan development (including ecological character description) 	<ul style="list-style-type: none"> • Guidance (HB16)

		Indicative list of information/data/metadata needs collected or provided at:	
Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	National level	International level
<p>STRATEGY 2.4 Ramsar site ecological character Maintain the ecological character of all designated Ramsar sites, through planning and management. (CPs, Secretariat, IOPs)</p>	<p>2.4.i Progress in developing effective management plans for all Ramsar sites within each Party's territory. (National: CPs; Subnational: wetland managers)</p> <p>2.4.ii Management objectives, as part of management planning, for ecological character maintenance established for all Ramsar sites. (Subnational: wetland managers)</p> <p>2.4.iii Zoning measures to be put in place for larger Ramsar sites, wetland reserves, and other wetlands (Recommendation 5.3 and Resolution VIII.14) and strict protection measures to be enacted for certain Ramsar sites and other wetlands of small size and/or particular sensitivity. (Subnational: wetland managers)</p> <p>2.4.iv Cross-sectoral site management committees in place for Ramsar sites, involving relevant government agencies, citizens and local communities, and other stakeholders, including the business sector as appropriate, in place, including as a mechanism for dispute settlement. (Subnational: wetland managers)</p> <p>2.4.v Statements of ecological character finalized for all Ramsar sites and used as a basis for implementing Article 3.2 of the Convention. (Subnational: wetland managers)</p>	<ul style="list-style-type: none"> • Ecological character description(s) • Site management objectives, and limits of acceptable change • Ecological character status • Change in ecological character time series (through monitoring and surveillance) 	<ul style="list-style-type: none"> • Guidelines and definitions, including format for describing ecological character (HB5 & 16, Resolution X.15) • Effectiveness indicators – status & trends reporting

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 2.5 Ramsar site management effectiveness Review all existing Ramsar sites to determine the effectiveness of management arrangements, in line with the <i>Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance</i> . (CPs, STRP)	2.5.i All Parties, using the <i>Strategic Framework</i> , to have reviewed all existing Ramsar sites and confirmed that all Ramsar sites fulfill the provisions of the <i>Strategic Framework</i> or to have identified those sites that do not do so for remedial actions. (National: CPs; Subnational: wetland managers)	<ul style="list-style-type: none"> • Effectiveness indicators • Guidance on applying management effectiveness tools in national context • Management objectives • Monitoring results 	<ul style="list-style-type: none"> • Guidance on management effectiveness tools (HB5, 14 & 16) • Effectiveness indicators
STRATEGY 2.6 Ramsar site status Monitor the condition of Ramsar sites and address negative changes in their ecological character, notify the Ramsar Secretariat of changes affecting Ramsar sites, and apply the Montreux Record, if appropriate, and Ramsar Advisory Mission as tools to address problems. (CPs, Secretariat, IOPs)	2.6.i All Parties with Ramsar sites whose ecological character has changed, is changing or is likely to change owing to human-induced actions to have reported this to the Ramsar Secretariat, in line with the requirements of Article 3.2 of the Convention. (National: CPs) 2.6.ii For all sites on the Montreux Record that have not been the subject of a Ramsar Advisory Mission (RAM), intended to provide advice on the steps needed to remove those sites from the Record, Parties to request such a Mission. (National: CPs) 2.6.iii Implementation of relevant STRP ecological outcome-oriented indicators of effectiveness of the Convention. (Global: STRP; National: CPs)	<ul style="list-style-type: none"> • Case studies on individual sites • Results from monitoring against management objectives and RAM • EIA for development proposals • Identification of data, information and reports sent to the Secretariat 	<ul style="list-style-type: none"> • Guidelines (HB13, 14 & 15; Resolutions X.15 & X.16) • Article 3.2 report format and reports • Montreux Record questionnaires • Article 2.5 reports • Article 4.2 compensation reports • RAM reports • Identification of data, information and reports received from Parties and others by the Secretariat

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 2.7 Management of other internationally important wetlands Appropriate management and wise use achieved for those internationally important wetlands that have not yet been formally designated as Ramsar sites but have been identified through domestic application of the <i>Strategic Framework</i> or an equivalent process (CPs)	2.7.i Ramsar guidance on the maintenance of ecological character to have been applied with a priority upon recognised internationally important wetlands not yet designated as Ramsar sites. (National: CPs; Subnational:wetland managers)	[to be developed]	[to be developed]

GOAL 3 International cooperation.

To achieve international cooperation in the conservation and wise use of wetlands through the active application of the *Guidelines for international cooperation under the Ramsar Convention*.

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level

		Indicative list of information/data/metadata needs collected or provided at:	
Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	National level	International level
<p>STRATEGY 3.1 Synergies with MEAs and IGOs Work as partners with international and regional multilateral environmental agreements (MEAs) and other intergovernmental agencies (IGOs). (CPs, Secretariat)</p>	<p>3.1.i CBD-Ramsar Joint Work Plan and CMS/AEWA/Ramsar Joint Work Plan being implemented and participation continued in the CBD Biodiversity Liaison Group. (Global: Secretariat, STRP; National: CPs)</p> <p>3.1.ii Joint activities developed with the UN Convention to Combat Desertification (UNCCD) and the UN Framework Convention on Climate Change (UNFCCC), as appropriate, including through participation in the Joint Liaison Group. (Global: Secretariat, STRP)</p> <p>3.1.iii The Action Plan of the New Partnership for Africa's Development (NEPAD) to have fully incorporated Ramsar issues and mechanisms and being implemented by relevant Parties. (Regional: Secretariat; National: CPs, IOPs)</p> <p>3.1.iv Additional partnership approaches initiated with the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), the UN Food and Agriculture Organisation (FAO), UNESCO, the World Health Organisation (WHO), the World Tourism Organization (WTO), the International Tropical Timber Organization (ITTO), the UN Forum on Forests with its Collaborative Partnerships on Forests, the European Union, ASEAN, APEC, BIMSTEC, SAARC, and other relevant UN agencies and regional bodies, as well as through UN Water. (Global: Secretariat, STRP and National Regional: CPs with IOPs support)</p> <p>3.1.v Harmonized information management and reporting systems available and widely used at national level with the appropriate MEAs. (Global: Secretariat; National: CPs)</p>	<ul style="list-style-type: none"> • Shared information on MEAs and IGOs focal points and institutional arrangements 	<ul style="list-style-type: none"> • MEA/IGO focal points and institutional arrangements • Joint work plans and other collaborative working arrangements • Harmonized international information and reporting systems

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 3.2 Regional initiatives Support existing regional arrangements under the Convention and promote additional arrangements. (CPs, Secretariat, IOPs)	3.2.i Development of viable regional arrangements under the Convention, applying the <i>Operational Guidelines 2009-2012 for regional initiatives in the framework of the Convention on Wetlands</i> (Annex to Resolution X.6), resulting in the establishment of new regional initiatives, where appropriate, and the strengthening of existing initiatives. (Global: Secretariat, Standing Committee; Regional: regional initiatives with IOPs support)	<ul style="list-style-type: none"> • Knowledge network – list – who's who and why • Opportunities for resources and capacity 	<ul style="list-style-type: none"> • Knowledge network (wise use resource centre) to deliver case studies, best practice, guidelines, experts list, (wetlands clearing house mechanism) • Guidance (initiative development) (Resolution X.6)
STRATEGY 3.3 International assistance Promote international assistance to support the conservation and wise use of wetlands, while ensuring that environmental safeguards and assessments are an integral component of all development projects that affect wetlands, including foreign and domestic investments. (CPs, Secretariat, IOPs)	3.3.i Parties with bilateral donor agencies to have encouraged those agencies to give priority for funding for wetland conservation and wise use projects in relation to poverty eradication and other relevant international targets and priorities. (National: CPs) 3.3.ii Proposed grants, loans, and development projects from international development agencies, including banks, financial institutions and private investors and developers, to include environmental safeguards and environmental assessments of possible impacts. (Global: Secretariat, development agencies)	<ul style="list-style-type: none"> • Who will fund what where in my country? E.g., GEF 	<ul style="list-style-type: none"> • Who will fund what, where?

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 3.4 Sharing information and expertise Promote the sharing of expertise and information concerning the conservation and wise use of wetlands. (CPs, Secretariat)	3.4.i Less time required from Parties on managing information for national reports, but better quality and more timely reports produced. (Global: Secretariat; National: CPs) 3.4.ii Increased flow of information made available by the Parties (e.g., policies, management plans, Ramsar site monitoring, etc.) to the Secretariat for dissemination via the Ramsar Web site and other means. (National/Regional : CPs with IOPs) 3.4.iii Relevant research findings that have been evaluated by the STRP promoted and made widely available through Ramsar Technical Reports, Ramsar and IOP Web sites, and other means. (Global: Secretariat, STRP, IOPs; National: CPs)	<ul style="list-style-type: none"> • Knowledge network – list – who's who and why - CEPA and STRP NFPs and NRCs and beyond • Shared information management capacity for national reporting 	<ul style="list-style-type: none"> • Knowledge network (wise use resource centre) to deliver case studies, best practice, guidelines, experts list, (wetlands clearing house mechanism), • National reports and synthesis

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 3.5 Shared wetlands, basins and species Promote inventory and integrated management of shared wetlands and hydrological basins, including cooperative monitoring and management of shared wetland-dependent species. (CPs, Secretariat, IOPs)	3.5.i Where appropriate, all Parties to have identified their shared wetlands, river basins and migratory species and Parties to have identified collaborative management mechanisms with one another for those shared wetlands and river basins. (National: CPs) 3.5.ii Where appropriate, Parties with shared basins and coastal systems to consider participation in joint management commissions or authorities. (National: CPs) 3.5.iii Regional site networks and initiatives in place for additional wetland-dependent migratory species, as exemplified <i>inter alia</i> by the African-Eurasian Migratory Waterbird Agreement (AEWA), the East Asian-Australasian Flyway Partnership, the Western Hemisphere Shorebird Reserve Network, and the Central Asian Flyway Initiative. (Global: STRP, Secretariat, other MEAs; National: CPs)	<ul style="list-style-type: none"> • National level inventory, which are shared systems • Available/existing collaborative mechanisms 	<ul style="list-style-type: none"> • Guidance/case studies/best practice – how to collaborate on management (x)

GOAL 4 Institutional capacity and effectiveness.

To progress towards fulfilment of the Convention's mission by ensuring that it has the required mechanisms, resources, and capacity to do so.

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
STRATEGY 4.1 CEPA Support, and assist in implementing at all levels, the Convention's Communication, Education, Participation and Awareness	4.1.i All Parties to have established national (or subnational, catchment or local level, as appropriate) Ramsar CEPA action plans. (National: CPs) 4.1.ii All Parties to have established at least one wetland education centre at a Ramsar site. (National: CPs)	<ul style="list-style-type: none"> • Communication mechanisms (elaborated in the Convention's CEPA Programme) • Stakeholders and rights holders 	<ul style="list-style-type: none"> • The Convention's CEPA Programme 2009-2015 (Resolution X.8) • Ramsar CEPA website

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
Programme (Resolution X.8) for promoting the conservation and wise use of wetlands through communication, education, participation, and awareness (CEPA). (CPs, Secretariat, training centres, IOPs, Advisory Board on Capacity Building)	<p>4.1.iii All Parties to have established practices that ensure the participation in the development and implementation of wetland management plans of stakeholder groups with cultural or economic links to wetlands or those communities that depend on the wetlands for their livelihoods. (National: CPs)</p> <p>4.1.iv At least half of the Parties to have assessed their national and local training needs with respect to the conservation and wise use of wetlands. (National: CPs)</p> <p>4.1.v The Advisory Board on Capacity Building to have provided practical advice to Parties to assist them in their training and broader capacity building planning and implementation activities. (Global: Advisory Board)</p> <p>4.1.vi Convention mechanisms for wetland management, wise use, and conservation applied by a wide range of stakeholders on global, regional, national, and subnational levels. (Global to Subnational: all implementers)</p> <p>4.1.vii The Convention's products reaching and adopted by a wide range of target groups, including such products as decision-making frameworks, networks, and technical documents. (Global: Secretariat; National/Regional: CPs with support from IOPs)</p> <p>4.1.viii A significant proportion of Parties to have assessed their capacity and training needs with respect to implementation of the policy, legislation, and institutional governance mechanisms noted in Strategy 1.3. (National: CPs)</p>	<ul style="list-style-type: none"> • Cultural benefits and services • Case studies • Training needs identification • Training courses and tools available 	<ul style="list-style-type: none"> • Guidelines on participatory management (HB5) • Training and capacity-building framework
STRATEGY 4.2 Convention financial capacity Provide the financial resources required for the Convention's governance, mechanisms and programmes to achieve the expectations of the Conference of the	<p>4.2.i Adequate resources and supporting financial policies in place to enable the Convention to discharge its responsibilities and priorities, as determined by the Conference of the Parties, in an effective manner. (Global: Secretariat; National: CPs)</p> <p>4.2.ii Clear and unambiguous budgetary preparation and management for the Convention, with the Secretariat</p>	<ul style="list-style-type: none"> • Regularly updated information on national contributions 	<ul style="list-style-type: none"> • Budget reports • Regularly updated information on national contributions

Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	Indicative list of information/data/metadata needs collected or provided at:	
		National level	International level
Contracting Parties, within the availability of existing resources and by the effective use of such resources; explore and enable options and mechanisms for mobilization of new and additional resources for implementation of the Convention.. (CPs, Secretariat)	putting the budget allocated by the Conference of the Parties to practical use in the most effective manner possible. (Global: Secretariat)		
STRATEGY 4.3 Convention bodies' effectiveness Ensure that the Conference of the Contracting Parties, Standing Committee, Scientific and Technical Review Panel, and Secretariat are operating at a high level of effectiveness to support the implementation of the Convention. (CPs, Secretariat)	4.3.i All Contracting Parties to have designated CEPA and STRP National Focal Points (by COP11), and to have kept the Secretariat updated in a timely manner on any changes in Administrative Authority focal points and daily contacts. (National: CPs) 4.3.ii National Reports used to evaluate and report on the implementation of the Strategic Plan at each meeting of the COP. (Global & Regional: Secretariat) 4.3.iii The bodies of the Convention to have adequate funding and logistic support to deliver their <i>modi operandi</i> and work plans, as adopted by the Conference of the Parties. (Global: Secretariat & CPs) 4.3.iv The Secretariat, with the advice of the Standing Committee, fully managing its staffing priorities and capacities to respond to key issues of wetland conservation and wise use as they emerge. (Global: Secretariat)	<ul style="list-style-type: none"> Up-to-date information of AA National Focal Points, and CEPA and STRP NFPs and their contact details 	<ul style="list-style-type: none"> Secretariat and STRP reports to COP and Standing Committee Available lists of current Administrative Authority focal points and CEPA and STRP NFPs
STRATEGY 4.4 Working with IOPs and others Maximize the benefits of working with the Convention's International Organization Partners (IOPs) and others. (Secretariat, IOPs)	4.4.i By COP11, each IOP and the Secretariat to have updated its MOU with the Secretariat, possibly including some joint actions by several IOPs; and by 2015 to have reviewed and as necessary revised its MOU. (Global: Secretariat, IOPs) 4.4.ii Support for the Convention's scientific, technical and policy work integrated into the ongoing programmes of the IOPs. (Global: IOPs) 4.4.iii Efforts made by IOPs and others to help mobilizing	<ul style="list-style-type: none"> Information from IOPs on capacity and support available in different countries 	<ul style="list-style-type: none"> Reports from the IOPs Regular updated list of contact people MOUs and other collaborative arrangements

		Indicative list of information/data/metadata needs collected or provided at:	
Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	National level	International level
	partnerships for high priority issues for the Convention. (Global: Secretariat, IOPs; National: IOPs, CPs)		

GOAL 5. Membership: To progress towards universal membership of the Convention.

		Indicative list of information/data/metadata needs collected or provided at:	
Strategic Plan 2009-2015 Strategies	Key Result Areas (KRAs) by 2015	National level	International level
STRATEGY 5.1 Membership Secure universal membership of the Convention and provide an appropriate level of service. (CPs, Secretariat)	5.1.i Achieve membership in the Convention of at least 170 Parties by COP11 and of all eligible nations by COP12. (Global: Secretariat, Standing Committee) 5.1.ii Strive to make resources available to provide servicing for Parties, especially recently acceded Parties, to assist them in implementing this Strategic Plan. (Global: Secretariat, Standing Committee, donor CPs)		<ul style="list-style-type: none"> • Obligations and processes for accession guidance • Accession guidance for prospective Parties

Appendix

Different available categorizations of Convention mandates

CATEGORIES OF MANDATE			
Resolution IX.17 review	Wise Use Handbooks, 3 rd edition (2007)	UNEP/IUCN “Issue-based Modules” (<i>tematea</i>)	Ramsar Strategic Plan 2009-2015) Strategies
<ul style="list-style-type: none"> • Convention governance and administration • Regional issues • Strategic Plans, work plans and national reports • Finance and membership • Partnerships, coordination, synergy, and international cooperation (not development assistance – see below) • Development assistance; poverty reduction • Wetland inventory, assessment and monitoring • Ecological character, responses to change, management and restoration • Listing of Ramsar sites (process, rather than specific sites) • Conservation of specific areas • Wise use (including peatlands, IWRM, ICZM, national planning and public participation etc) • Water 	<ul style="list-style-type: none"> • Conceptual Framework for the wise use of wetlands • Developing and implementing National Wetland Policies • Reviewing laws and institutions to promote the conservation and wise use of wetlands • The Convention’s Programme on communication, education and public awareness (CEPA) 2003-2008 • Establishing and strengthening local communities’ and indigenous people’s participation in the management of wetlands • An Integrated Framework for the Convention’s water-related guidance • Integrating wetland conservation and wise use into river basin management • Guidelines for the allocation and management of water for maintaining the ecological functions of wetlands • Managing groundwater to maintain wetland ecological character 	<ul style="list-style-type: none"> • Assessments • Legislative measures and national policies • Management • Economic instruments • Provision of resources • Communication, education and public awareness • Cooperation • Cross-cutting obligations 	<ul style="list-style-type: none"> • Wetland inventory and assessment • Global wetland information • Policy, legislation and institutions • Cross-sectoral recognition of wetland services • Recognition of role of the Convention • Science-based management of wetlands • Integrated Water Resources Management • Wetland restoration • Invasive alien species • Private sector • Incentive measures • Ramsar site designation • Ramsar site information • Management planning – new Ramsar sites • Ramsar site ecological character

<ul style="list-style-type: none"> • Communication, education, public awareness and capacity-building 	<ul style="list-style-type: none"> • Wetland issues in Integrated Coastal Zone Management • An Integrated framework for wetland inventory, assessment, and monitoring • A Ramsar framework for wetland inventory • Guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment • Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance • Addressing change in ecological character • Frameworks for managing Ramsar sites and other wetlands • Guidelines for international cooperation under the Ramsar Convention on Wetlands 		<ul style="list-style-type: none"> • Ramsar site management effectiveness • Ramsar site status • Management of other internationally important wetlands • Synergies and partnerships with MEAs and IGOs • Regional initiatives • International assistance • Sharing information and expertise • Shared wetlands, river basins and migratory species • Communication, education, participation and awareness • Convention financial capacity • Convention bodies' effectiveness • Working with IOPs and others • Membership of the Convention
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**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.15

**Describing the ecological character of wetlands, and data needs
and formats for core inventory: harmonized scientific and
technical guidance**

1. AWARE of the suite of technical and scientific guidelines and other materials prepared by the Scientific and Technical Review Panel (STRP) to support Contracting Parties in their implementation of wetland conservation and wise use;
2. NOTING that the 9th meeting of the Conference of the Contracting Parties (COP9) instructed the STRP to prepare further advice and guidance for consideration by Contracting Parties at COP10 that would focus upon the immediate and high priority tasks set out in Annex 1 to Resolution IX.2; and
3. THANKING the STRP for its work in preparing the advice and guidance annexed to this Resolution as part of its high priority work during the 2006-2008 triennium;

THE CONFERENCE OF THE CONTRACTING PARTIES

4. WELCOMES the guidance on “Describing the ecological character of wetlands, and harmonized data formats for core inventory” provided in the annex to this Resolution, and URGES Contracting Parties to make good use of it as appropriate, adapting it as necessary to suit national conditions and circumstances, within the frameworks of existing regional initiatives and commitments and in the context of sustainable development;
5. CONFIRMS that the summary description and structure of core data fields for wetland inventory included in the annex to this Resolution update and wholly supersede the earlier guidance on this matter adopted as Table 2 in the annex to Resolution VIII.6;
6. URGES Contracting Parties to draw this guidance to the attention of relevant stakeholders, including in particular those responsible for the management of Ramsar sites and other wetlands;
7. INVITES Contracting Parties and those responsible for the management of Ramsar sites to apply these guidelines in the preparation of ecological character descriptions of Ramsar sites, and as part of their management planning processes, so that these descriptions constitute a complementary basis to the Information Sheets on Ramsar Wetlands (RIS) for detecting and notifying changes in ecological character, as established through Article 3.2

of the Convention text, and RECOMMENDS that Contracting Parties provide any completed descriptions of the ecological character of Ramsar sites to the Secretariat as a supplement to the information provided in the RIS;

8. INSTRUCTS the Scientific and Technical Review Panel to include in its work plan for the 2009-2012 period the development of further guidance on describing ecological character, to include to the extent practicable:
 - i) further operational guidance for practitioners on completing the ecological character description sheet for sites;
 - ii) guidance and information on using relevant conceptual models;
 - iii) cross-references, where available, from each relevant description sheet data field to worked examples, case studies or other sources of potential, actual or *de facto* standards for completing the fields;
 - iv) guidance on the scope for using Ramsar information fields in enhancing harmonisation and streamlining of reporting under related MEAs; and
 - v) a review of practical implementation experiences, with lessons learned; and
9. INSTRUCTS the Ramsar Secretariat to disseminate widely this guidance on “Describing the ecological character of wetlands, and data needs and formats for core inventory” annexed to this Resolution, including through amendment and updating of the Ramsar Wise Use Handbooks.

Annex

Describing the ecological character of wetlands, and harmonized data formats for core inventory

CONTENTS

- 1) The ecological character concept and the need for methods for describing ecological character
 - 2) A summary framework of data and information for core inventory, ecological character description, Ramsar site designation, and Article 3.2 reporting
 - 3) How guidance on wetland ecological character description and harmonization with core inventory has been developed
 - 4) A framework for describing the ecological character of wetlands
 - 5) Change in ecological character and Article 3.2 reporting
 - 6) Harmonizing the ecological character description and the core fields for wetland inventory
-
- 1) The ecological character concept and the need for methods for describing ecological character**
 1. The text of the Ramsar Convention includes in Article 3.2 the requirement that “each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change”. Through a series of COP decisions (principally the Strategic Plan adopted in 1996 and Resolution VIII.8 in 2002), the requirement in Article 3.1 to

“promote the conservation” of Ramsar sites has been equated to “maintenance of the ecological character” of these sites.

2. Furthermore, the current description of “wise use” (paragraph 22 of Resolution IX.1 Annex A) makes explicit the link between maintenance of ecological character and wise use, such that the concept of maintaining ecological character can and should be applied to all wetlands, rather than only designated Ramsar sites:

“Wise use of wetlands is the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development.”

3. The current definition of “ecological character” (paragraph 15 of Resolution IX.1 Annex A) is:

“Ecological character is the combination of the ecosystem components, processes and benefits*/services that characterise the wetland at a given point in time.”

*Within this context, ecosystem benefits are defined in accordance with the MA [Millennium Ecosystem Assessment] definition of ecosystem services as “the benefits that people receive from ecosystems”.

4. Whilst a definition of “ecological character” is helpful, it is also important to be able to describe the particular ecological character of a wetland as a key element of an effective management planning process, including monitoring, as is set out in the wetland management planning guidance in Ramsar Wise Use Handbook 16 (3rd ed.). It also follows that if human-induced adverse change in the ecological character of a designated Ramsar site is to be detected and reported under Article 3.2 of the Convention text, a baseline description of ecological character is needed against which to assess change.
5. The lack of guidance to Contracting Parties and wetland site managers on methods for describing ecological character was recognized in annex 2 to Resolution IX.2 (paragraph 52), which requested the Scientific and Technical Review Panel (STRP) to prepare “guidance for the description of the ecological character of wetlands”.
6. The guidance developed in response and provided here therefore moves beyond the *definition* of the concept to a treatment of the *constituent parts of what goes to make up* ecological character, and this can be applicable to any wetland in the context of documenting core aspects of an inventory of wetlands (see Resolution VIII.6) and to completing the Information Sheet on Ramsar Wetlands (RIS) for any given Ramsar site.
7. This work is key to the establishment of baselines against which Article 3.2 and relevant Convention indicators and other assessments (and reporting on these) will operate. It follows that, in order to make consistent and simplify the provision of information on Ramsar sites, which is closely linked to related core inventory and ecological character descriptions (see Section 2 below), revisions to the structure and content of the Information Sheet on Ramsar Wetlands (RIS) may prove to be appropriate and could potentially simplify the RIS data and information needs. Substantive review and recommendations on this matter are not included in this guidance, but will be the subject of further work to be undertaken by the STRP concerning different aspects of overall

Ramsar data and information needs, and data and information management for Ramsar sites (see also Resolution X.14 *A Framework for Ramsar data and information needs*).

8. The development of this guidance has also found that, for harmonization of data and information collection purposes, there is a need to make some modifications to the structure, content and titling of the core fields for wetland inventory as adopted in the annex to Resolution VIII.6. A revised set of recommended core inventory data fields, compared with those for ecological character description, is provided in Section 6.
 9. The preparation of the guidance on describing ecological character has also permitted some reflection on the Convention's definition of ecological character (paragraph 3 above), referred to above. While it is certainly correct that the concept should embrace ecosystem components, processes and services, the definition makes clear that ecological character consists not simply of a *list* of these, but includes the additional idea of what they represent *in combination*. The dividing-line between what is counted as a component, or a process, or a service, may not always be sharply distinguished. For example, "water regime" is included in "components" in the scheme provided below, but might also be regarded as a "process". Long debate on this would not be fruitful, however, since these categorizations are pragmatic expedients, and the key principle is that ecological character is a holistic rather than a reductionist concept.
 10. In any guidance on ecological character description, there will be a need to map out the various different purposes for, and uses of, this description and how these differ from the purposes of core wetland inventory, as well as RIS and Article 3.2 reporting. For example, the uses of an ecological character description identified during the ongoing Australian work of developing ecological character descriptions (described below) include:
 - i) providing the basis for a summary ecological character description in the RIS;
 - ii) informing management planning; informing monitoring; and
 - iii) providing information to assist in implementing legislation such as EIA legislation that relates to Ramsar sites.
- 2) A summary framework of data and information for core inventory, ecological character description, Ramsar site designation and Article 3.2 reporting**
11. There are close relationships between the types of data and information which are, and need to be, collected for the purposes of core inventory, ecological character description, Ramsar site designation, and Article 3.2 reporting.
 12. Figure 1 provides a comparative framework of the major types of data and information required for each of these purposes. To this could be added a column for data and information needed for management plans, and the STRP anticipates reviewing this aspect in its future work.
 13. All four of these purposes require a description of ecological character for the site, and through harmonization of these data and information fields this would then need to be done only once for all four purposes, hence avoiding a significant duplication of effort that may otherwise occur at present. Three of the purposes need similar administrative and locational details. Core inventory and the RIS need some conservation activity

information, and although the level of detail might be different, again the same structure of data fields can be used.

14. The unique section of data and information needed for the RIS is its statement of the international importance of the wetland, made against each of the Criteria applied in the designation of the site, and the data and information provided to justify the application of these Criteria (Ramsar Wise Use Handbook 14 *Designating Ramsar sites*, 3rd edition 2007). This distinction between the description of the international importance of a Ramsar site and the description of its overall ecological character has not always been kept clear.
15. The comparative analyses of the structure and content of the data and information for Ramsar site designation in relation to core inventory and ecological character description outlined below have shown that all current RIS information fields, with the exception of the international importance statement, relate to one or other of the data and information fields for core inventory and ecological character description. However, the present sequence and grouping of information fields in the RIS, and the nomenclature used, differ in a number of respects from those in the ecological character description and core inventory fields.
16. Thus in many instances the data and information categories required are the same for these different purposes, and hence the main effort of data collation need only be undertaken once, rather than being duplicated. Any differences in the data and information needs for these various purposes can often be more a matter of the level of detail required. Actual needs will vary according to the individual circumstances of the sites and situations concerned. The tables in this guidance identify the full list of fields that may apply, but whether any of them does apply, or whether there is capacity to provide a full description, will vary from site to site. It is not expected that all the specific data fields will necessarily have to be filled out for all sites.
17. It is largely dependent on each Contracting Party's priorities and chosen purposes whether the relevant data and information is collected first for core wetland inventory, for ecological character description (e.g., for management planning purposes), or for the preparation of an RIS for Ramsar site designation. As indicated above, whichever the first purpose applied, much of the data and information collected can be used for the other purposes. Thus, for example, completion of the ecological character description should directly provide the information (in summarized form) for core inventory and the RIS. Reports made under Article 3.2 would also be drawn directly from the data and information in the ecological character description.

Relationships between the sections of Core (baseline) inventory, Ecological character description, Information Sheet on Ramsar Wetlands (RIS) & Article 3.2 report format

Note. For the RIS, this scheme is based on a re-organization of all existing RIS fields into four sections

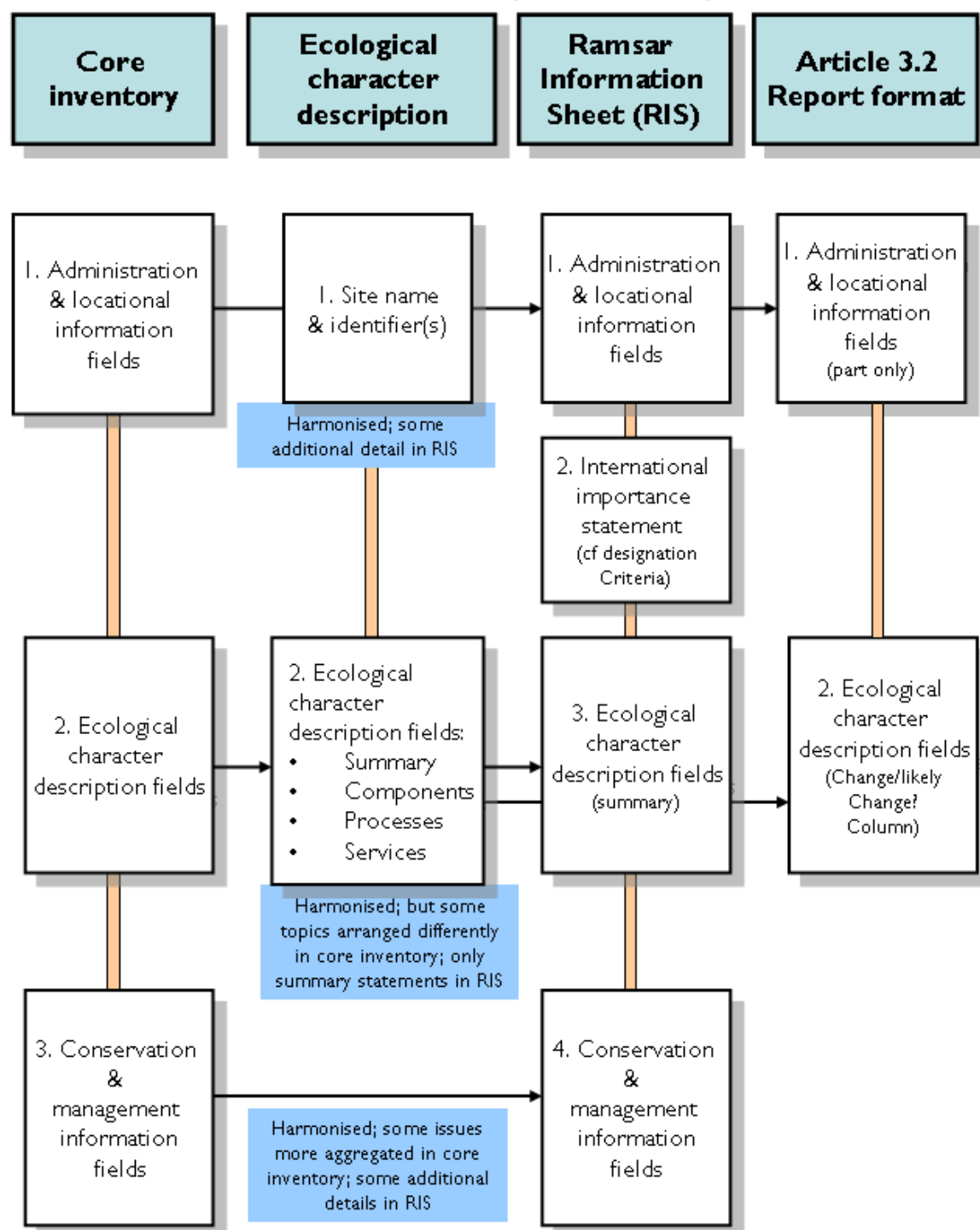


Figure 1. A summary framework for data and information needs for core inventory, ecological character description, Ramsar site designation, and Article 3.2 reporting

3) How guidance on wetland ecological character description and harmonization with core inventory has been developed

18. To develop harmonized general guidance on wetland ecological character description, core inventory and related processes, a number of cross-tabulation comparison analyses were developed, including comparisons between:
 - i) core inventory fields (Resolution VIII.6) and RIS data and information fields;
 - ii) RIS data and information fields and the fields in a “framework for describing the ecological character of Ramsar wetlands” published in 2005 by the government of the State of Victoria (Australia);
 - iii) the fields in Victoria’s “framework for describing the ecological character of Ramsar wetlands” and the RIS fields;
 - iv) core inventory fields (Resolution VIII.6) and the fields in Victoria’s “framework for describing the ecological character of Ramsar wetlands”; and
 - v) Victoria’s “framework for describing the ecological character of Ramsar wetlands” fields and those in the draft (1 August 2007) Australia Commonwealth government’s “National Framework and Guidance for Describing the Ecological Character of Australia’s Ramsar Wetlands”.
19. These analyses revealed a number of issues that have been taken into account in the development of the ecological character description field structure provided in Section 4 below. One of these is that some of these schemes did not include a field for recording information on wetland type(s) present (in terms of the Ramsar classification of wetland type), which has been added as an ecological character description field. Similarly, the “pressures, vulnerabilities and trends” field (in the Resolution VIII.6 core inventory fields) has been added in the ecological processes section of the description. In general, however, the content and structure of the ecological character description below has been kept as close as possible to the various existing inventory and ecological character schemes.
20. In developing the framework below, the work by Australia in developing detailed methods for describing the ecological character of their wetlands proved particularly valuable, and Australia is to be congratulated on these initiatives. Further information on these approaches and their guidance for making ecological character descriptions can be found for the State of Victoria’s 2005 report at: <http://www.dse.vic.gov.au/DSE/nrence.nsf/LinkView/25C78F0422CD4887CA25729D0000B8A048DB09C3A9A254C5CA257297001AE7C0> and for the draft (2007) National Framework and Guidance at: <http://www.environment.gov.au/about/publications/index.html>.
21. It is clear that no one scheme such as that provided in Section 4 for global applicability can possibly meet all the particular needs and differences of purpose, capacity, and available data and information. It should be used, however, as the basis for development of ecological character descriptions by Contracting Parties that fit their need, capacity and purpose.

4) A framework for describing the ecological character of wetlands

22. Taking account of the analyses described above, a global scheme for describing wetland ecological character in the context of the Ramsar Convention is provided in tabular format below. Some guidance on implementing the approach is provided below in paragraphs 25-

28. For an explanation of purposes relating to Article 3.2 reporting for the inclusion of the “Change/likely change?” column in the ecological character description, see Section 5 below.
23. In addition to the “Change/likely change?” column, a further refinement that Contracting Parties and wetland managers may wish to add, where appropriate and possible, is a further column identifying “Limits of acceptable change, where defined” (see also Section 5 below). This speaks to the role of the ecological character description in management planning, including monitoring, and also to determining when an Article 3.2 report of non-trivial change in ecological character would be needed. Further discussion on limits of acceptable change and trivial/non-trivial change in ecological character is provided in COP10 DOC.27.
24. In the description sheet below (Table 1), the bracketed codes (P), (R), (C) and (S) refer to the categorization of ecosystem services provided by the Millennium Ecosystem Assessment (MA), as follows: “provisioning” (P), “regulating” (R), cultural (C) or “supporting” (S).

Table 1. Ramsar ecological character description sheet

Ramsar ecological character description sheet		
Site name: Official name of site and catchment)/other identifier(s) (e.g., reference number)		
1. Summary statement		
		<i>Change/likely change?</i>
Two or three narrative sentences giving a statement of what is ecologically <i>distinctive</i> (not necessarily <i>important</i>) about the site, based on the details below. (With reference to the COP 9 definition, this concerns <i>the combination of</i> the components, processes and services that <i>characterise</i> the wetland (emphasis added)). Note. Supplementing the summary statement with simple conceptual models of the key characteristics of the wetland is encouraged.		[include here a brief summary narrative of the overall changes to components, processes and services that characterises the wetland, as detailed below]
2. Ecological components		
		<i>Change/likely change?</i>
2.1 Geomorphic setting: Setting in the landscape/catchment/river basin - including altitude, upper/lower zone of catchment, distance to coast where relevant, etc.		

2.2 Climate: Overview of prevailing climate type, zone and major features (precipitation, temperature, wind)		
2.3 Habitat types (including comments on particular rarity, etc.) and Ramsar wetland types		
2.4 Habitat connectivity		
2.5 Area, boundary and dimensions: Site shape (cross-section and plan view), boundaries, area, area of water/wet area (seasonal max/min where relevant), length, width, depth (seasonal max/min where relevant)		
2.6 Plant communities, vegetation zones and structure (including comments on particular rarity, etc.)		
2.7 Animal communities (including comments on particular rarity, etc.)		
2.8 Main species present (including comments on particular rare/endangered species etc.); population size and proportion where known, seasonality of occurrence, and approximate position in distribution range (e.g., whether near centre or edge of range)		
2.9 Soil: Geology, soils and substrates, and soil biology		
2.10 Water regime: Water source (surface and groundwater), inflow/outflow, evaporation, flooding frequency, seasonality and duration; magnitude of flow and/or tidal regime, links with groundwater		
2.11 Connectivity of surface waters and of groundwater		
2.12 Stratification and mixing regime		
2.13 Sediment regime (erosion, accretion, transport and deposition of sediments)		
2.14 Water turbidity and colour		
2.15 Light - reaching the wetland (openness or shading); and attenuation in water		
2.16 Water temperature		
2.17 Water pH		
2.18 Water salinity		
2.19 Dissolved gases in water		
2.20 Dissolved or suspended nutrients in water		
2.21 Dissolved organic carbon		
2.22 Redox potential of water and sediments		
2.23 Water conductivity		
3. Ecological processes		

		<i>Change/likely change?</i>
3.1 Primary production (S)		
3.2 Nutrient cycling (S)		
3.3 Carbon cycling		
3.4 Animal reproductive productivity		
3.5 Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.		
3.6 Notable species interactions, including grazing, predation, competition, diseases and pathogens		
3.7 Notable aspects concerning animal and plant dispersal		
3.8 Notable aspects concerning migration		
3.9 Pressures, vulnerabilities and trends concerning any of the above, and/or concerning ecosystem integrity		
4. Ecosystem services		
		<i>Change/likely change?</i>
4.1 Drinking water for humans and/or livestock (P)		
4.2 Water for irrigated agriculture (P)		
4.3 Water for industry (P)		
4.4 Groundwater replenishment (R)		
4.5 Water purification/waste treatment or dilution (R)		
4.6 Food for humans (P)		
4.7 Food for livestock (P)		
4.8 Wood, reed, fibre and peat (P)		
4.9 Medicinal products (P)		
4.10 Biological control agents for pests/diseases (R)		
4.11 Other products and resources, including genetic material (P)		
4.12 Flood control, flood storage (R)		
4.13 Soil, sediment and nutrient retention (R)		
4.14 Coastal shoreline and river bank stabilization and storm protection (R)		
4.15 Other hydrological services (R)		
4.16 Local climate regulation/buffering of change (R)		
4.17 Carbon storage/sequestration (R)		
4.18 Recreational hunting and fishing (C)		
4.19 Water sports (C)		
4.20 Nature study pursuits (C)		
4.21 Other recreation and tourism (C)		
4.22 Educational values (C)		
4.23 Cultural heritage (C)		

4.24 Contemporary cultural significance, including for arts and creative inspiration, and including existence values (C)		
4.25 Aesthetic and “sense of place” values (C)		
4.26 Spiritual and religious values (C)		
4.27 Important knowledge systems, and importance for research (C)		
<i>Note. For nature conservation value as an ecosystem ‘service’ (S), see items under ‘components’ and ‘processes’ above)</i>		

25. **Start with available data and information.** In developing a description of the ecological character of a wetland, it is important to start with whatever data and information are currently available, even if information is not comprehensively available for all fields in the description sheet. Starting with compiling what is currently available also helps to identify gaps and priorities for further data and information collection to enhance the description.
26. **Start with qualitative description if quantitative data are not available.** Even if detailed quantitative data are not available, begin by compiling qualitative data and information and do not underestimate the value of expert and local knowledge as a source of such information. Often, bringing together those who know the wetland to share their knowledge can be an important and effective start to compiling the ecological character description.
27. **Simple ‘conceptual models’ can be a powerful tool.** Developing simple two- or three-dimensional ‘conceptual models’ accompanied by summary descriptions of key features, processes and functioning can be a powerful tool supporting the ecological character description. Further guidance on approaches to developing such conceptual models will be developed by the Scientific and Technical Review Panel. For one example of this approach for a Ramsar site, see Davis, J. & Brock, M. (2008) “Detecting unacceptable change in the ecological character of Ramsar Wetlands,” *Ecological Management & Restoration*, vol. 9 (1): 26-32 (downloadable from <http://www.blackwell-synergy.com/doi/pdf/10.1111/j.1442-8903.2008.00384.x>).
28. **Separate descriptions for different parts of large or complex wetlands can be a helpful start.** For large wetlands or wetland complexes where different parts of the system function differently or have very different characteristics, it may prove practically helpful to prepare separate descriptions initially for any distinctly different parts, supplemented by an overall summary ecological character description and conceptual models.

5) Change in ecological character and Article 3.2 reporting

29. A related aspect of Ramsar implementation concerning wetland ecological character involves detecting and reporting human-induced adverse change in the ecological character of a Ramsar-listed wetland. One of the tasks requested of the Ramsar Secretariat by the Conference of the Parties concerned assisting Contracting Parties when they need to make such a report to the Secretariat through the provision of a simple Article 3.2 reporting format.
30. Since it follows that identifying such a change is based on its detection by comparison with the description of the ecological character of the wetlands, and with any established limits

of unacceptable change in ecological character, the approach developed here is to use the ecological character description format and the additional column for describing “Change/likely change” to make such Article 3.2 reports.

31. Thus using a copy of the completed ecological character format for a given site, with relevant details entered into this column, can act as the simple alert mechanism required to trigger the processes (see Resolution X.16) for implementing Article 3.2 requirements and for submitting the Article 3.2 report to the Ramsar Secretariat.

6) Harmonizing the ecological character description and the core fields for wetland inventory

32. Core fields for wetland inventory were agreed by the Parties in 2002 in the annex to Resolution VIII.6. A further aspect of the STRP’s work on data and information needs for wetlands, including Ramsar sites (2006-2008 STRP work plan task 52), concerned “harmonization of the layout and information fields of the RIS with the core data fields of the Framework for wetland inventory and the description of ecological character”.
33. As noted above, further work by the STRP will address the RIS-related aspects of this task. This section of guidance provides advice only on the harmonization of core inventory and ecological character description fields.
34. The cross-comparison analyses described above in section 3 identified a number of aspects of the original core inventory fields where harmonization of terminologies and structure and content descriptions of data and information fields could be made, in order to facilitate the sharing of data and information between inventory and ecological character description processes.
35. Table 2 provides the revised core inventory fields, and these supersede those in the annex to Resolution VIII.6. Table 3 provides a comparison of how these revised core inventory fields relate to the ecological character description fields from Table 1.

Table 2. Revised core wetland inventory data and information fields

Revised core wetland inventory fields (Harmonized with Ramsar ecological character description sheet)	
Site name:	Official name of site and catchment/other identifier(s) (e.g., reference number)
Area, boundary and dimensions:	Site shape (cross-section and plan view), boundaries, area, area of water/wet area (seasonal max/min where relevant), length, width, depth (seasonal max/min where relevant)
Location:	Projection system, map coordinates, map centroid, elevation
Geomorphic setting:	Setting in the landscape/catchment/river basin - including altitude, upper/lower zone of catchment, distance to coast where relevant, etc.
Biogeographical region:	
Climate:	Overview of prevailing climate type, zone and major features (precipitation, temperature, wind)

Soil: Geology, soils and substrates; and soil biology
Water regime: Water source (surface and groundwater), inflow/outflow, evaporation, flooding frequency, seasonality and duration; magnitude of flow and/or tidal regime, links with groundwater
Water chemistry: Temperature; turbidity; pH; colour; salinity; dissolved gases; dissolved or suspended nutrients; dissolved organic carbon; conductivity
Biota: Plant communities, vegetation zones and structure (including comments on particular rarity, etc.); Animal communities (including comments on particular rarity, etc.); Main species present (including comments on particular rare/endangered species, etc.); population size and proportion where known, seasonality of occurrence, and approximate position in distribution range (e.g., whether near centre or edge of range)
Land use: Local, and in the river basin and/or coastal zone
Pressures and trends: Concerning any of the features listed above, and/or concerning ecosystem integrity
Land tenure and administrative authority: For the wetland, and for critical parts of the river basin and/or coastal zone
Conservation and management status of the wetland: Including legal instruments and social or cultural traditions that influence the management of the wetland; and including protected area categories according to the IUCN system and/or any national system
Ecosystem services: (for a list of relevant ecosystem services, see the Ramsar ecological character description sheet)]
Management plans and monitoring programs: In place and planned within the wetland and in the river basin and/or coastal zone (see Resolutions 5.7, VI.1, VII.17, and VIII.14)

Table 3. The relationship between ecological character description and core wetland inventory fields

Ramsar ecological character description sheet	Core inventory fields (revised)
Site name: Official name of site and catchment)/other identifier(s) (e.g., reference number)	
	<i>Administrative and locational details</i>
	Site name: Official name of site and catchment)/other identifier(s) (e.g., reference number)
	Area, boundary and dimensions: Site shape (cross-section and plan view), boundaries, area, area of water/wet area (seasonal max/min where relevant), length, width, depth (seasonal max/min where relevant)
	Location: Projection system, map coordinates, map centroid, elevation
	Biogeographical region Land tenure and administrative authority: For the wetland, and for critical parts of the river basin and/or coastal zone

	<i>Ecological character</i>
1. Summary statement	
Two or three narrative sentences giving a statement of what is ecologically <i>distinctive</i> (not necessarily <i>important</i>) about the site, based on the details below. (With reference to the COP 9 definition, this concerns <i>the combination of</i> the components, processes and services that <i>characterise</i> the wetland (emphasis added)).	(Not part of core inventory)
2. Ecological components	
2.1 Geomorphic setting: Setting in the landscape/catchment/river basin - including altitude, upper/lower zone of catchment, distance to coast where relevant, etc.	Geomorphic setting: Setting in the landscape/catchment/river basin - including altitude, upper/lower zone of catchment, distance to coast where relevant, etc.
2.2 Climate: Overview of prevailing climate type, zone and major features (precipitation, temperature, wind)	Climate: Overview of prevailing climate type, zone and major features
2.3 Habitat types (including comments on particular rarity, etc.), and Ramsar wetland types	Part of section on biota: Plant communities, vegetation zones and structure (including comments on particular rarity, etc.)
2.4 Habitat connectivity	
2.5 Area, boundary and dimensions: Site shape (cross-section and plan view), boundaries, area, area of water/wet area (seasonal max/min where relevant), length, width, depth (seasonal max/min where relevant)	[In administrative and locational details section above.]
2.6 Plant communities, vegetation zones and structure (including comments on particular rarity, etc.)	Part of section on biota: Plant communities, vegetation zones and structure (including comments on particular rarity, etc.); (See under administrative and locational details above)
2.7 Animal communities (including comments on particular rarity, etc.)	Part of section on biota: Animal communities (including comments on particular rarity, etc.);
2.8 Main species present (including comments on particular rare/endangered species etc); population size and proportion where known, seasonality of occurrence, and approximate position in distribution range (e.g., whether near centre or edge of range)	Part of section on biota: Main species present (including comments on particular rare/endangered species etc); population size and proportion where known, seasonality of occurrence, and approximate position in distribution range (e.g., whether near centre or edge of range)Part of section on biota: Animal communities (including comments on particular rarity, etc.);
2.9 Soil: Geology, soils and substrates; and soil biology	Soil: Geology, soils and substrates

2.10 Water regime: Water source (surface and groundwater), inflow/ outflow, evaporation, flooding frequency, seasonality and duration; magnitude of flow and/or tidal regime, links with groundwater	Water regime: Water source (surface and groundwater), inflow/outflow, evaporation, flooding frequency, seasonality and duration; magnitude of flow and/or tidal regime, links with groundwater
2.11 Connectivity of surface waters and of groundwater	(Incorporated in “Water regime” above)
2.12 Stratification and mixing regime	
2.13 Sediment regime (erosion, accretion, transport and deposition of sediments)	
2.14 Water turbidity and colour	Part of section on Water chemistry: Turbidity; colour
2.15 Light - reaching the wetland (openness or shading) and attenuation in water	(Incorporate as appropriate in vegetation and chemistry sections above)
2.16 Water temperature	Part of section on Water chemistry: Temperature
2.17 Water pH	Part of section on Water chemistry: pH
2.18 Water salinity	Part of section on Water chemistry: Salinity
2.19 Dissolved gases in water	Part of section on Water chemistry: Dissolved gases
2.20 Dissolved or suspended nutrients in water	Part of section on Water chemistry: Dissolved or suspended nutrients
2.21 Dissolved organic carbon	Part of section on Water chemistry: Dissolved organic carbon
2.22 Redox potential of water and sediments	(Incorporate in chemistry section if appropriate)
2.23 Water conductivity	(Incorporate in chemistry section if appropriate)

3. Ecological processes	
3.1 Primary production (S)*	(Not included)
3.2 Nutrient cycling (S)*	
3.3 Carbon cycling	
3.4 Animal reproductive productivity	(Incorporate as necessary in section on biota)
3.5 Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.	
3.6 Notable species interactions, including grazing, predation, competition, diseases and pathogens	
3.7 Notable aspects concerning animal and plant dispersal	
3.8 Notable aspects concerning migration	
3.9 Pressures and trends concerning any of the above, and/or concerning ecosystem integrity	Pressures and trends: Concerning any of the features listed above, and/or concerning ecosystem integrity
4. Ecosystem services	
4.1 Drinking water for humans and/or livestock (P)*	Ecosystem services:

4.2 Water for irrigated agriculture (P)*	(Derive summary, to length appropriate, of the aspects documented in the character description sheet as listed in fields 4.1 - 4.27 on the left)	
4.3 Water for industry (P)*		
4.4 Groundwater replenishment (R)*		
4.5 Water purification/waste treatment or dilution (R)*		
4.6 Food for humans (P)*		
4.7 Food for livestock (P)*		
4.8 Wood, reed, fibre and peat (P)*		
4.9 Medicinal products (P)*		
4.10 Biological control agents for pests/diseases (R)*		
4.11 Other products and resources, including genetic material (P)*		
4.12 Flood control, flood storage (R)*		
4.13 Soil, sediment and nutrient retention (R)*		
4.14 Coastal shoreline and river bank stabilization and storm protection (R)*		
4.15 Other hydrological services (R)*		
4.16 Local climate regulation/buffering of change (R)*		
4.17 Carbon storage/sequestration (R)*		
4.18 Recreational hunting and fishing (C)*		
4.19 Water sports (C)*		
4.20 Nature study pursuits (C)*		
4.21 Other recreation and tourism (C)*		
4.22 Educational values (C)*		
4.23 Cultural heritage (C)*		
4.24 Contemporary cultural significance, including for arts and creative inspiration, and including existence values (C)*		
4.25 Aesthetic and “sense of place” values (C)*		
4.26 Spiritual and religious values (C)*		
4.27 Important knowledge systems, and importance for research (C)*		
(For nature conservation value as an ecosystem ‘service’ (S)*, see items under ‘components’ and ‘processes’ above)		
		Conservation and management
		Conservation and management status of the wetland: Including legal instruments and social or cultural traditions that influence the management of the wetland; and including protected area categories according to the IUCN system and/or any national system
		Management plans and monitoring programs: In place and planned within the wetland and in the river basin and/or coastal zone (see Resolutions 5.7, VI.1, VII.17, and VIII.14)

	Land use : Local, and in the river basin and/or coastal zone
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* Ecosystem Services are categorised as “provisioning” (P), “regulating” (R), cultural (C) or “supporting” (S) according to the categorization in the Millennium Ecosystem Assessment. Some may appear in the “processes” section as well as the “services” section above.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.16

**A Framework for processes of detecting, reporting and responding
to change in wetland ecological character**

1. AWARE of the suite of technical and scientific guidelines and other materials prepared by the Scientific and Technical Review Panel (STRP) to support Contracting Parties in their implementation of wetland conservation and wise use, including those concerning aspects of addressing change in the ecological character of wetlands compiled in Ramsar Wise Use Handbook 15 (3rd edition, 2007);
2. NOTING that the 9th Meeting of the Conference of the Contracting Parties (COP9) instructed the STRP to prepare further advice and guidance for consideration by Contracting Parties at COP10, focusing on the immediate and high priority tasks set out in Annex 1 to Resolution IX.2; and
3. THANKING the STRP for its work in preparing the guidance annexed to this Resolution as part of its high priority work during the 2006-2008 triennium, and the background information on this issue provided in COP10 DOC. 26;

THE CONFERENCE OF THE CONTRACTING PARTIES

4. WELCOMES the “Framework for processes of detecting, reporting and responding to change in wetland ecological character” provided in the annex to this Resolution, and URGES Contracting Parties to make good use of it as appropriate, adapting it as necessary to suit national conditions and circumstances, within the frameworks of existing regional initiatives and commitments and in the context of sustainable development;
5. RECOGNIZES that whilst some parts of this Framework concern processes specific to designated Ramsar sites, other aspects of the Framework can be applied equally well to any wetland being managed to maintain its ecological character as a contribution to achieving the wise use of wetlands;
6. URGES Contracting Parties to draw this Framework to the attention of relevant stakeholders with responsibilities for maintaining the ecological character of Ramsar sites and other wetlands, including wetland site managers, government ministries, departments and agencies, water and basin management agencies, non-governmental organizations, and civil society, and FURTHER URGES Contracting Parties to encourage these stakeholders to take this Framework into account, together with the Ramsar Toolkit of Wise Use

Handbooks, in their decision-making and activities that relate to the delivery of the wise use of wetlands through the maintenance of their ecological character;

7. INSTRUCTS the Scientific and Technical Review Panel to include in its work plan for the 2009-2012 period the following tasks:
 - i) In the context of Article 3.2 and the guidance in the annex to this Resolution, develop guidance on aspects of applying the framework provided as this annex, including on:
 - a) “limits of acceptable change”, including guidance on defining the range of natural variability of a site;
 - b) determining confidence limits and degree of likelihood in cases of “likely” change in the context of Article 3.2; and
 - c) the application of a precautionary approach in the Ramsar Convention;
 - ii) Develop guidance on mitigation of and compensation for losses of wetland area and wetland values, in the context of Resolution X.16 on *A Framework for processes of detecting, reporting and responding to change in wetland ecological character*, including lessons learned from available information on implementation of “no net loss” policies, the “urgent national interest” test, and other aspects relating to situations in which Article 2.5 and 4.2 and/or Resolution VII.24 are relevant;
 - iii) Prepare proposals for updating and expanding existing Ramsar guidance on restoration and rehabilitation of lost or degraded wetlands, in the context of Resolution X.16 on *A Framework for processes of detecting, reporting and responding to change in wetland ecological character*, including approaches to prioritization and links with other Ramsar tools and guidance, such as those on climate change and on economic values of ecosystem services; and
 - iv) Prepare guidance on how the Management Effectiveness Tracking Tool (METT) developed by WWF, the World Bank and others can be applied by Contracting Parties for regularly assessing detection, reporting and responses to change in wetland ecological character;
8. INSTRUCTS the Ramsar Secretariat to disseminate widely the Framework annexed to this Resolution, including through amendment and updating of the Ramsar Wise Use Handbooks.

Annex

A Framework for processes of detecting, reporting and responding to change in wetland ecological character

Introduction

1. This Framework has been developed by the Ramsar Convention's Scientific & Technical Review Panel in response to the request from the Contracting Parties in Resolution VIII.8 (2002) on *Assessing and reporting the status and trends of wetlands, and the implementation of Article 3.2 of the Convention*; paragraph 17 of which "ALSO REQUESTS the STRP to prepare further consolidated guidance on the overall process of detecting, reporting and responding to change in ecological character, including guidelines for determining when such a change is too trivial to require reporting, having regard to the reasons why a given site is important and to the conservation objectives which have been set for it, and ENCOURAGES Contracting Parties in the meantime to take a precautionary approach".
2. This request was also included as a task (task 54) in the STRP's 2006-2008 Work Plan (Annexes to Resolution IX.2).
3. The key basis for the need for clear understanding of the overall processes of detecting, reporting and responding to change in ecological character is Article 3.2 of the Convention text which states that:

"Each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference. Information on such changes shall be passed without delay to the organization or government responsible for the continuing bureau duties [i.e., the Ramsar Secretariat] specified in Article 8".
4. The present Framework is intended to provide the overarching guidance to all processes relevant to maintaining the ecological character of wetlands, and it is complemented as another key part of the process identified in the framework by the Convention's guidance on "Describing the ecological character of wetlands" Resolution X.15.
5. The framework guidance is designed to give new advice on the overall scheme or "architecture" of Ramsar's regime on this issue, the ways in which different parts of it (detecting, reporting, responding) fit together, and the processes that should operate if implementation by Contracting Parties and others involved are to be consistent with the terms of the Convention.
6. The Framework is presented as a series of flowcharts appended to this guidance, as follows:

- A) Overview of the four flowcharts describing procedures for detecting, reporting and responding to change in wetland ecological character of designated Ramsar sites;
 - B) *Flowchart 1*: Detecting change in wetland ecological character of designated Ramsar sites;
 - C) *Flowchart 2*: Reporting and responding to negative human-induced change in wetland ecological character of designated Ramsar sites;
 - D) *Flowchart 3*: Reporting natural and positive change, and no change, in wetland ecological character of designated Ramsar sites; and
 - E) *Flowchart 4*: Reporting to and consideration by the Conference of Contracting Parties of change in wetland ecological character.
7. Each flowchart identifies the steps in the process, identifies where decisions on next steps need to be made, and also identifies who (site managers, Administrative Authorities, Ramsar Secretariat, STRP, Standing Committee or COP) should be undertaking the steps and making the decisions.
8. This framework also provides an example of supplemental guidance on data and information flows for implementing aspects of the overall “Framework for Ramsar data and information needs” (Resolution X.14), in this case speaking to Strategies 2.4 (Ramsar site ecological character) and 2.6 (Ramsar site status) of the new Ramsar Strategic Plan 2009-2015 (Resolution X.1).
9. Whilst this framework guidance is designed to address issues of the maintenance of ecological character, and changes in such character, for wetlands which have been designated as Wetlands of International Importance (Ramsar sites), a number of aspects of the Framework are equally applicable to all wetlands in relation to the wise use aspects of Article 3.1 of the Convention, which states that “The Contracting Parties shall formulate and implement their planning so as to promote ... as far as possible the wise use of wetlands in their territory,” particularly since COP9 Resolution IX.1 Annex A linked the concepts of wise use and ecological character such that the present definition of “wise use” is that:
- “Wise use of wetlands is the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development.”
10. Guidance relevant to various different aspects of the Framework for detecting, reporting and responding to change in wetland ecological character has been adopted by previous meetings of the Conference of the Contracting Parties, and in 2007 much of this was compiled as Ramsar Wise Use Handbook 15 (3rd edition, 2007), *Addressing change in ecological character*. Guidance on certain other aspects of Convention implementation relevant to these issues (notably management planning, and assessment tools, is also provided in others of the Wise Use Handbooks (3rd edition).

11. A summary guide to sections of Handbook guidance relevant to applying various aspects of flowcharts 1 to 3 is provided below. This table also indicates other relevant guidance being considered for adoption by COP10.

Flowchart 1: Detecting change in wetland ecological character of designated Ramsar sites. HBx = Wise Use Handbook No. (3rd edition)

Step in flowchart	Available guidance
- Describe ecological character	Resolution X.15. Describing the ecological character of wetlands HB16 Managing wetlands, Section B
- Define ecological character maintenance management objectives - Develop management plan - Implement management plan	HB16, Section C
- Monitor ecological character	HB16, Sections D & E HB11 Inventory, assessment & monitoring, Section V & Appendix

Flowchart 2: Reporting and responding to negative human-induced change in wetland ecological character of designated Ramsar sites. HBx = Wise Use Handbook No. (3rd edition)

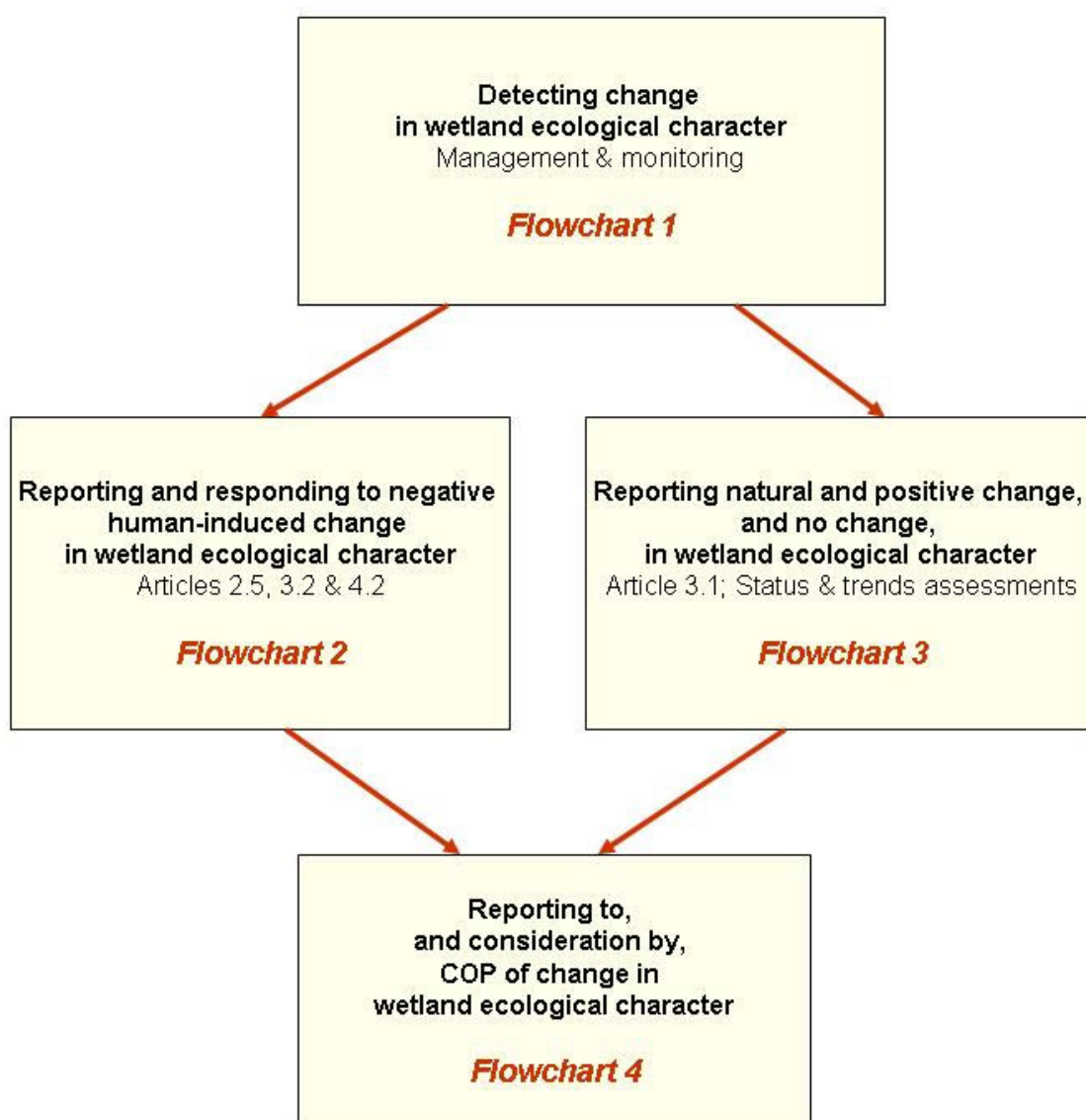
Step in flowchart	Available guidance
- Negative human-induced change or likely change in ecological character detected	HB15 Addressing change in ecological character, Sections B, D & Appendix
- Article 3.2 report	HB15, Section B; Resolution X. 15. Describing the ecological character of wetlands
- Urgent National Interest (Article 2.5) invoked	HB15, Section D
- Compensate	HB15, Section G
- Place on Montreux Record	HB15, Section C
- Restore losses	HB15, Section F

Flowchart 3: Reporting natural and positive change, and no change, in wetland ecological character of designated Ramsar sites. HBx = Wise Use Handbook No. (3rd edition)

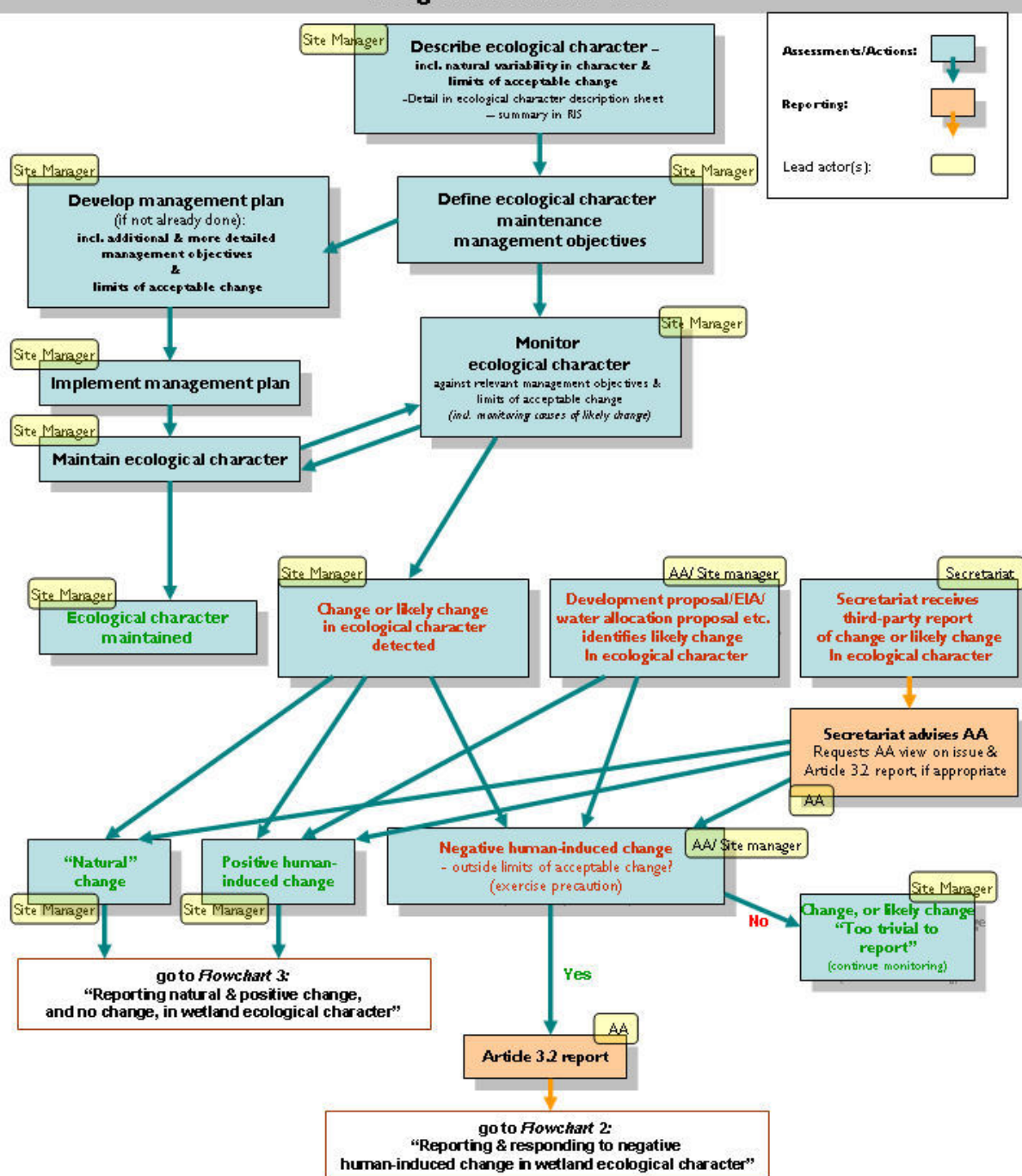
Step in flowchart	Available guidance
- Reporting: - “natural change” - positive human-induced change - ecological character maintained	HB11 Inventory, assessment & monitoring, Section V (indicator assessment); Resolution IX.1 Annex D; HB14 Designating Ramsar sites, Section II (Objective 4.1)

Appendix

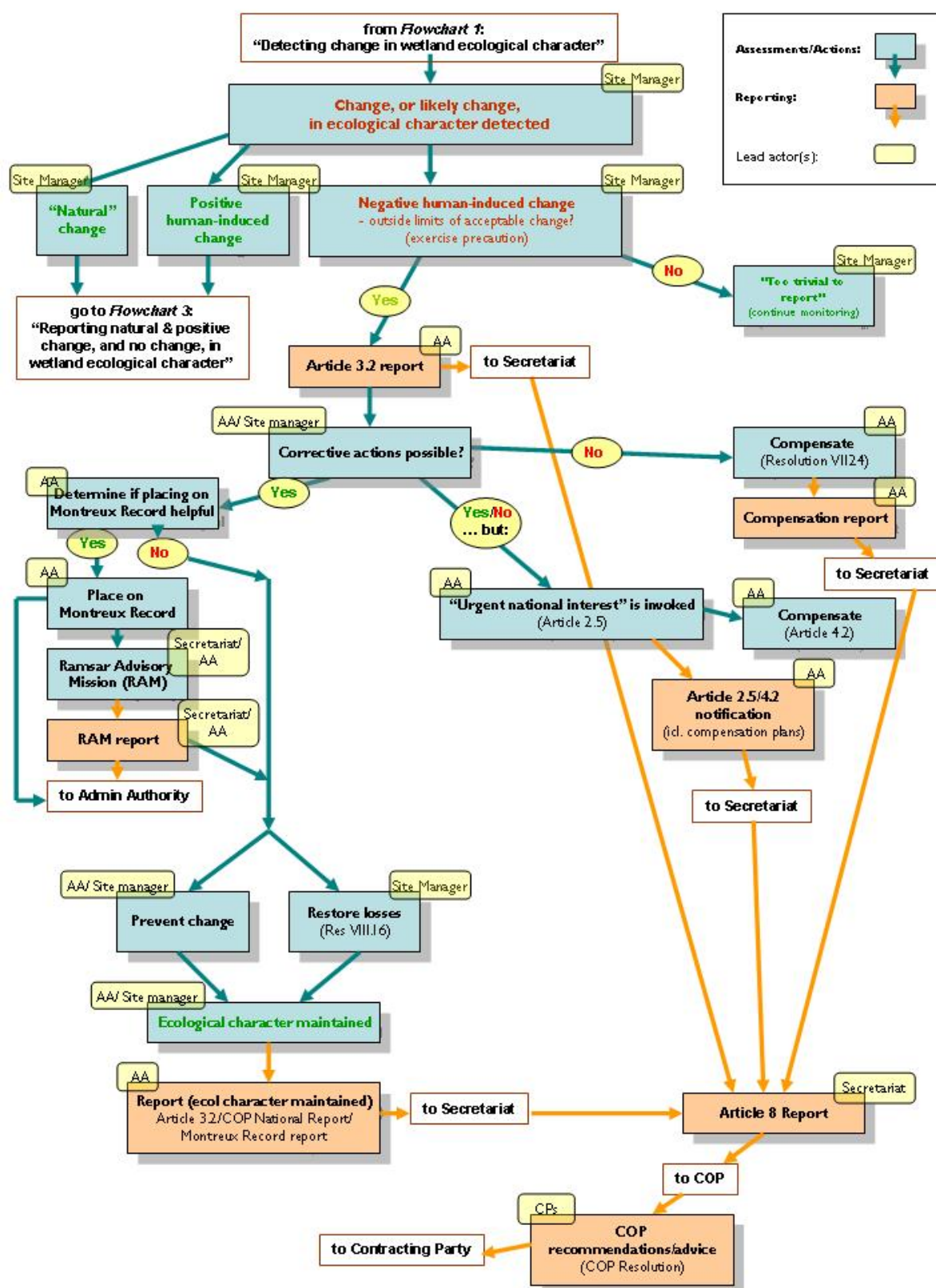
A. Overview of the four flowcharts describing procedures for detecting, reporting & responding to change in wetland ecological character of designated Ramsar sites



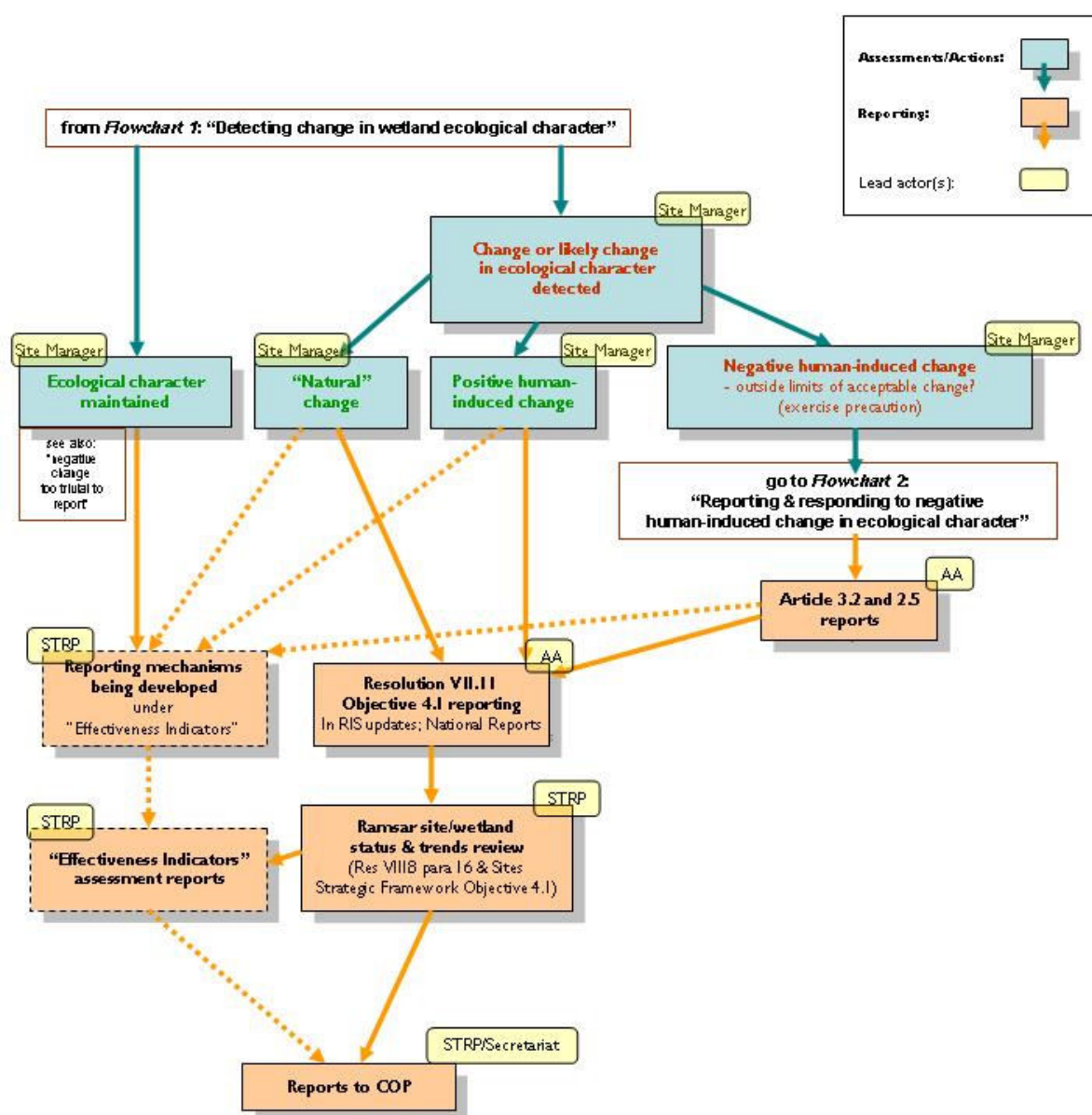
B. Flowchart 1: Detecting change in wetland ecological character of designated Ramsar sites



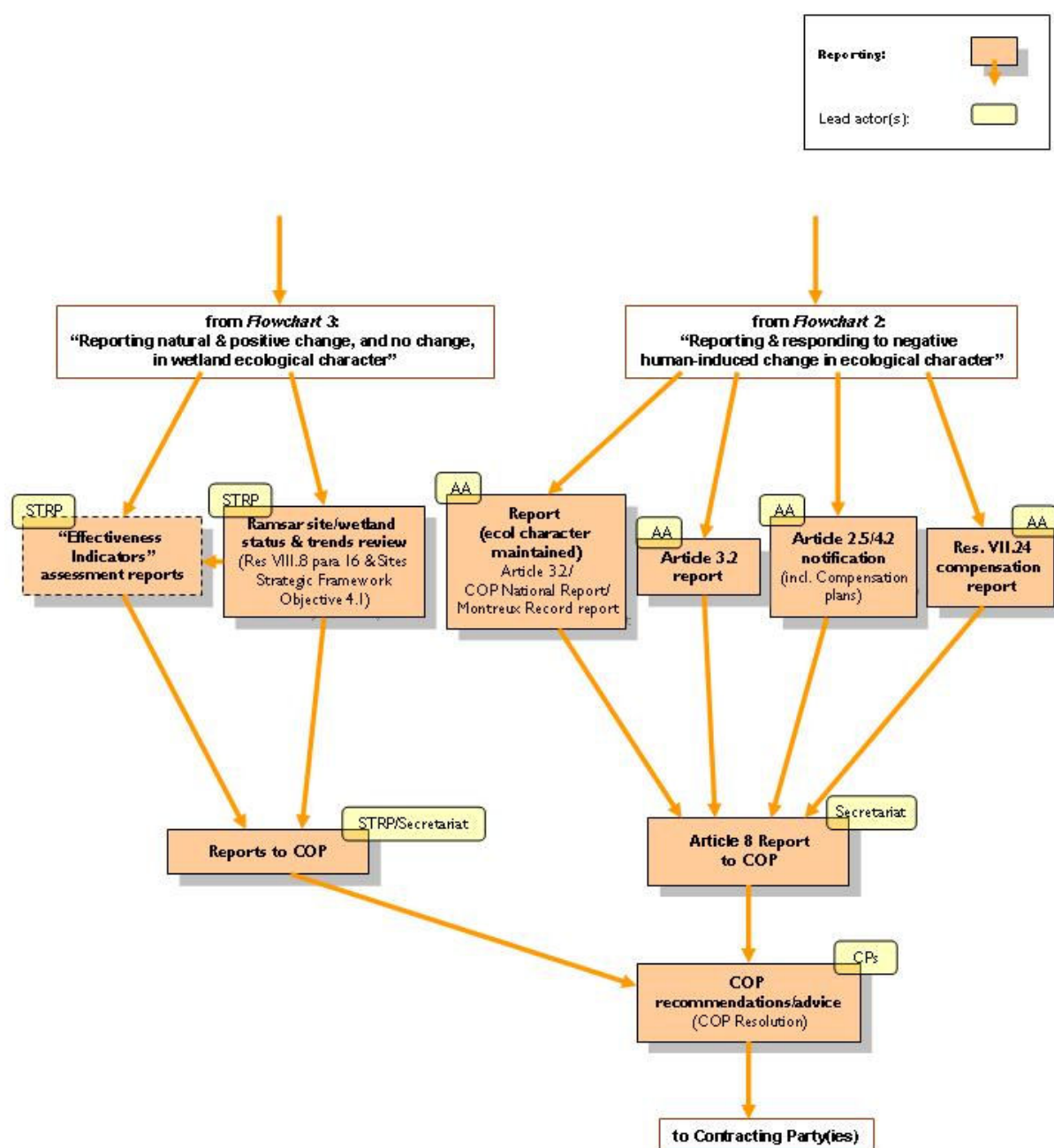
C. Flowchart 2: Reporting & responding to negative human-induced change in wetland ecological character of designated Ramsar sites



D. Flowchart 3: Reporting natural and positive change, and no change, in wetland ecological character of designated Ramsar sites



E. Flowchart 4: Reporting to, and consideration by, COP of change in wetland ecological character of designated Ramsar sites





10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)

“Healthy wetlands, healthy people”

Changwon, Republic of Korea,
28 October-4 November 2008

Resolution X.17

**Environmental Impact Assessment and Strategic Environmental
Assessment: updated scientific and technical guidance**

1. RECALLING that in Resolution VIII.9 adopted by the Conference of the Contracting Parties at its 8th meeting (2002), Parties were urged to make use, as appropriate, of the *Guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment* produced by the Convention on Biological Diversity and appended to Resolution VIII.9, with the addition of selected points of guidance relating particularly to wetlands and Ramsar that were prepared by the Scientific and Technical Review Panel (STRP);
2. RECOGNIZING the importance of adequate wetland inventory and baseline information in supporting impact assessment and strategic assessment studies, and as a basis for the definition and detection of impacts of plans, programmes, policies, and projects on wetlands, and of applying the guidance on wetland inventory provided in *A Ramsar Framework for Wetland Inventory* (Resolution VIII.6 and Ramsar Wise Use Handbook 12, 3rd edition 2007);
3. EXPRESSING APPROVAL for the process followed in Resolution VIII.9 whereby endorsement of principles and good practice was harmonized between the Ramsar Convention and the Convention on Biological Diversity and duplication of work was avoided, thus exemplifying cost effective synergy between the two conventions in the context of their Joint Work Programme;
4. NOTING that the Convention on Biological Diversity has subsequently adopted a further Decision VIII/28 at its COP8 in 2006, with updated and expanded guidance that incorporates and replaces its earlier document and includes a strengthened emphasis on ecosystem services, and DESIRING to maintain up-to-date harmonization between the two conventions for national implementation on these issues;
5. CONSIDERING ALSO that the inclusion in the updated CBD guidance of a new section on Strategic Environmental Assessment offers a suitable response to the request by Ramsar Parties in COP Resolution VIII.9 for STRP to prepare advice on SEA;
6. THANKING the STRP for its work in adding to the new CBD document an updated set of points relating specifically to wetlands and Ramsar; and

7. ALSO THANKING the International Association for Impact Assessment (IAIA) for its assistance with this work;

THE CONFERENCE OF THE CONTRACTING PARTIES

8. WELCOMES the guidelines on Biodiversity-Inclusive Environmental Impact Assessment and Strategic Impact Assessment provided in the annex to this Resolution, and INVITES Contracting Parties to make good use of them as appropriate, including within the frameworks of existing regional initiatives and commitments and in the context of sustainable development, without prejudice to the practices already established by the Parties;
9. CONFIRMS that the guidelines in the annex to this Resolution supersede the *Guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment* adopted as the annex to Resolution VIII.9;
10. INVITES Contracting Parties to draw these guidelines to the attention of all relevant stakeholders, including *inter alia* government ministries, departments and agencies, water and basin management authorities, non-governmental organizations, and civil society, and to encourage those stakeholders to take these guidelines into account in relevant decision-making; and
11. INSTRUCTS the Ramsar Secretariat to disseminate widely the guidelines annexed to this Resolution and to provide advice and assistance to Contracting Parties, especially developing countries, to enhance capacity for their national implementation, including through amendment and updating of the Ramsar 'Toolkit' of Wise Use Handbooks.

Annex

CBD voluntary guidelines on biodiversity-inclusive environmental impact assessment & draft* CBD guidance on biodiversity-inclusive strategic environmental assessment

With additional annotations prepared by the Ramsar Scientific and Technical Review Panel on specific aspects relating to wetlands and the Ramsar Convention

(*Although the SEA guidance was termed by the Convention on Biological Diversity “draft”, in the expectation of further work in future, it represents the approach currently endorsed by the Contracting Parties to the CBD).

Introduction to the 2008 Ramsar-annotated version of the 2006 CBD guidance

1. In 2002 the CBD’s Conference of the Contracting Parties (COP) at its 6th meeting (The Hague, The Netherlands, April 2002) endorsed draft guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment (Decision VI/7-A).
2. These 2002 CBD guidelines were adopted by the Ramsar COP at its 8th meeting (Valencia, Spain, November 2002) with annotations describing their relevance to the Ramsar Convention (Resolution VIII.9). The Convention on Conservation of Migratory Species of Wild Animals (CMS) at its 7th COP (Bonn, Germany, September 2002) welcomed the CBD guidelines and urged its Parties to make use of them as appropriate (Resolution 7.2).
3. CBD Decision VI/7-A also requested the CBD Executive Secretary to prepare proposals for further development and refinement of the guidelines, in collaboration with relevant organizations, incorporating all stages of environmental impact assessment and strategic environmental assessment processes taking into account the ecosystem approach. In 2004, the CBD Secretariat invited the Netherlands Commission for Environmental Assessment to take the lead in producing revised guidelines on biodiversity-inclusive environmental impact assessment and strategic environmental assessment. The production of the new guidelines involved significant consultation and drew on case study material obtained through the network of the International Association for Impact Assessment. During the production process, the decision was taken to produce separate documents on EIA and SEA. The EIA document contains a refinement of the earlier guidelines and does not substantially deviate from the earlier COP Decision VI/7-A. The SEA guidelines, however, were conceived as a separate new guidance document recognizing the differences in procedure and content between EIA and SEA. During the production process, the EIA guidelines and SEA guidance were peer reviewed by members of the Biodiversity and SEA Sections of IAIA.
4. The new guidelines, which comprise “Voluntary guidelines on biodiversity-inclusive environmental impact assessment” and “Draft guidance on biodiversity-inclusive strategic

environmental assessment” and which replace the 2002 version of the CBD guidelines, were endorsed by CBD’s COP at its 8th meeting (Decision VIII/28, Curitiba, Brazil, March 2006). Although the SEA guidance is termed “draft”, in the expectation of further work in future, it represents the currently-endorsed approach. Decision VIII/28 noted that the new guidelines should be used in conjunction with the ‘Akwe: Kon voluntary guidelines for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and lands and waters traditionally occupied or used by indigenous and local communities’¹ produced by the Ad Hoc Open-ended Inter-Sessional Working Group on Article 8(j) and related provisions and adopted (Decision VII/16 Part F) by CBD’s COP at its 7th meeting (Kuala Lumpur, Malaysia, February 2004). A workshop on the Akwe: Kon voluntary guidelines attended by 189 experts was held in Japan in 2005² and Parties report on implementation of the Akwe: Kon guidelines in national reports³.

5. Decision VIII/28 also encouraged other multilateral environmental agreements that have endorsed the 2002 Guidelines, particularly Ramsar and CMS, to take note of, and if appropriate endorse, the 2006 voluntary CBD guidelines. A background document⁴, which includes additional explanations of the 2006 CBD guidelines and the case study material on which the production of the guidelines drew, is available⁵. Capacity building work on biodiversity in impact assessment, including the provision of practical guidance to support the implementation of the CBD guidelines, has been undertaken, in particular by the International Association for Impact Assessment⁶.
6. As it did in 2002, the Ramsar Scientific & Technical Review Panel has prepared supplementary annotations on wetland-specific aspects to assist Ramsar Parties in their application, as appropriate, of the 2006 CBD guidelines to impact assessment on wetlands. This supplementary material is provided as boxed text in the relevant parts of the CBD EIA guidelines (Part I) and CBD Draft SEA guidance (Part II) below.

¹ See <http://www.cbd.int/decisions/?dec=VII/16> and <http://www.cbd.int/doc/publications/akwe-brochure-en.pdf>

² <http://www.cbd.int/doc/meetings/cop/cop-08/official/cop-08-07-en.doc>

³ For example, see <http://www.cbd.int/doc/meetings/tk/wg8j-05/official/wg8j-05-02-en.doc> para 32 onwards.

⁴ In English from <http://www.cbd.int/doc/publications/cbd-ts-26-en.pdf>, French from <http://www.cbd.int/doc/publications/cbd-ts-26-fr.pdf>, and Spanish from <http://www.cbd.int/doc/publications/cbd-ts-26-es.pdf>

⁵ From <http://www.cbd.int/impact/case-studies/>

⁶ See <http://www.cbd.int/impact/capacity.shtml> and <http://www3.webng.com/jerbarker/home/cia-toolkit/overall/home.html> and the IAIA Best practice principles for biodiversity in impact assessment available in English, French and Spanish from <http://www.iaia.org/modx/index.php?id=74>

Part I

CBD voluntary guidelines on biodiversity-inclusive environmental impact assessment

Contents

- A. Stages in the process
- B. Biodiversity issues at different stages of environmental impact assessment
 - 1. Screening
 - 2. Scoping
 - 3. Assessment and evaluation of impacts, and development of alternatives
 - 4. Reporting: the environmental impact statement (eis)
 - 5. Review of the environmental impact statement
 - 6. Decision-making
 - 7. Monitoring, compliance, enforcement and environmental auditing

Appendices

- 1. Indicative set of screening criteria to be further elaborated at national level
- 2. Indicative list of ecosystem services
- 3. Aspects of biodiversity: composition, structure and key processes

Voluntary guidelines on biodiversity-inclusive environmental impact assessment

Ramsar: Definition of ‘biodiversity’ - For the purpose of the use of these Guidelines in a Ramsar Convention context, references to ‘biodiversity’ as the scope of interest covered, or the type of expertise engaged, can be read as applying equally to the conservation and wise use of wetlands, including limnology and hydrology, addressed by the Ramsar Convention.

- 1. The guidelines are structured in accordance with the internationally accepted sequence of procedural steps characterizing good-practice environmental impact assessment (EIA).^{7/} They aim at a better integration of biodiversity-related considerations into the EIA process.
- 2. National EIA systems are regularly being evaluated and revised. These guidelines are intended to assist national authorities, regional authorities or international agencies as appropriate in better incorporating biodiversity-related considerations during such a revision, at which a significant enhancement of the EIA system can be made. This also implies that further elaboration of practical guidelines is needed to reflect the ecological, socio-economic, cultural and institutional conditions for which the EIA system is designed.
- 3. The guidelines focus on how to promote and facilitate a biodiversity-inclusive EIA process. They do not provide a technical manual on how to conduct a biodiversity-inclusive assessment study.

^{7/} See, for example, the International Association for Impact Assessment’s principles of Environmental Impact Assessment best practice – www.iaia.org.

4. Screening and scoping are considered critical stages in the EIA process and consequently receive particular attention. Screening provides the trigger to start an EIA process. During scoping relevant impacts are identified resulting in the terms of reference for the actual impact study. The scoping stage is considered critical in the process as it defines the issues to be studied and it provides the reference information on which the review of the study results will be based. Scoping and review usually are linked to some form of public information, consultation or participation. During scoping promising alternatives can be identified that may significantly reduce or entirely prevent adverse impacts on biodiversity.

A. *Stages in the process*

5. Environmental impact assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development,^{8/} taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. The effective participation of relevant stakeholders, including indigenous and local communities, is a precondition for a successful EIA. Although legislation and practice vary around the world, the fundamental components of an EIA would necessarily involve the following stages:
 - a) *Screening* to determine which projects or developments require a full or partial impact assessment study;
 - b) *Scoping* to identify which potential impacts are relevant to assess (based on legislative requirements, international conventions, expert knowledge and public involvement), to identify alternative solutions that avoid, mitigate or compensate adverse impacts on biodiversity (including the option of not proceeding with the development, finding alternative designs or sites which avoid the impacts, incorporating safeguards in the design of the project, or providing compensation for adverse impacts), and finally to derive terms of reference for the impact assessment;
 - c) *Assessment and evaluation of impacts and development of alternatives*, to predict and identify the likely environmental impacts of a proposed project or development, including the detailed elaboration of alternatives;
 - d) *Reporting*: the environmental impact statement (EIS) or EIA report, including an environmental management plan (EMP), and a non-technical summary for the general audience;
 - e) *Review* of the environmental impact statement, based on the terms of reference (scoping) and public (including authority) participation;
 - f) *Decision-making* on whether to approve the project or not, and under what conditions; and
 - g) *Monitoring, compliance, enforcement and environmental auditing*. Monitor whether the predicted impacts and proposed mitigation measures occur as defined in the EMP.

^{8/} The terms project, activity and development are used interchangeably; there is no intended distinction between them.

Verify the compliance of proponent with the EMP, to ensure that unpredicted impacts or failed mitigation measures are identified and addressed in a timely fashion.

Ramsar: Particular emphasis should be given to the development of alternatives and decision-making in the impact assessment process.

B. Biodiversity issues at different stages of environmental impact assessment

1. Screening

6. Screening is used to determine which proposals should be subject to EIA, to exclude those unlikely to have harmful environmental impacts and to indicate the level of assessment required. Screening criteria have to include biodiversity measures, or else there is a risk that proposals with potentially significant impacts on biodiversity will be screened out. The outcome of the screening process is a *screening decision*.
7. Since legal requirements for EIA may not guarantee that biodiversity will be taken into account, consideration should be given to incorporating biodiversity criteria into existing, or the development of new, screening criteria. Important information for developing screening criteria can be found in national biodiversity strategies and action plans (NBSAPs) or equivalent documents. These strategies provide detailed information on conservation priorities and on types and conservation status of ecosystems. Furthermore they describe trends and threats at ecosystem as well as species level and provide an overview of planned conservation activities.

Ramsar: When developing screening criteria at the national level, reference should also be made to the national wetland policy (see Resolution VII.6) where this exists.

8. *Pertinent questions from a biodiversity perspective.* Taking into account the three objectives of the Convention, fundamental questions which need to be answered in an EIA study include:
 - a) Would the intended activity affect the biophysical environment directly or indirectly in such a manner or cause such biological changes that it will increase risks of extinction of genotypes, cultivars, varieties, populations of species, or the chance of loss of habitats or ecosystems?
 - b) Would the intended activity surpass the maximum sustainable yield, the carrying capacity of a habitat/ecosystem or the maximum allowable disturbance level of a resource, population, or ecosystem, taking into account the full spectrum of values of that resource, population or ecosystem?
 - c) Would the intended activity result in changes to the access to, and/or rights over biological resources?
9. To facilitate the development of screening criteria, the questions above have been reformulated for the three levels of diversity, reproduced in table 1 below.

Table 1. Questions pertinent to screening on biodiversity impacts

Level of diversity	Conservation of biodiversity	Sustainable use of biodiversity
Ecosystem diversity ^{9/}	Would the intended activity lead, either directly or indirectly, to serious damage or total loss of (an) ecosystem(s), or land-use type(s), thus leading to a loss of ecosystem services of scientific/ecological value, or of cultural value?	Does the intended activity affect the sustainable human exploitation of (an) ecosystem(s) or land-use type(s) in such manner that the exploitation becomes destructive or non-sustainable (i.e. the loss of ecosystem services of social and/or economic value)?
Species diversity ^{2/}	Would the intended activity cause a direct or indirect loss of a population of a species?	Would the intended activity affect sustainable use of a population of a species?
Genetic diversity	Would the intended activity result in extinction of a population of a localized endemic species of scientific, ecological, or cultural value?	Does the intended activity cause a local loss of varieties/cultivars/breeds of cultivated plants and/or domesticated animals and their relatives, genes or genomes of social, scientific and economic importance?

Ramsar:

Objectives - the objectives of the Ramsar Convention should be considered in the same way, i.e. promoting the conservation of wetlands, promoting the wise use of wetlands, and maintaining the ecological character of Ramsar sites.

The questions in Table 1 remain relevant, but at the ecosystem level two additional questions should also be asked concerning wetlands:

- Would the intended activity lead, either directly or indirectly, to an adverse alteration of any ecosystem component, process, and/or ecosystem benefit/service of a wetland? (i.e. would it lead to a change in ecological character as defined under the Convention), and
- Would the intended activity constitute a use which would be 'unwise' in the sense of conflicting with the tenets of 'wise use of wetlands' as defined under the Convention, most recently in Resolution IX.1 Annex A.?

In a Ramsar context, the appropriate spatial scale at which to think about impacts may sometimes be a particularly broad-scale interpretation of "ecosystem". In particular, the river basin (water catchment) is an important scale at which to address aspects of wetland-related impacts. Also, where impacts on particularly important species such as migratory fish or birds, are at stake, assessment at the scale of the migratory range (flyway) of the relevant populations will be very relevant. This may involve a chain of ecosystems (perhaps disjunct ones), and therefore may need to take a broader perspective than would normally be the case under the ecosystem approach.

^{9/} The scale at which ecosystems are defined depends on the definition of criteria in a country, and should take into account the principles of the ecosystem approach. Similarly, the level at which "population" is to be defined depends on the screening criteria used by a country. For example, the conservation status of species can be assessed within the boundaries of a country (for legal protection), or can be assessed globally (IUCN Red Lists).

At the species diversity level - references to 'a population of a species' should include wetland species and migratory species. As a reference for populations, for waterbirds appropriate biogeographical populations are established in Wetlands International's periodically published Waterbird Population Estimates. For other taxa, population information regularly updated by IUCN's Specialist Groups through the IUCN Species Information Service (SIS) and published in the Ramsar Technical Report series should be used. Where a site regularly supports >1% of one or more populations of waterbirds or other wetland-dependent animal species, an additional question could be: would the intended activity threaten to cause a direct or indirect loss of the international importance of these interests at the site?

Genetic diversity – The Ramsar Convention does not currently directly address issues of genetic diversity.

10. Types of existing screening mechanisms include:

- a) *Positive lists* identifying projects requiring EIA (inclusion lists). A disadvantage of this approach is that the significance of impacts of projects varies substantially depending on the nature of the receiving environment, which is not taken into account. A few countries use (or have used) negative lists, identifying those projects not subject to EIA (exclusion lists). Both types of lists should be reassessed to evaluate their inclusion of biodiversity aspects;
- b) Lists identifying those *geographical areas* where important biodiversity is found, in which projects would require EIA. The advantage of this approach is that the emphasis is on the sensitivity of the receiving environment rather than on the type of project;
- c) *Expert judgement* (with or without a limited study, sometimes referred to as *initial environmental examination* or *preliminary environmental assessment*). Biodiversity expertise should be included in expert teams; and
- d) A combination of a list plus expert judgement to determine the need for an EIA.

11. A *screening decision* defines the appropriate level of assessment. The result of a screening decision can be that:

- a) The proposed project is "fatally flawed" in that it would be inconsistent with international or national conventions, policies or laws. It is advisable not to pursue the proposed project. Should the proponent wish to proceed at his/her risk, an EIA would be required;
- b) An EIA is required (often referred to as category A projects);
- c) A limited environmental study is sufficient because only limited environmental impacts are expected; the screening decision is based on a set of criteria with quantitative benchmarks or threshold values (often referred to as category B projects);

- d) There is still uncertainty whether an EIA is required and an initial environmental examination has to be conducted to determine whether a project requires EIA or not; or
 - e) The project does not require an EIA.
12. *Biodiversity-inclusive screening criteria* set out circumstances in which EIA is justified on the basis of biodiversity considerations. They may relate to:
- a) Categories of activities known to cause biodiversity impacts, including thresholds referring to size of the intervention area and/or magnitude, duration and frequency of the activity;
 - b) The magnitude of biophysical change that is caused by the activity; or
 - c) Maps indicating areas important for biodiversity, often with their legal status.
13. A suggested approach to the development of biodiversity-inclusive screening criteria, combining the above types of criteria, includes the following steps: (i) design a biodiversity screening map indicating areas in which EIA is required; (ii) define activities for which EIA is required; (iii) define threshold values to distinguish between full, limited/undecided or no EIA (see appendix 1 for a generic set of screening criteria). The suggested approach takes account of biodiversity values (including valued ecosystem services) and activities that might impact drivers of change of biodiversity.
14. If possible, biodiversity-inclusive screening criteria should be integrated with the development (or revision) of a national biodiversity strategy and action plan. This process can generate valuable information such as a national spatial biodiversity assessment, including conservation priorities and targets, which can guide the further development of EIA screening criteria.

Ramsar: This also applies to the process for developing a national wetland policy (see Resolution VII.6).

15. *Step 1:* According to the principles of the ecosystem approach, a biodiversity screening map is designed, indicating important ecosystem services (replacing the concept of sensitive areas – see appendix 2 below). The map is based on expert judgement and has to be formally approved.
16. Suggested categories of geographically defined areas, related to important ecosystem services, are:
- a) Areas with *important regulating services in terms of maintaining biodiversity*:

Protected areas: depending on the legal provisions in a country these may be defined as areas in which no human intervention is allowed, or as areas where impact assessment at an appropriate level of detail is always required;

Areas containing *threatened ecosystems outside of formally protected areas*, where certain classes of activities (see step 2) would always require an impact assessment at an appropriate level of detail;

Areas identified as being important for the *maintenance of key ecological or evolutionary processes*, where certain classes of activities (see step 2) would always require an impact assessment at an appropriate level of detail;

Areas known to be *habitat for threatened species*, which would always require an impact assessment at an appropriate level of detail.

- b) Areas with *important regulating services for maintaining natural processes with regard to soil, water, or air*, where impact assessment at an appropriate level of detail is always required. Examples can be wetlands, highly erodable or mobile soils protected by vegetation (e.g. steep slopes, dune fields), forested areas, coastal or offshore buffer areas; etc.
- c) Areas with *important provisioning services*, where impact assessment at an appropriate level of detail is always required. Examples can be extractive reserves, lands and waters traditionally occupied or used by indigenous and local communities, fish breeding grounds; etc.
- d) Areas with *important cultural services*, where impact assessment at an appropriate level of detail is always required. Examples can be scenic landscapes, heritage sites, sacred sites; etc.
- e) Areas with *other relevant ecosystem services* (such as flood storage areas, groundwater recharge areas, catchment areas, areas with valued landscape quality, etc.); the need for impact assessment and/or the level of assessment is to be determined (depending on the screening system in place);
- f) All other areas: no impact assessment required from a biodiversity perspective (an EIA may still be required for other reasons).

Ramsar: These geographically defined areas should include Ramsar sites. This should extend to sites selected according to any of the Ramsar criteria, and not just those relating to the biodiversity importance of the wetland.

17. *Step 2:* Define activities for which impact assessment may be required from a biodiversity perspective. The activities are characterized by the following direct drivers of change:
 - a) Change of land-use or land cover, and underground extraction: above a defined area affected, EIA always required, regardless of the location of the activity - define thresholds for level of assessment in terms of surface (or underground) area affected;
 - b) Change in the use of marine and/or coastal ecosystems, and extraction of seabed resources: above a defined area affected, EIA always required, regardless of the

- location of the activity - define thresholds for level of assessment in terms of surface (or underground) area affected;
- c) Fragmentation, usually related to linear infrastructure. Above a defined length, EIA always required, regardless of the location of the activity – define thresholds for level of assessment in terms of the length of the proposed infrastructural works;
 - d) Emissions, effluents or other chemical, thermal, radiation or noise emissions - relate level of assessment to the ecosystem services map;
 - e) Introduction or removal of species, changes to ecosystem composition, ecosystem structure, or key ecosystem processes responsible for the maintenance of ecosystems and ecosystem services (see appendix 2 below for an indicative listing) - relate level of assessment to ecosystem services map.
18. It should be noted that these criteria only relate to biodiversity and serve as an add-on in situations where biodiversity has not been fully covered by the existing screening criteria.
19. *Determining norms or threshold values for screening* is partly a technical and partly a political process the outcome of which may vary between countries and ecosystems. The technical process should at least provide a description of:
- a) *Categories of activities* that create direct drivers of change (extraction, harvest or removal of species, change in land-use or cover, fragmentation and isolation, external inputs such as emissions, effluents, or other chemical, radiation, thermal or noise emissions, introduction of invasive alien species or genetically modified organisms, or change in ecosystem composition, structure or key processes), taking into account characteristics such as: type or nature of activity, magnitude, extent/location, timing, duration, reversibility/irreversibility, irreplaceability, likelihood, and significance; possibility of interaction with other activities or impacts;
 - b) *Where and when*: the area of influence of these direct drivers of change can be modelled or predicted; the timing and duration of influence can be similarly defined;
 - c) *A map of valued ecosystem services* (including maintenance of biodiversity itself) on the basis of which decision makers can define levels of protection or conservation measures for each defined area. This map is the experts' input into the definition of categories on the biodiversity screening map referred to above under step 1.

Ramsar: In addressing the likelihood of effects and their relevance and significance for Ramsar-related values, reference should be made to Ramsar guidance on ecological character and on risk assessment (see e.g. Resolutions VIII.8, IX.1 Annex E, [COP10 DR 16 (*Detecting, reporting and responding to change in ecological character of wetlands*)] and Ramsar Technical Report *Methodologies for assessing the vulnerability of wetlands to change in their ecological character*, in preparation).

2. Scoping

20. Scoping is used to define the focus of the impact assessment study and to identify key issues, which should be studied in more detail. It is used to derive terms of reference

(sometimes referred to as guidelines) for the EIA study and to set out the proposed approach and methodology. Scoping also enables the competent authority (or EIA professionals in countries where scoping is voluntary) to:

- a) Guide study teams on significant issues and alternatives to be assessed, clarify how they should be examined (methods of prediction and analysis, depth of analysis), and according to which guidelines and criteria;
 - b) Provide an opportunity for stakeholders to have their interests taken into account in the EIA;
 - c) Ensure that the resulting Environmental Impact Statement is useful to the decision maker and is understandable to the public.
21. During the scoping phase, promising alternatives can be identified for in-depth consideration during the EIA study.
22. *Consideration of mitigation and/or enhancement measures:* The purpose of mitigation in EIA is to look for ways to achieve the project objectives while avoiding negative impacts or reducing them to acceptable levels. The purpose of enhancement is to look for ways of optimizing environmental benefits. Both mitigation and enhancement of impacts should strive to ensure that the public or individuals do not bear costs, which are greater than the benefits that accrue to them.
23. Remedial action can take several forms, i.e., *avoidance* (or prevention), *mitigation* (by considering changes to the scale, design, location, siting, process, sequencing, phasing, management and/or monitoring of the proposed activity, as well as restoration or rehabilitation of sites), and *compensation* (often associated with residual impacts after prevention and mitigation). A ‘positive planning approach’ should be used, where avoidance has priority and compensation is used as a last resort measure. One should acknowledge that compensation will not always be possible: there are cases where it is appropriate to reject a development proposal on grounds of irreversible damage to, or irreplaceable loss of, biodiversity.

Ramsar: In the Ramsar context, particular attention should be given to the ‘positive planning approach’ and the recognition that in some cases it will be appropriate to reject a proposal, as many Parties have done, on the grounds of damage to/loss of Ramsar related values.

In certain circumstances relating to Ramsar sites, when the consequences of impacts on the site include reduction or deletion of the site, the provision of compensation is governed by Article 4.2 of the Convention, and the guidelines adopted under Resolution VIII.20 will apply.

24. Practical evidence with respect to mitigation suggests that:
- a) Timely and ample attention to mitigation and compensation, as well as the interaction with society, will largely reduce the risk of negative publicity, public opposition and delays, including associated costs. Specialist input on biodiversity can take place prior to initiating the legally required EIA process, as a component of the project proposal. This approach improves and streamlines the formal EIA process by

identifying and avoiding, preventing or mitigating biodiversity impacts at the earliest possible stage of planning;

- b) Mitigation requires a joint effort of the proponent, planners, engineers, ecologists and other specialists, to arrive at the best practicable environmental option;
- c) Potential mitigation or compensation measures have to be included in an impact study in order to assess their feasibility; consequently they are best identified during the scoping stage;
- d) In project planning, it has to be kept in mind that it may take time for effects to become apparent.

Ramsar: There is evidence* that human influences on wetland ecosystems are increasing the likelihood of nonlinear and potentially abrupt changes. These can be large in magnitude and difficult, expensive or impossible to reverse, for example when nutrient-loading thresholds are crossed and mass animal die-offs occur, or sediment disturbance unlocks toxins.

The role of mitigation and compensation in a Ramsar context is described in [COP10 DR 16 (*Detecting, reporting and responding to change in ecological character of wetlands*)] and further guidance on these issues is planned for the future.

*Millennium Ecosystem Assessment, 2005: *Ecosystems and human well-being: Wetlands and water synthesis*.

25. The following sequence of questions provides an example of the kind of information that should be requested in the terms of reference of an impact study if the project screening suggests that the proposed activity is likely to have adverse impacts on biodiversity. It should be noted that this list of steps represents an iterative process. Scoping and impact study are two formal rounds of iteration; during the study further iterative rounds may be needed, for example when alternatives to the proposed project design have to be defined and assessed.

- a) Describe the type of project, and define each project activity in terms of its nature, magnitude, location, timing, duration and frequency;
- b) Define possible alternatives, including “no net biodiversity loss” or “biodiversity restoration” alternatives (such alternatives may not be readily identifiable at the outset of impact study, and one would need to go through the impact study to determine such alternatives). Alternatives include location alternatives, scale alternatives, siting or layout alternatives, and/or technology alternatives;
- c) Describe expected biophysical changes (in soil, water, air, flora, fauna) resulting from proposed activities or induced by any socio-economic changes caused by the activity;
- d) Determine the spatial and temporal scale of influence of each biophysical change, identifying effects on connectivity between ecosystems, and potential cumulative effects;

Ramsar: In a Ramsar context, the appropriate spatial scale at which to think about impacts may sometimes be a particularly broad-scale interpretation of “ecosystem”. In particular, the river basin (water catchment) is an important scale at which to address aspects of wetland-related impacts. Also, where impacts on particularly important species such as migratory fish or birds are at stake, assessment at the scale of the migratory range (flyway) of the relevant populations will be very relevant. This may involve a chain of ecosystems (perhaps disjunct ones), and therefore may need to take a broader perspective than would normally be the case under the ecosystem approach.

- e) Describe ecosystems and land-use types lying within the range of influence of biophysical changes;
- f) Determine, for each of these ecosystems or land-use types, if biophysical changes are likely to have adverse impacts on biodiversity in terms of composition, structure (spatial and temporal), and key processes. Give indication of the level certainty of predictions, and take into account mitigation measures. Highlight any irreversible impacts and any irreplaceable loss;
- g) For the affected areas, collect available information on baseline conditions and any anticipated trends in biodiversity in the absence of the proposal;

Ramsar: In the case of Ramsar sites, the ‘baseline’ should relate to the site’s ecological character, as distinct from the attributes which cause it to qualify as internationally important. Hence the baseline should be the target condition (ecological character) described in the management plan objectives. It will therefore not necessarily equate to the condition of the site described at the time of listing (or subsequent updating of the Ramsar Information Sheet) unless at such times the site happens to have achieved its optimal (target) condition, or if there is no better baseline available.

- (h) Identify, in consultation with stakeholders, the current and potential ecosystem services provided by the affected ecosystems or land-use types and determine the values these functions represent for society (see box 1). Give an indication of the main beneficiaries and those adversely affected from an ecosystem services perspective, focusing on vulnerable stakeholders;

Ramsar: For guidance on public involvement, refer to the *Guidelines for establishing and strengthening local communities’ and indigenous people’s participation in the management of wetlands* (Resolution VII.8), the *New Guidelines for management planning for Ramsar sites and other wetlands* (Resolution VIII.14) and Ramsar Handbooks 5 and 16 (3rd Edition, 2007).

- i) Determine which of these services will be significantly affected by the proposed project, giving confidence levels in predictions, and taking into account mitigation measures. Highlight any irreversible impacts and any irreplaceable loss;
- j) Define possible measures to avoid, minimize or compensate for significant damage to, or loss of, biodiversity and/or ecosystem services; define possibilities to enhance biodiversity. Make reference to any legal requirements;

- k) Evaluate the significance of residual impacts, i.e. in consultation with stakeholders define the importance of expected impacts for the alternatives considered. Relate the importance of expected impacts to a reference situation, which may be the existing situation, a historical situation, a probable future situation (e.g., the ‘without project’ or ‘autonomous development’ situation), or an external reference situation. When determining importance (weight), consider geographic importance of each residual impact (e.g., impact of local/regional/national/continental/global importance) and indicate its temporal dimension.

Ramsar: In evaluating the significance of residual impacts for Ramsar-related values, reference should be made to Ramsar guidelines on ecological character and on risk assessment (see e.g., Resolutions VIII.8, IX.1 Annex E, [COP10 DR 16 (*Detecting, reporting and responding to change in ecological character of wetlands*)] and Ramsar Technical Report *Methodologies for assessing the vulnerability of wetlands to change in their ecological character*, in preparation).

- l) Identify necessary surveys to gather information required to support decision making. Identify important gaps in knowledge;

Ramsar: It may be helpful to consult with the National Focal Point for the Ramsar Scientific and Technical Review Panel in identifying these sources and gaps.

- m) Provide details on required methodology and timescale.
26. One should bear in mind that not implementing a project may in some cases also have adverse effects on biodiversity. In rare cases the adverse effects may be more significant than the impacts of a proposed activity (e.g. projects counteracting degradation processes).
27. An analysis of current impact assessment practice ^{10/} has provided a number of practical recommendations when addressing biodiversity-related issues:
- a) Beyond the focus on protected species and protected areas, further attention needs to be given to (i) sustainable use of ecosystem services; (ii) ecosystem level diversity; (iii) non-protected biodiversity; and (iv) ecological processes and their spatial scale;
 - b) The terms of reference should be unambiguous, specific and compatible with the ecosystem approach; too often the terms of reference are too general and impractical;
 - c) In order to provide a sound basis for assessing the significance of impacts, baseline conditions must be defined and understood and quantified where possible. Baseline conditions are dynamic, implying that present and expected future developments if the proposed project is not implemented (autonomous development) need to be included;
 - d) Field surveys, quantitative data, meaningful analyses, and a broad, long-term perspective enabling cause-effect chains to be tracked in time and space are important elements when assessing biodiversity impacts. Potential indirect and cumulative impacts should be better assessed;

^{10/} See document UNEP/CBD/SBSTTA/9/INF/18.

- e) Alternatives and/or mitigation measures must be identified and described in detail, including an analysis of their likely success and realistic potential to offset adverse project impacts;
- f) Guidance for scoping on biodiversity issues in EIA needs to be developed at country-level, but should, where appropriate, also consider regional aspects to prevent transboundary impacts;

Ramsar: Concerning potential transboundary impacts, Ramsar Parties should have regard to Article 5 of the Convention and the *Guidelines for international cooperation under the Ramsar Convention on Wetlands* (Resolution VII.19).

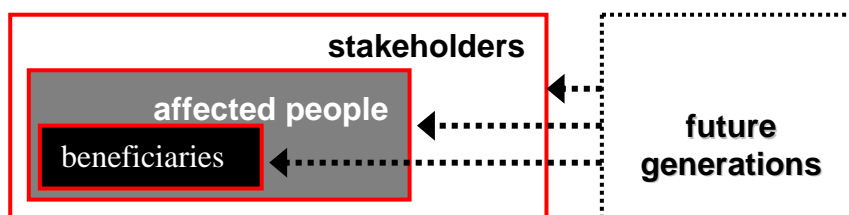
- g) Guidance for determining levels of acceptable change to biodiversity needs to be developed at country level to facilitate decision-making;
- h) Guidance on assessing and evaluating impacts on ecosystem processes, rather than on composition or structure, need to be developed at country level. The conservation of ecosystem processes, which support composition and structure, requires a significantly larger proportion of the landscape than is required to represent biodiversity composition and structure;
- i) Capacity development is needed to effectively represent biodiversity issues in the scoping stage; this will result in better guidelines for the EIA study.

Box 1: Stakeholders and participation

Impact assessment is concerned with (i) information, (ii) participation and (iii) transparency of decision-making. Public involvement consequently is a prerequisite for effective EIA and can take place at different levels: informing (one-way flow of information), consulting (two-way flow of information), or “real” participation (shared analysis and assessment). In all stages of EIA public participation is relevant. The legal requirements for and the level of participation differ among countries, but it is generally accepted that public consultation at the scoping and review stage are essential; participation during the assessment study is generally acknowledged to enhance the quality of the process.

With respect to biodiversity, relevant stakeholders in the process are:

- Beneficiaries of the project - target groups making use of, or putting a value to, known ecosystem services which are purposefully enhanced by the project;
- Affected people – i.e. those people that experience, as a result of the project, intended or unintended changes in ecosystem services that they value;
- General stakeholders – i.e. formal or informal institutions and groups representing either affected people or biodiversity itself.
- Future generations – “absent stakeholders”, i.e. those stakeholders of future generations, who may rely on biodiversity around which decisions are presently taken.



There is a number of potential constraints to effective public participation. These include:

- **Deficient identification** of relevant stakeholders may make public involvement ineffective;
- **Poverty:** involvement requires time spent away from income-producing tasks;
- **Rural settings:** increasing distance makes communication more difficult and expensive;
- **Illiteracy:** or lack of command of non-local languages, can inhibit representative involvement if print media are used;
- **Local values/culture:** behavioural norms or cultural practice can inhibit involvement of some groups, who may not feel free to disagree publicly with dominant groups;
- **Languages:** in some areas a number of different languages or dialects may be spoken, making communication difficult;
- **Legal systems:** may be in conflict with traditional systems, and cause confusion about rights and responsibilities for resources;
- **Interest groups:** may have conflicting or divergent views, and vested interests;
- **Confidentiality:** can be important for the proponent, who may be against early involvement and consideration of alternatives.

Also refer to decision VII/16 F containing the Akwé: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessment regarding Developments Proposed to Take Place on, or which are Likely to Impact on, Sacred Sites and on Lands and Waters Traditionally Occupied or Used by Indigenous and Local Communities.

Ramsar: See Handbook 5 Establishing and strengthening local communities' and indigenous people's participation in the management of wetlands (3rd Edition, 2007).

3. Assessment and evaluation of impacts, and development of alternatives

28. EIA should be an iterative process of assessing impacts, re-designing alternatives and comparison. The main tasks of impact analysis and assessment are:
- a) Refinement of the understanding of the nature of the potential impacts identified during screening and scoping and described in the terms of reference. This includes the identification of indirect and cumulative impacts, and of the likely cause–effect chains;
 - b) Identification and description of relevant criteria for decision-making can be an essential element of this stage;
 - c) Review and redesign of alternatives; consideration of mitigation and enhancement measures, as well as compensation of residual impacts; planning of impact management; evaluation of impacts; and comparison of the alternatives; and
 - d) Reporting of study results in an environmental impact statement (EIS) or EIA report.

29. Assessing impacts usually involves a detailed analysis of their nature, magnitude, extent and duration, and a judgement of their significance, i.e., whether the impacts are acceptable to stakeholders and society as a whole, require mitigation and/or compensation, or are unacceptable.
30. Available biodiversity information is usually limited and descriptive, and cannot be used as a basis for numerical predictions. There is a need to develop biodiversity criteria for impact evaluation and measurable standards or objectives against which the significance of individual impacts can be evaluated. The priorities and targets set in the National Biodiversity Strategy and Action Plan process can provide guidance for developing these criteria. Tools will need to be developed to deal with uncertainty, including criteria on using risk assessment techniques, precautionary approach and adaptive management.

Ramsar: Reference should also be made to priorities and targets in national wetland policy where this exists.

In evaluating the significance of residual impacts for Ramsar-related values, reference should be made to Ramsar guidelines on ecological character and on risk assessment (see e.g., Resolutions VIII.8, IX.1 Annex E, [COP10 DR 16 (*Detecting, reporting and responding to change in ecological character of wetlands*)] and Ramsar Technical Report *Methodologies for assessing the vulnerability of wetlands to change in their ecological character*, in preparation).

31. A number of practical lessons with respect to the study process have emerged including that the assessment should:
 - a) Allow for enough survey time to take seasonal features into account, where confidence levels in predicting the significance of impacts are low without such survey;

Ramsar: For seasonally-fluctuating wetlands, inundation mapping and hydroperiod data may be crucial. Remote sensing/earth observation sources are increasingly available to assist with this – see e.g., Ramsar Technical Report No 2 (2006): *Low-cost GIS software and data for wetland inventory, assessment and monitoring*.

- b) Focus on processes and services, which are critical to human well-being and the integrity of ecosystems. Explain the main risks and opportunities for biodiversity;
 - c) Apply the ecosystem approach and actively seek information from relevant stakeholders and indigenous and local communities. Address any request from stakeholders for further information and/or investigation adequately. This does not necessarily imply that all requests need to be honoured; however, clear reasons should be provided where requests are not honoured;
 - d) Consider the full range of factors affecting biodiversity. These include direct drivers of change associated with a proposal (e.g. land conversion, vegetation removal, emissions, disturbance, introduction of invasive alien species or genetically modified organisms, etc.) and, to the extent possible, indirect drivers of change, including demographic, economic, socio-political, cultural and technological processes or interventions;

- e) Evaluate impacts of alternatives with reference to the baseline situation. Compare against legal standards, thresholds, targets and/or objectives for biodiversity. Use national biodiversity strategies and action plans and other relevant documents for information and objectives. The vision, objectives and targets for the conservation and sustainable use of biodiversity contained in local plans, policies and strategies, as well as levels of public concern about, dependence on, or interest in, biodiversity provide useful indicators of acceptable change;

Ramsar: In the case of Ramsar sites, the ‘baseline’ should relate to the site’s ecological character, as distinct from the attributes which cause it to qualify as internationally important. Hence the baseline should be the target condition (ecological character) described in the objectives of the management plan for the relevant Ramsar site. It will therefore not necessarily equate to the condition of the site described at the time of listing (or subsequent updating of the Ramsar Information Sheet) unless at such times the site happens to have achieved its optimal (target) condition, or if there is no better baseline available.

Reference should also be made to national wetland strategies and action plans.

- f) Take account of cumulative threats and impacts resulting either from repeated impacts of projects of the same or different nature over space and time, and/or from proposed plans, programmes or policies;
- g) Recognize that biodiversity is influenced by cultural, social, economic and biophysical factors. Cooperation between different specialists in the team is thus essential, as is the integration of findings, which have bearing on biodiversity;
- h) Provide insight into cause – effect chains. Also explain why certain chains do not need to be studied;
- i) If possible, quantify the changes in biodiversity composition, structure and key processes, as well as ecosystem services. Explain the expected consequences of the loss of biodiversity associated with the proposal, including the costs of replacing ecosystem services if they will be adversely affected by a proposal;
- j) Indicate the legal provisions that guide decision-making. List all types of potential impacts identified during screening and scoping and described in the terms of reference and identify applicable legal provisions. Ensure that potential impacts to which no legal provision applies are taken into account during decision-making.

Ramsar: Relevant legal provisions include the Ramsar Resolutions and guidelines. In particular, in certain circumstances relating to Ramsar sites, when the consequences of impacts on the site include reduction or deletion of the site, the provision of compensation is governed by Article 4.2 of the Convention and the guidelines adopted under Resolution VIII.20 will apply.

4. *Reporting: the environmental impact statement (EIS)*

- 32. The environmental impact statement consists of: (i) a technical report with annexes, (ii) an environmental management plan, providing detailed information on how measures to

avoid, mitigate or compensate expected impacts are to be implemented, managed and monitored, and (iii) a non-technical summary.

33. The environmental impact statement is designed to assist:
 - a) The proponent to plan, design and implement the proposal in a way that eliminates or minimizes the negative effect on the biophysical and socio-economic environments and maximizes the benefits to all parties in the most cost-effective manner;
 - b) The Government or responsible authority to decide whether a proposal should be approved and the terms and conditions that should be applied; and
 - c) The public to understand the proposal and its impacts on the community and environment, and provide an opportunity for comments on the proposed action for consideration by decision makers. Some adverse impacts may be wide ranging and have effects beyond the limits of particular habitats/ecosystems or national boundaries. Therefore, environmental management plans and strategies contained in the environmental impact statement should consider regional and transboundary impacts, taking into account the ecosystem approach. The inclusion of a non-technical summary of the EIA, understandable to the interested general audience, is strongly recommended.

5. *Review of the environmental impact statement*

34. The purpose of the review of the environmental impact statement is to ensure that the information for decision makers is sufficient, focused on the key issues, and is scientifically and technically accurate. In addition, the review should evaluate whether:
 - a) The likely impacts would be acceptable from an environmental viewpoint;
 - b) The design complies with relevant standards and policies, or standards of good practice where official standards do not exist;
 - c) All of the relevant impacts, including indirect and cumulative impacts, of a proposed activity have been identified and adequately addressed in the EIA. To this end, biodiversity specialists should be called upon for the review and information on official standards and/or standards for good practice to be compiled and disseminated.
35. Public involvement, including the full and effective participation of indigenous and local communities, is important in various stages of the process and particularly at this stage. The concerns and comments of all stakeholders are adequately considered and included in the final report presented to decision makers. The process establishes local ownership of the proposal and promotes a better understanding of relevant issues and concerns.

<p>Ramsar: For guidance on public involvement refer to the <i>Guidelines for establishing and strengthening local communities' and indigenous people's participation in the management of wetlands</i> (Resolution VII.8), the</p>

New Guidelines for management planning for Ramsar sites and other wetlands (Resolution VIII.14) and Ramsar Handbook 5 (3rd Edition, 2007).

Concerning potential transboundary impacts, Ramsar Parties should have regard to Article 5 of the Convention and the *Guidelines for international cooperation under the Ramsar Convention on Wetlands* (Resolution VII.19).

36. Review should also guarantee that the information provided in the environmental impact statement is sufficient for a decision maker to determine whether the project is compliant with or contradictory to the objectives of the Convention on Biological Diversity.

Ramsar: This paragraph should be applied *mutatis mutandis* to the Ramsar Convention.

37. The effectiveness of the review process depends on the quality of the terms of reference defining the issues to be included in the study. Scoping and review are therefore complementary stages.
38. Reviewers should as far as possible be independent and different from the persons/organizations who prepare the environmental impact statement.

6. *Decision-making*

39. Decision-making takes place throughout the process of EIA in an incremental way from the screening and scoping stages to decisions during data-collecting and analysis, and impact prediction, to making choices between alternatives and mitigation measures, and finally the decision to either refuse or authorize the project.
40. Biodiversity issues should play a part in decision-making throughout. The final decision is essentially a political choice about whether or not the proposal is to proceed, and under what conditions. If rejected, the project can be redesigned and resubmitted. It is desirable that the proponent and the decision-making body are two different entities.
41. It is important that there are clear criteria for taking biodiversity into account in decision-making, and to guide trade-offs between social, economic and environmental issues including biodiversity. These criteria draw on principles, objectives, targets and standards for biodiversity and ecosystem services contained in international and national, regional and local laws, policies, plans and strategies.
42. The precautionary approach should be applied in decision-making in cases of scientific uncertainty when there is a risk of significant harm to biodiversity. Higher risks and/or greater potential harm to biodiversity require greater reliability and certainty of information. The reverse implies that the precautionary approach should not be pursued to the extreme; in case of minimal risk, a greater level of uncertainty can be accepted. Guidelines for applying the precautionary principle to biodiversity conservation and natural resource management have been developed under the Precautionary Principle Project, a joint initiative of Fauna & Flora International, IUCN-The World Conservation Union, ResourceAfrica and TRAFFIC, and are available in English, French and Spanish at: <http://www.pprinciple.net/>.

Ramsar: Some advice on the precautionary approach in a Ramsar context is given in the guidance appended to [COP10 DR 16 (*Detecting, reporting and responding to change in ecological character of wetlands*)]

43. Instead of weighing conservation goals against development goals, the decision should seek to strike a balance between conservation and sustainable use for economically viable, and socially and ecologically sustainable solutions.

7. *Monitoring, compliance, enforcement and environmental auditing*

44. EIA does not stop with the production of a report and a decision on the proposed project. Activities that have to make sure the recommendations from EIS or EMP are implemented are commonly grouped under the heading of “EIA follow-up”. They may include activities related to monitoring, compliance, enforcement and environmental auditing. Roles and responsibilities with respect to these are variable and depend on regulatory frameworks in place.

Ramsar: An updated summary of guidance on monitoring issues in Ramsar contexts is given in the guidance appended to [COP10 DR 16 (*Detecting, reporting and responding to change in ecological character of wetlands*)]

45. Monitoring and auditing are used to compare the actual outcomes after project implementation has started with those anticipated before implementation. It also serves to verify that the proponent is compliant with the environmental management plan (EMP). The EMP can be a separate document, but is considered part of the environmental impact statement. An EMP usually is required to obtain a permission to implement the project. In a number of countries, an EMP is not a legal requirement.
46. Management plans, programmes and systems, including clear management targets, responsibilities and appropriate monitoring should be established to ensure that mitigation is effectively implemented, unforeseen negative effects or trends are detected and addressed, and expected benefits (or positive developments) are achieved as the project proceeds. Sound baseline information and/or pre-implementation monitoring is essential to provide a reliable benchmark against which changes caused by the project can be measured. Provision should be made for emergency response measures and/or contingency plans where unforeseen events or accidents could threaten biodiversity. The EMP should define responsibilities, budgets and any necessary training for monitoring and impact management, and describe how results will be reported and to whom.
47. Monitoring focuses on those components of biodiversity most likely to change as a result of the project. The use of indicator organisms or ecosystems that are most sensitive to the predicted impacts is thus appropriate, to provide the earliest possible indication of undesirable change. Since monitoring often has to consider natural fluxes as well as human-induced effects, complementary indicators may be appropriate in monitoring. Indicators should be specific, measurable, achievable, relevant and timely. Where possible, the choice of indicators should be aligned with existing indicator processes.
48. The results of monitoring provide information for periodic review and alteration of environmental management plans, and for optimizing environmental protection through

good, adaptive management at all stages of the project. Biodiversity data generated by EIA should be made accessible and useable by others and should be linked to biodiversity assessment processes being designed and carried out at the national and global levels.

49. Provision is made for regular auditing in order to verify the proponent's compliance with the EMP, and to assess the need for adaptation of the EMP (usually including the proponent's license). An environmental audit is an independent examination and assessment of a project's (past) performance. It is part of the evaluation of the environmental management plan and contributes to the enforcement of EIA approval decisions.
50. Implementation of activities described in the EMP and formally regulated in the proponent's environmental license in practice depends on the enforcement of formal procedures. It is commonly found that a lack of enforcement leads to reduced compliance and inadequate implementation of EMPs. Competent authorities are responsible for enforcing pertinent impact assessment regulations, when formal regulations are in place.

Appendix 1

Indicative set of screening criteria to be further elaborated at national level^{11/}

Category A: Environmental impact assessment mandatory for:

- Activities in protected areas (define type and level of protection);
- Activities in threatened ecosystems outside protected areas;
- Activities in ecological corridors identified as being important for ecological or evolutionary processes;
- Activities in areas known to provide important ecosystem services;
- Activities in areas known to be habitat for threatened species;
- Extractive activities or activities leading to a change of land-use occupying or directly influencing an area of at minimum a certain threshold size (land or water, above or underground - threshold to be defined);
- Creation of linear infrastructure that leads to fragmentation of habitats over a minimum length (threshold to be defined);
- Activities resulting in emissions, effluents, and/or other means of chemical, radiation, thermal or noise emissions in areas providing key ecosystem services (areas to be defined);^{12/}
- Activities leading to changes in ecosystem composition, ecosystem structure or key processes^{13/} responsible for the maintenance of ecosystems and ecosystem services in areas providing key ecosystem services (areas to be defined).

Category B: The need for, or the level of environmental impact assessment is to be determined for:

- Activities resulting in emissions, effluents and/or other chemical, thermal, radiation or noise emissions in areas providing other relevant ecosystem services (areas to be defined);
- Activities leading to changes in ecosystem composition, ecosystem structure, or ecosystem functions responsible for the maintenance of ecosystems and ecosystem services in areas providing other relevant ecosystem services (areas to be defined);
- Extractive activities, activities leading to a change of land-use or a change of use of inland water ecosystems or a change of use of marine and coastal ecosystems, and creation of linear infrastructure below the Category A threshold, in areas providing key and other relevant ecosystem services (areas to be defined).

^{11/} *Note:* These criteria only pertain to biodiversity and should therefore be applied as an add-on to existing screening criteria.

^{12/} For a non-exhaustive list of ecosystem services, see appendix 2 below.

^{13/} For examples of these aspects of biodiversity, see appendix 3 below.

Appendix 2

Indicative list of ecosystem services

Regulating services responsible for maintaining natural processes and dynamics

Biodiversity-related regulating services

- maintenance of genetic, species and ecosystem composition
- maintenance of ecosystem structure
- maintenance of key ecosystem processes for creating or maintaining biodiversity

Land-based regulating services

- decomposition of organic material
- natural desalinization of soils
- development / prevention of acid sulphate soils
- biological control mechanisms
- pollination of crops
- seasonal cleansing of soils
- soil water storage capacity
- coastal protection against floods
- coastal stabilization (against accretion / erosion)
- soil protection
- suitability for human settlement
- suitability for leisure and tourism activities
- suitability for nature conservation
- suitability for infrastructure

Water related regulating services

- water filtering
- dilution of pollutants
- discharge of pollutants
- flushing / cleansing
- bio-chemical/physical purification of water
- storage of pollutants
- flow regulation for flood control
- river base flow regulation
- water storage capacity
- ground water recharge capacity
- regulation of water balance
- sedimentation / retention capacity
- protection against water erosion
- protection against wave action
- prevention of saline groundwater intrusion
- prevention of saline surface-water intrusion
- transmission of diseases
- suitability for navigation

Water related regulating services (ctd.)

- suitability for leisure and tourism activities
- suitability for nature conservation

Air-related regulating services

- filtering of air
- carry off by air to other areas
- photo-chemical air processing (smog)
- wind breaks
- transmission of diseases
- carbon sequestration

Provisioning services: harvestable goods

Natural production:

- timber
- firewood
- grasses (construction and artisanal use)
- fodder & manure
- harvestable peat
- secondary (minor) products
- harvestable bush meat
- fish and shellfish
- drinking water supply
- supply of water for irrigation and industry
- water supply for hydroelectricity
- supply of surface water for other landscapes
- supply of groundwater for other landscapes
- genetic material

Nature-based human production

- crop productivity
- tree plantations productivity
- managed forest productivity
- rangeland/livestock productivity
- aquaculture productivity (freshwater)
- mariculture productivity (brackish/saltwater)

Cultural services providing a source of artistic, aesthetic, spiritual, religious, recreational or scientific enrichment, or nonmaterial benefits.

Supporting services necessary for the production of all other ecosystem services

- soil formation,
- nutrients cycling
- primary production.
- evolutionary processes

Appendix 3

Aspects of biodiversity: composition, structure and key processes

<i>Composition</i>	<i>Influenced by:</i>
<p>Minimal viable population of:</p> <p>(a) legally protected varieties/cultivars/breeds of cultivated plants and/or domesticated animals and their relatives, genes or genomes of social, scientific and economic importance;</p> <p>(b) legally protected species;</p> <p>(c) migratory birds, migratory fish, species protected by CITES;</p> <p>(d) non-legally protected, but threatened species (cf. IUCN Red List of Threatened Species); species which are important in local livelihoods and cultures.</p>	<ul style="list-style-type: none"> - selective removal of one or a few species by fisheries, forestry, hunting, collecting of plants (including living botanical and zoological resources); - fragmentation of their habitats leading to reproductive isolation; - introducing genetically modified organisms that may transfer transgenes to varieties / cultivars / breeds of cultivated plants and/or domesticated animals and their relatives; - disturbance or pollution; - habitat alteration or reduction; - introduction of (non-endemic) predators, competitors or parasites of protected species.
Structure	Influenced by:
<p><i>Changes in spatial or temporal structure,</i> at the scale of relevant areas, such as:</p> <p>(a) legally protected areas;</p> <p>(b) areas providing important ecosystem services, such as (i) maintaining high diversity (hot spots), large numbers of endemic or threatened species, required by migratory species; (ii) services of social, economic, cultural or scientific importance; (iii) or supporting services associated with key evolutionary or other biological processes.</p>	<p>Effects of human activities that work on a similar (or larger) scale as the area under consideration. For example, by emissions into the area, diversion of surface water that flows through the area, extraction of groundwater in a shared aquifer, disturbance by noise or lights, pollution through air, etc.</p>
<p><i>Food web structure and interactions:</i></p> <p>Species or groups of species perform certain roles in the food web (functional groups); changes in species composition may not necessarily lead to changes in the food web as long as roles are taken over by other species.</p>	<p>All influences mentioned with <i>composition</i> may lead to changes in the food web, but only when an entire role (or functional group) is affected. Specialized ecological knowledge is required.</p>
<p><i>Presence of keystone species:</i></p> <p>Keystone species often singularly represent a given functional type (or role) in the food web.</p>	<p>All influences mentioned with <i>composition</i> that work directly on keystone species. This is a relatively new, but rapidly developing field of ecological knowledge. Examples are:</p> <ul style="list-style-type: none"> - sea otters and kelp forest - elephants and African savannah - starfish in intertidal zones - salmon in temperate rainforest - tiger shark in some marine ecosystems - beaver in some freshwater habitats - black-tailed prairie dogs and prairies

Key processes (selected examples only)	Influenced by:
Sedimentation patterns (sediment transport, sedimentation, and accretion) in intertidal systems (mangroves, mudflats, seagrass beds)	Reduced sediment supply by damming of rivers; interruption of littoral drift by seaward structures
Plant-animal dependency for pollination, seed dispersal, nutrient cycling in tropical rainforests	Selective removal of species by logging, collecting or hunting
Soil surface stability and soil processes in montane forests	Imprudent logging leads to increased erosion and loss of top soil
Nutrient cycling by invertebrates and fungi in deciduous forests	Soil and groundwater acidity by use of agrochemicals.
Plant available moisture in non-forested, steeply sloping mountains	Overgrazing and soil compaction lead to reduced available soil moisture
Grazing by herbivorous mammals in savannahs	Cattle ranching practises
Succession after fire, and dependence on fire for completion of life-cycles in savannahs	Exclusion of fire leads to loss of species diversity
Available nutrients and sunlight penetration in freshwater lakes	In-flow of fertilizers and activities leading to increased turbidity of water (dredging, emissions)
Hydrological regime in floodplains, flooded forests and tidal wetlands	Changes in river hydrology or tidal rhythm by hydraulic infrastructure or water diversions
Permanently waterlogged conditions in peat swamps and acid-sulphate soils	Drainage leads to destruction of vegetation (and peat formation process), oxidization of peat layers and subsequent soil subsidence; acid sulphate soils rapidly degrade when oxidized
Evaporation surplus in saline / alkaline lakes	Outfall of drainage water into these lakes changes the water balance
Tidal prism and salt/freshwater balance in estuaries	Infrastructure creating blockages to tidal influence; changes in river hydrology change the salt balance in estuaries.
Hydrological processes like vertical convection, currents and drifts, and the transverse circulation in coastal seas	Coastal infrastructure, dredging.
Population dynamics	Reduction in habitat leads to dramatic drop in population size, leading to extinction

Part II

Draft Guidance on biodiversity-inclusive strategic environmental assessment

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Appendix

Summary Overview of when and how to address biodiversity in strategic environmental assessment

Draft Guidance on biodiversity-inclusive strategic environmental assessment

Ramsar: Definition of ‘biodiversity’ - For the purpose of the use of these Guidelines in a Ramsar Convention context, references to ‘biodiversity’ as the scope of interest covered, or the type of expertise engaged, can be read as applying equally to the conservation and wise use of wetlands, including limnology and hydrology, addressed by the Ramsar Convention.

- 1. Strategic environmental assessment (SEA) is now widely applied, and an increasing number of countries have integrated, or are in the process of integrating, SEA into their national procedures for environmental assessment. This guidance is intended to assist in better incorporating biodiversity during this process. The target audience of this document consequently are those involved in the process of establishing SEA systems. These typically are national authorities but can also include regional authorities or international agencies.
- 2. The generic nature of this guidance implies that further elaboration of its practical application is needed to reflect the ecological, social-economic, cultural and institutional

conditions for which the SEA system is designed. The focus of the guidance is on how to guarantee a biodiversity-inclusive SEA process. The guidance does not intend to provide a technical manual for practitioners on how to carry out a biodiversity-inclusive assessment study.

3. This guidance is not structured according to a given procedure. The principal reason is that good practice SEA should ideally be fully integrated into a planning (or policy development) process. Since planning processes differ widely, there is, by definition, no typical sequence of procedural steps in SEA. Moreover, there is no general agreement on what a typical SEA procedure might be. It is intended to provide guidance on how to integrate biodiversity issues into the SEA, which in turn should be integrated into a planning process. Because the planning process may vary between countries, the SEA is not described as separate process but as an integral component of the applicable planning process.
4. Situations in which SEA is applied and the scope of the assessments, are all varied. The SEA process therefore needs to be structured to reflect the specific situation. SEA is not a mere expansion of an EIA and it does not usually follow the same stages as an EIA. The approach and language used are therefore conceptual in nature.
5. The guidance is fully consistent with the Ecosystem Approach (decision V/6 and VII/11). It focuses on people-nature interactions and the role of stakeholders in identifying and valuing potential impacts on biodiversity. For the identification of stakeholders and the valuing of biodiversity, the concept of ecosystem services as elaborated by the Millennium Ecosystem Assessment (MA) provides a useful tool. It translates biodiversity into (present and future) values for society. It provides a mechanism to 'translate' the language of biodiversity specialists into language commonly understood by decision makers. The guidance is consistent with the MA conceptual framework and terminology.

Ramsar: The updated definition of "wise use" and the Conceptual Framework for the wise use of wetlands and the maintenance of their ecological character adopted in Resolution X.1 Annex A, have been fully aligned with the CBD's "ecosystem approach" definition and the MA's Conceptual Framework.

6. The guidance intends to facilitate the ability to contribute to Goal 7 of the Millennium Development Goals, i.e. to 'ensure environmental sustainability', and its target 9 to 'integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources'.

A. *Strategic environmental assessment applies a multitude of tools*

7. Strategic environmental assessment has been defined as 'the formalized, systematic and comprehensive process of identifying and evaluating the environmental consequences of proposed policies, plans or programmes to ensure that they are fully included and appropriately addressed at the earliest possible stage of decision-making on a par with economic and social considerations'.^{14/} Since this original definition the field of SEA has

^{14/} Based on Sadler and Verheem, 1996. Strategic Environmental Assessment. Status, Challenges and Future Directions, Ministry of Housing, Spatial Planning and the Environment, The Netherlands: 188 pp.

rapidly developed and expanded, and the number of definitions of SEA has multiplied accordingly. SEA, by its nature, covers a wider range of activities or a wider area and often over a longer time span than the environmental impact assessment of projects. SEA might be applied to an entire sector (such as a national policy on energy, for example) or to a geographical area (for example, in the context of a regional development scheme). SEA does not replace or reduce the need for project-level EIA (although in some cases it can), but it can help to streamline and focus the incorporation of environmental concerns (including biodiversity) into the decision-making process, often making project-level EIA a more effective process. SEA is nowadays commonly understood as being proactive and sustainability-driven, whilst EIA is often described as being largely reactive.

Ramsar: National wetland policies, national hydrological plans, integrated coastal zone plans, integrated river basin management plans and catchment management plans are just some examples, in a wetlands context, of instruments to which SEA could be applied.

1. Strategic environmental assessment vs. integrated assessment

8. SEA is a rapidly evolving field with numerous definitions and interpretation in theory, in regulations, and in practice. SEA is required by legislation in many countries and carried out informally in others. There are also approaches that use some or all of the principles of SEA without using the term SEA to describe them. However, practices in SEA and related approaches show an emerging continuous spectrum of interpretation and application. At one end of the continuum, the focus is mainly on the biophysical environment. It is characterized by the goal of mainstreaming and up-streaming environmental considerations into strategic decision-making at the earliest stages of planning processes to ensure they are fully included and appropriately addressed. The 2001 SEA Directive of the European Union and SEA Protocol to the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991) are examples of this approach. At the other end of the spectrum is an approach, which addresses the three pillars of sustainability and aims to assess environmental, social and economic concerns in an integrated manner. Depending on the needs of SEA users and the different legal requirements, SEA can be applied in different ways along this spectrum using a variety of methodologies.
9. Accordingly, SEA is referred to as “a family of tools that identifies and addresses the environmental consequences and stakeholder concerns in the development of policies, plans, programmes and other high level initiatives”. / In more specific terms, the Netherlands Commission for Environmental Impact Assessment / describes SEA as a tool to:
 - a) Structure the public and government debate in the preparation of policies, plans and programmes;
 - b) Feed this debate through a robust assessment of the environmental consequences and their interrelationships with social and economic aspects;
 - c) Ensure that the results of assessment and debate are taken into account during decision making and implementation.

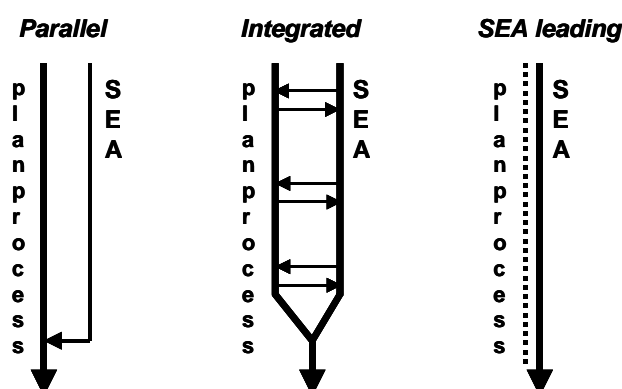
10. This means that stakeholder involvement, transparency and good quality information are key principles. SEA is thus more than the preparation of a report; it is a tool to enhance good governance. SEA can be a formal procedure laid down by law (e.g. the SEA Directive of the European Union) or used flexibly/opportunistically.

Ramsar: For advice on the relationship between different types of assessment in the Ramsar context, see Section V of the *Ramsar Integrated Framework for Inventory, Assessment and Monitoring* adopted by Resolution IX.1 Annex E.

2. *Parallel to or integrated within a planning process?*

11. SEA is designed in accordance with the national context and the characteristics of the planning processes in which SEA is applied. Traditionally, SEA is often applied as a stand-alone process parallel to planning, intended to support the decision making at the end of the planning process. More recently, SEA has been further developed into its most effective form: integrated into the planning process, bringing stakeholders together during key stages of the planning process and feeding their debate with reliable environmental information (figure 1). In some cases, where planning procedures are weak or absent; SEA may structure or effectively represent the planning process.
12. Ideally, SEA is integrated throughout the development process of a specific legislation, policy, plan or programme, starting as early as possible. However, even when decisions have already been taken, SEA can play a meaningful role in monitoring implementation - for example, to decide on necessary mitigating actions or to feed into future reviews of decisions. SEA may even take on the form of a sectoral assessment used to set the agenda for future policies and plans.
13. There is no typical sequence of procedural steps to define an SEA process. By definition SEA is situation-specific.

Figure 1: Combinations of SEA and planning process



3. *Steps in the SEA process*

14. SEA aims at better strategies, ranging from legislation and country-wide development policies to sectoral and spatial plans. In spite of the wide variation in application and definitions, all good practice SEAs comply with a number of performance criteria and with

common procedural principles.^{15/} When a decision on the need for an SEA has been taken, “good practice SEA” can be characterized by the following phases:^{16/}

a) **Phase 1: Create transparency:**

- i) Announce the start of the SEA and ensure that relevant stakeholders are aware that the process is starting;
- ii) Bring stakeholders together and facilitate development of a shared vision on (environmental) problems, objectives, and alternative actions to achieve these;

Ramsar: Concerning stakeholder participation, including local communities and indigenous peoples, refer here to the *Guidelines for establishing and strengthening local communities’ and indigenous people’s participation in the management of wetlands*, adopted under Resolution VII.8, the *New Guidelines for management planning for Ramsar sites and other wetlands* (Resolution VIII.14), and Ramsar Handbook 5 (3rd Edition, 2007).

- iii) Examine, in cooperation with all relevant agencies, whether the objectives of the new policy or plan are in line with those in existing policies, including environmental objectives (consistency analysis).

Ramsar: This should have particular regard to any national wetland policy or relevant management plan for a Ramsar site, river basin, catchment or coastal zone etc as appropriate.

b) **Phase 2: Technical assessment:**

- i) Elaborate terms of reference for the technical assessment, based on the results of stakeholder consultation and consistency analysis;
- ii) Carry out the actual assessment, document its results and make these accessible. Organize an effective quality assurance system of both SEA information and process.

c) **Phase 3: Use information in decision-making:**

- i) Bring stakeholders together to discuss results and make recommendations to decision-makers.
- ii) Make sure any final decision is motivated in writing in light of the assessment results.

d) **Phase 4: Post-decision monitoring and evaluation:**

- i) Monitor the implementation of the adopted policy or plan, and discuss the need for follow-up action.

^{15/} See IAIA Strategic Environmental Assessment Performance Criteria. IAIA Special Publications Series No. 1, January 2002.

^{16/} OECD Development Assistance Committee Network on Environment and Development Cooperation – Task Team on Strategic Environmental Assessment.

15. SEA is flexible, i.e. the scope and level of detail of the above steps can differ depending on time and resources available: from rapid (2-3 months) to comprehensive (1-2 years). The extent of documentation is also highly variable – in some SEAs, particularly where decision-makers are involved throughout, the process is of paramount importance, whilst in others reporting assumes greater importance.

B. *Why give special attention to biodiversity in SEA and decision making?*

16. Important reasons to pay attention to the effective incorporation of biodiversity in environmental assessment are summarized below:
 - a) *Legal obligations.* A reason to pay particular attention to biodiversity in SEA is a legal national, regional or international obligation to do so. A number of legal obligations can be distinguished:
 - i) *Protected areas and protected species:* ecosystems, habitats and species can have a form of legal protection, ranging from strictly protected to restrictions on certain activities.
 - ii) *Valued ecosystem services* can be subject to some form of legal regulation triggering the need for environment assessment. Examples are fisheries and forestry activities, coastal protection (by dunes or forested wetlands), water infiltration areas for public water supply, recreational areas, landscape parks, etc. (See box 1 on ecosystem services in their regulatory context).
 - iii) Lands and waters traditionally occupied or used by indigenous and local communities represent a special case of ecosystem services.
 - iv) International treaties, conventions and agreements such as the World Heritage Convention, Ramsar Convention, the UNESCO Man and Biosphere Programme or Regional Seas agreements. By becoming a Party to these agreements, countries agree to certain obligation to manage these areas according to internationally agreed principles.
 - b) *Facilitation of stakeholder identification.* The concept of biodiversity-derived ecosystem services provides a useful tool to identify potentially affected groups of people. Ecosystems are multifunctional and provide multiple services. By applying the ecosystem approach and focusing on ecosystem services in describing biodiversity, directly and indirectly affected stakeholders can be identified and, as appropriate, invited to participate in the SEA process.

Ramsar: See Handbook 5 <i>Establishing and strengthening local communities' and indigenous people's participation in the management of wetlands</i> (3rd Edition, 2007).
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- c) *Safeguarding livelihoods.* The identification of stakeholders through recognition of ecosystem services can lead to a better understanding of how the livelihoods of people who depend on biodiversity will be affected. In many countries, especially in developing countries, a large proportion of rural society is directly dependent on biodiversity. As these groups may also belong to the poorer and less educated strata

of society, they may go unnoticed as they are not always capable to participate meaningfully in an SEA process (see box 2).

Box 1: Ecosystem services in their regulatory context

EA provides information on policies, plans and programmes for decision makers, including their consistency with the regulatory context.

It is important to realize that ecosystem services often have formal recognition by some form of legal protection. Legislation often has a geographical basis (e.g. protected areas) but this is not necessarily always the case (e.g. species protection is not always limited to demarcated areas). Of course, the legal context in any country or region is different and needs to be treated as such.

Some examples of ecosystem services linked to formal regulations:

Ecosystem service: preservation of biodiversity:

- Nationally protected areas/habitats, protected species;
- International status: Ramsar convention, UNESCO Man and Biosphere, World Heritage Sites
- Subject to national policies such as the U.K. Biodiversity Action Plans (BAP), or regional regulations such as the European Natura 2000 Network.
- Marine Environmental High Risk Areas (sensitive areas prone to oil pollution from shipping) ·
- Sites identified and designated under international agreements, e.g. OSPAR Marine Protected Areas
- Sites hosting species listed under the Convention on the Conservation of Migratory Species of Wild Animals or the Convention on International Trade in Endangered Species of Wild Flora and Fauna
- Sites hosting species listed under the Bern Convention (Annex 1 and 2 of the Convention on the Conservation of European Wildlife and Natural Habitats, 1979)

Ecosystem service: provision of livelihood to people:

- Extractive reserves (forests, marine, agriculture)
- Areas of indigenous interest
- Touristic (underwater) parks (service: maintaining biodiversity to enhance tourism)

Ecosystem service: preservation of human cultural history / religious sites:

- Landscape parks
- Sacred sites, groves
- Archaeological parks

Other ecosystem services, in some countries formally recognized:

- Flood storage areas (service: flood protection or water storage)
- Water infiltration areas (service: public water supply)
- Areas sensitive to erosion (service: vegetation preventing erosion)
- Coastal defences (dunes, mangroves) (service: protecting coastal hinterlands)
- Urban or peri-urban parks (service: recreational facilities to urban inhabitants)
- Ecosystem functioning (soil biodiversity, pollination, pest control)

- d) *Sound economic decision making.* Ecosystem services such as erosion control, water retention and supply, and recreational potential can be valued in monetary terms, thus providing a figure on potential economic benefits and/or losses caused by the implementation of planned activities.

Ramsar: See Ramsar Technical Report No 3 (2006): *Valuing wetlands: Guidance for valuing the benefits derived from wetlands ecosystem services.*

- e) *Cumulative effects on biodiversity* are best anticipated at a strategic level. By applying the principles of the ecosystem approach the cumulative effects of activities on those

ecosystem services which support human well-being can be addressed. At the same time, it is appropriate to define levels of acceptable change or desired levels of environmental quality at the strategic (ecosystem or catchment) level.

Box 2: Stakeholders and participation

Impact assessment is concerned with: (i) information, (ii) participation and (iii) transparency in decision making. Public involvement consequently is a prerequisite for effective impact assessment and can take place at different levels: informing (one-way flow of information), consulting (two-way flow of information), or “real” participation (shared analysis and assessment). In all stages of the process public participation is relevant. The legal requirements for and the level of participation differ among countries, but it is generally accepted that public consultation at the scoping and review stage are minimally required; participation during the assessment study is generally acknowledged to enhance the quality of the process.

With respect to biodiversity, three groupings of stakeholders can be distinguished. (N.B: note that the categories represent three levels, each higher level encompassing the earlier category):

- **Beneficiaries** of the policy, plan or programme - target groups making use of or putting a value to known ecosystem services which are purposefully enhanced by the policy, plan or programme;
- **Affected (groups of) people** – i.e. those people that experience, as a result of the policy, plan or programme, intended or unintended changes in ecosystem services that they value;
- **General stakeholders:**
 - National or local government institutions having a *formal government responsibility* with respect to the management of defined areas (town & country planning departments, etc.) or the management of ecosystem services (fisheries, forestry, water supply, coastal defence, etc.);
 - Formal and informal institutions *representing affected people* (water boards, trade unions, consumer organizations, civil rights movements, ad hoc citizens committees, etc.);
 - Formal and informal institutions *representing (the intrinsic value of) biodiversity* itself (non-governmental nature conservation organizations, park management committees, scientific panels, etc.).
 - The *general audience* that wants to be informed on new developments in their direct or indirect environment (linked to transparency of democratic processes).
 - Stakeholders of *future generations*, who may rely on biodiversity around which we make decisions. Formal and informal organizations are increasingly aware of their responsibility to take into account the interests of these ‘*absent stakeholders*’.

In general it can be observed that the role of institutionalized stakeholders becomes more important at higher strategic levels of assessment; at lower level the actual beneficiaries and affected people will become more important.

There is a number of potential constraints to effective public participation. These include:

- *Poverty*: involvement means time spent away from income-producing tasks;
- *Rural settings*: increased distances make communication more difficult and expensive;
- *Illiteracy*: or lack of command of non-local languages, can inhibit representative involvement if print media are used;
- *Local values/culture*: behavioural norms or cultural practice can inhibit involvement of some groups, who may not feel free to disagree publicly with dominant groups (e.g. women versus men);
- *Languages*: in some areas a number of different languages or dialects may be spoken, making communication difficult;
- *Legal systems*: may be in conflict with traditional systems, and cause confusion about rights and responsibilities for resources;
- *Interest groups*: may have conflicting or divergent views, and vested interests;

- *Confidentiality*: can be important for the proponent, who may be against early involvement and consideration of alternatives.

- f) *Maintaining the genetic base of evolution for future opportunities.* The conservation of biodiversity for future generations is one important aspect of sustainability. It seeks to maintain options for the wealth of yet unknown potential uses of biodiversity. Moreover, maintaining the capacity of biodiversity to adapt to changing environments (e.g. climate change) and to continue providing viable living space for people is critical to human survival. Any long-term sustainability assessment has to make provisions for safeguarding that capacity.
- g) By promoting/facilitating sustainable solutions to development needs SEA is benefiting society as a whole.

C. What biodiversity issues are relevant to SEA

1. Biodiversity in SEA – different perspectives

- 17. The spectrum of SEA ranging from those with a focus on the biophysical environment to broadly sustainability-oriented SEA focussed on the social, economic and biophysical environments, results in different perspectives on biodiversity in SEA. Although the Convention text is very clear on how biodiversity should be interpreted, day-to-day practice shows widely different interpretations. Some prominent differences are discussed below:
- 18. *Biodiversity conservation as nature conservation.* SEA traditionally focuses on the biophysical environment. Other instruments are used to represent the economic and social interests of stakeholders. Biodiversity therefore tends to be considered from a nature conservation perspective in which protection rather than sustainable or equitable use of biodiversity is highlighted. In this manner nature conservation becomes segregated from, and potentially conflicting with, economic and social development.
- 19. The problem with the sectoral approach in conventional impact assessment is that responsibility for biodiversity is divided between a number of sectoral organizations. For example, the exploitation of fish or forest resources, agriculture, water quality and quantity management all have to do with (sustainable) use of biodiversity, but regulations and policies are defined by different entities that do not refer to their activities as sustainable use of biodiversity.
- 20. *Biodiversity for social and economic well-being.* In recent years, environmental assessment practices have been adopted in most developing countries. In these countries the biophysical environment, including biodiversity, is not only looked at from a nature conservation perspective, but as the provider of livelihoods. Especially in rural areas the main objective of development is the social and economic improvement of the situation of poor communities. Both social/economic and biophysical environments are seen as complementary and consequently an integrated assessment approach has been developed in many of these countries. Biodiversity conservation and sustainable use are equally important issues in SEA; decision makers have to deal with the equitable sharing of benefits derived from biodiversity, including those derived from the utilization of genetic

resources, in societies characterized by unequal distribution of wealth. Such integrated approaches reflect a broad perspective on biodiversity in accordance with the Convention and the Millennium Development Goals.

21. *Merging perspectives.* Both the integrated and sectorally divided approaches are converging as it is being realized that the environment, including its biodiversity components, provides goods and services that cannot be assigned to a sector (biodiversity provides multiple goods and services simultaneously) or a geographically defined area (goods and services are not limited to protected areas only). At the same time it is generally recognized that certain parts of the world are of such importance for the conservation of biodiversity, that these areas should be safeguarded for the future and require strict protective measures.
22. *Time and space.* From a biodiversity perspective spatial and temporal scales are of particular importance. In conventional SEA, the planning horizon is often linked to economic planning mechanisms with planning horizons of around 15 years. Assessing the impacts on biodiversity generally requires a longer time horizon. Biophysical processes such as soil formation, forest (re)growth, genetic erosion and evolutionary processes, effects of climatic changes and sea level rise, operate on far longer time scales and are rarely taken into account in conventional SEAs. A longer time horizon is required to address the fundamental processes regulating the world's biological diversity.
23. Similarly, flows of energy, water and nutrients link the world's ecosystems. Effects in an area under assessment may have much wider biodiversity repercussions. The most visible example is the linkage of ecosystems on a global scale by migratory species; on a continental or regional scale ecosystems are linked by hydrological processes through rivers systems and underground aquifers; on a local scale pollinators, on which important commercial species depend, may have specific habitat needs beyond the boundaries of an SEA. Biodiversity considerations may consequently require a geographical focus that exceeds the area for which an SEA is carried out.

Ramsar: In a Ramsar context, the appropriate spatial scale at which to think about impacts may sometimes be a particularly broad-scale interpretation of “ecosystem”. In particular, the river basin (water catchment) is an important scale at which to address aspects of wetland-related impacts. Also, where impacts on particularly important species such as migratory fish or birds are at stake, assessment at the scale of the migratory range (flyway) of the relevant populations will be very relevant. This may involve a chain of ecosystems (perhaps disjunct ones), and therefore may need to take a broader perspective than would normally be the case under the ecosystem approach.

24. *Opportunities and constraints versus cause-effect chains.* Biodiversity underpins ecosystem services on which human well-being relies. Biodiversity thus represents a range of opportunities for, and constraints to, sustainable development. Recognition of these opportunities and constraints as the point of departure for informing the development of policies, plans and programmes at a strategic level enables optimal outcomes for sustainable development. The question at SEA level is therefore “how does the environment affect or determine development opportunities and constraints?” This approach contrasts with the largely reactive approach adopted in project EIA, where the key question being asked is “what will the effect of this project be on the environment?”

25. Two broad approaches can be used in SEA: the reactive cause-effect chain approach where the intervention is known and the cause-effect chain are fairly clear (comparable to EIA), and the ‘bottom up’ opportunities and constraints of the natural environment approach where the environment effectively shapes the policy, programme or plan. The latter is most often used in land use planning/spatial planning where interventions are potentially wide-ranging and the objective is to tailor land uses to be most suited to the natural environment.

2. *Biodiversity in this guidance*

26. The way in which biodiversity is interpreted in this document has been described in detail in the accompanying information document.^{17/} The most important features are summarized below:
- a) In SEA, biodiversity can best be defined in terms of the ecosystem services provided by biodiversity. These services represent ecological or scientific, social (including cultural) and economic values for society and can be linked to stakeholders. Stakeholders can represent biodiversity interests and can consequently be involved in an SEA process. Maintenance of biodiversity (or nature conservation) is an important ecosystem service for present and future generations but biodiversity provides many more ecosystem services (see annex 2.2 of the Voluntary guidelines on biodiversity-inclusive Environmental Impact Assessment).
 - b) *Direct drivers of change* are human interventions (activities) resulting in biophysical and social effects with known impacts on biodiversity and associated ecosystem services (see box 3).
 - c) *Indirect drivers of change* are societal changes, which may under certain conditions influence direct drivers of change, ultimately leading to impacts on ecosystem services (see box 4).
 - d) *Aspects of biodiversity*: To determine potential impacts on ecosystem services, one needs to assess whether the ecosystems providing these services are significantly impacted by the policies, plans or programmes under study. Impacts can best be assessed in terms of changes in composition (what is there), changes in structure (how is it organized in time and space), or changes in key processes (what physical, biological or human processes govern creation and/or maintenance of ecosystems).
 - e) Three levels of biodiversity are distinguished: genetic, species, and ecosystem diversity. In general, the ecosystem level is the most suitable level to address biodiversity in SEA. However, situations with a need to address lower levels exist.

3. *Biodiversity “triggers” for SEA*

27. To be able to make a judgement if a policy, plan or programme has potential biodiversity impacts, two elements are of overriding importance: (i) affected area and ecosystem services linked to this area, and (ii) types of planned activities that can act as driver of change in ecosystem services.

^{17/} <http://www.biodiv.org/doc/reviews/impact/information-guidelines.pdf>.

28. When any one or a combination of the conditions below apply to a policy, plan or programme, special attention to biodiversity is required in the SEA of this policy, plan or programme.
- a) *Important ecosystem services.* When an area affected by a policy, plan or programme is known to provide one or more important ecosystem services, these services and their stakeholders should be taken into account in an SEA. Geographical delineation of an area provides the most important biodiversity information as it is possible to identify the ecosystems and land-use practices in the area, and identify ecosystem services provided by these ecosystems or land-use types. For each ecosystem service, stakeholder(s) can be identified who preferably are invited to participate in the SEA process. Area-related policies and legislation can be taken into account (see box 1 above);

Box 3: Direct drivers of change *are human interventions (activities) resulting in biophysical and social/economic effects with known impacts on biodiversity and associated ecosystem services.*

Biophysical changes known to act as a potential driver of change comprise:

- *Land conversion:* the existing habitat is completely removed and replaced by some other form of land use or cover. This is the most important cause of loss of ecosystem services.
- *Fragmentation* by linear infrastructure: roads, railways, canals, dikes, powerlines, etc. affects ecosystem structure by cutting habitats into smaller parts, leading to isolation of populations. A similar effect is created by isolation through surrounding land conversion. Fragmentation is a serious reason for concern in areas where natural habitat are already fragmented.
- *Extraction of living organisms* is usually selective since only few species are of value, and leads to changes in species composition of ecosystems, potentially upsetting the entire system. Forestry and fisheries are common examples.
- *Extraction of minerals, ores and water* can significantly disturb the area where such extractions take place, often with significant downstream and/or cumulative effects.
- *Wastes (emissions, effluents, solid waste), or other chemical, thermal, radiation or noise inputs:* human activities can result in liquid, solid or gaseous wastes affecting air, water or land quality. Point sources (chimneys, drains, underground injections) as well as diffuse emission (agriculture, traffic) have a wide area of impact as the pollutants are carried away by wind, water or percolation. The range of potential impacts on biodiversity is very broad.
- *Disturbance of ecosystem composition, structure or key processes:* appendix 2 of the EIA guidelines contains an overview of how human activities can affect these aspect of biodiversity.

Some social changes can also be considered to be direct drivers of change as they are known to lead to one of the above-mentioned biophysical changes (non-exhaustive):

- *Population changes* due to permanent (settlement/resettlement), temporary (temporary workers), seasonal in-migration (tourism) or opportunistic in-migration (job-seekers) usually lead to land occupancy (= land conversion), pollution and disturbance, harvest of living organisms, and introduction of non-native species (especially in relatively undisturbed areas).
- *Conversion or diversification of economic activities:* especially in economic sectors related to land and water, diversification will lead to intensified land use and water use, including the use of pesticides and fertilizers, increased extraction of water, introduction of new crop varieties (and the consequent loss of traditional varieties). Change from subsistence farming to cash crops is an example. Changes to traditional rights or access to biodiversity goods and services falls within this category. Uncertainty or inconsistencies regarding ownership and tenure facilitate unsustainable land use and conversion.
- *Conversion or diversification of land-use:* for example, the enhancement of extensive cattle raising includes conversion of natural grassland to managed pastures, application of fertilizers, genetic change of

livestock, increased grazing density. Changes to the status, use or management of protected areas is another example.

- Enhanced transport infrastructure and services, and/or enhanced (rural) accessibility; *opening up of rural areas* will create an influx of people into formerly inaccessible areas.
- *Marginalization and exclusion* of (groups of) rural people: landless rural poor are forced to put marginal lands into economic use for short term benefit. Such areas may include erosion sensitive soils, where the protective service provided by natural vegetation is destroyed by unsustainable farming practices. Deforestation and land degradation are a result of such practices, created by non-equitable sharing of benefits derived from natural resources.

- b) *Interventions acting as direct drivers of change.* If a proposed intervention is known to produce or contribute to one or more drivers of change with known impact on ecosystem services (see box 3 above), special attention needs to be given to biodiversity. If the intervention area of the policy, plan or programme has not yet been geographically defined (e.g. in the case of a sector policy), the SEA can only define biodiversity impacts in conditional terms: impacts are expected to occur in case the policy, plan or programme will affect certain types of ecosystems providing important ecosystem services. If the intervention area is known it is possible to link drivers of change to ecosystem services and its stakeholders;
- c) *Interventions acting as indirect drivers of change.* When a policy, plan or programme leads to activities acting as indirect driver of change (e.g. for a trade policy, a poverty reduction strategy, or a tax measure), it becomes more complex to identify potential impacts on ecosystem services (see box 4 below). In broad terms, biodiversity attention is needed in SEA when the policy, plan or programme is expected to significantly affect the way in which a society:
- i) Consumes products derived from living organisms, or products that depend on ecosystem services for their production;
 - ii) Occupies areas of land and water; or
 - iii) Exploits its natural resources and ecosystem services.

Box 4: Indirect drivers of change *are societal changes, which may under certain conditions influence direct drivers of change, ultimately leading to impacts on ecosystem services*

The performance of ecosystem services is influenced by drivers of change. In the Millennium Ecosystem Assessment (MA) conceptual framework, a “driver” is any factor that changes an aspect of an ecosystem. A direct driver unequivocally influences ecosystem processes and can therefore be identified and measured to differing degrees of accuracy. In the case of activities that have no obvious biophysical consequences it becomes more complex to define impacts on ecosystem services. The MA conceptual framework provides a structured way of addressing such situations.

Activities without direct biophysical consequences exert their influence through indirect driver of change. These operate more diffusely, often by altering one or more direct drivers, and its influence is established by understanding its effect on a direct driver.

Indirect driver of change can be:

- *Demographic:* e.g. population size and rate of change over time (birth and death rates), age and gender structure, household distribution by size and composition, migration pattern, level of educational attainment;
- *Economic (macro):* e.g. global economic growth and its distribution by country;
- *Socio-political:* e.g. democratization and participation in decision making, decentralization, conflict resolution mechanisms, privatization;

- *Scientific and technological processes*: e.g. rates of investment in R&D, rate of adoption of new technologies, changes in productivity and extractive capabilities, access to and dissemination of information;
- *Cultural and religious values*: values, beliefs and norms influences behaviour with regard to the environment

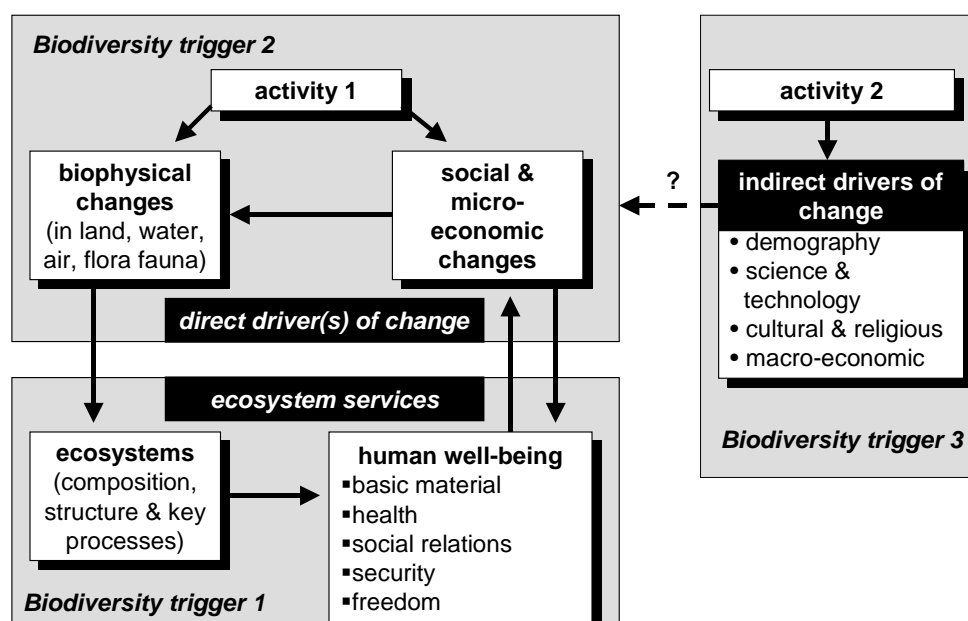
Actors can have influence on some drivers (endogenous driver), but others may be beyond the control of a particular actor or decision-maker (exogenous drivers).

D. How to address biodiversity in SEA

1. The assessment framework

29. Figure 1 depicts the conceptual framework used in these guidelines. It integrates the MA conceptual framework with a more detailed integrated impact assessment framework, describing pathways of activities to impacts. It positions the biodiversity triggers, i.e. (1) affected ecosystem services, and activities producing direct (2) or indirect (3) drivers of change in ecosystem services.

Figure 1. Assessment framework (explanation in main text)



30. Activities resulting from a policy, plan or programme lead to biophysical changes and/or social/economic changes (activity 1 in figure 1). Social/economic changes influence human well-being directly, but some of these changes may in turn also lead to biophysical changes (for example in-migration of people leads to occupation of land). Within their spatial and temporal range of influence, biophysical changes may influence the composition or structure of ecosystems, or influence key processes maintaining these ecosystems.

Activities resulting in this type of biophysical changes are referred to as direct drivers of change. The ecosystem services provided by impacted ecosystems may be affected, thus affecting groups in society who depend on these services for their well-being. People may respond to changes in the value of ecosystem services and act accordingly, thus leading to new social/economic changes. Good participatory scoping and application of the best available scientific and local knowledge results in the identification of most relevant impacts and associated cause-effect chains that need further study in the SEA.

31. Identifying impacts on ecosystem services resulting from indirect drivers of change (activity 2 in figure 1) is a more challenging task. As the figure shows, the links between indirect and direct drivers of change have not yet been fully established. The scenario development under the MA provides further elaboration of the linkages between indirect and direct drivers of change in biodiversity.

2. *Identifying potential biodiversity impacts through biodiversity triggers*

32. *Trigger 1:* The area influenced by the policy, plan or programme provides important ecosystem services:
 - a) *Focus:* Area-oriented policies, plans or programmes without precisely defined activities. Biodiversity can be described in terms of ecosystem services providing goods and services for the development and/or well-being of people and society. The maintenance of biodiversity (for future generations or because biodiversity is considered to have an intrinsic value) is often emphasized as a special ecosystem service, described in terms of conservation status of ecosystem, habitats and species, possibly supported by legal protection mechanisms;
 - b) *This trigger is often associated with* the ‘bottom up’ opportunities and constraints of the natural environment approach, as may be used in land use planning/spatial planning where interventions are potentially wide-ranging and the objective is to develop suitable land uses in line with the natural conditions;
 - c) *Summary of procedure:*
 - i) Identify ecosystems and land-use types in the area to which the policy, plan or programme applies (human land-use can be considered as an attempt by humankind to maximize one or few specific ecosystem services, for example productivity in agriculture, often at the cost of other services). Identify and map ecosystem services provided by these ecosystems or land-use types;
 - ii) Identify which groups in society have a stake in each ecosystem service; invite such stakeholders to participate in the SEA process. Identification and valuation of ecosystem services is an iterative process initiated by experts (ecologists, natural resources specialists) but with stakeholders playing an equally important role. The frequency of reliance on ecosystem goods or services should not necessarily be used as an indication or measure of their value because ecosystem services on which local communities rely even on an occasional basis can be critical to the resilience and survival of these communities during surprise or extreme natural conditions;

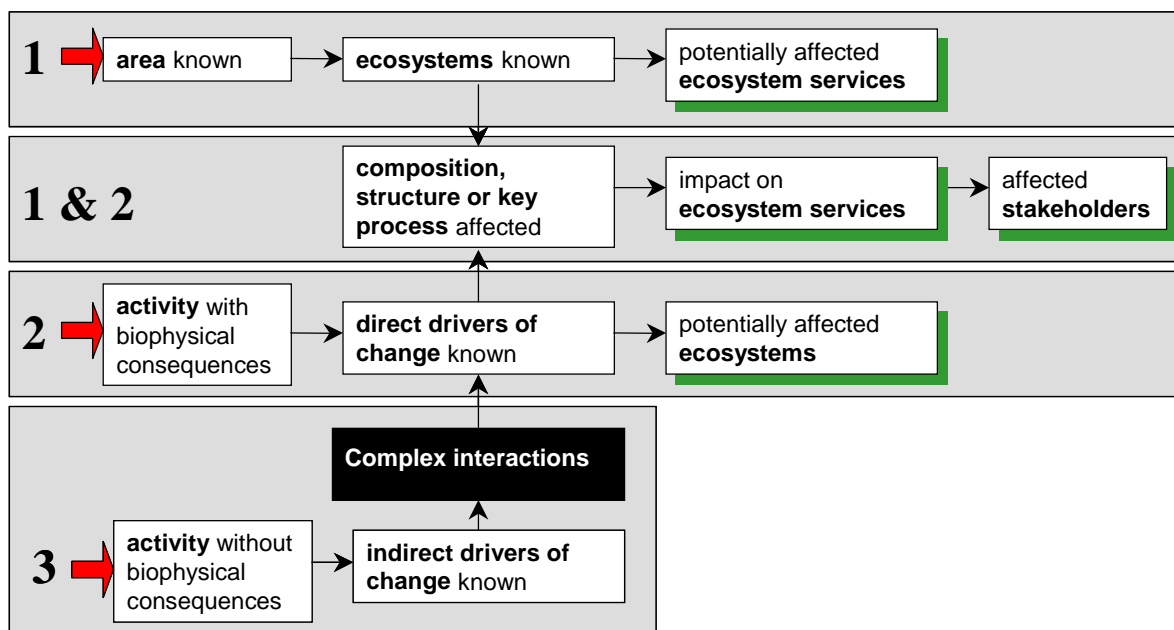
- iii) For absent stakeholders (future generations), identify important protected and non-protected biodiversity which is representative of species, habitats and/or key ecological and evolutionary processes (for example by applying systematic conservation planning or similar approaches);
 - iv) Ecosystem services identified by experts but without actual stakeholders may represent an unexploited opportunity for social, economic or ecological development. Similarly, ecosystem services with conflicting stakeholders may indicate overexploitation of this service representing a problem that needs to be addressed.
33. *Trigger 2:* The policy, plan or programme is concerned with interventions producing direct drivers of change:
- a) *Focus:* As explained above, interventions resulting from a policy, plan or programme can directly, or through socio-economic changes, lead to biophysical changes that affect ecosystems and services provided by these ecosystems. Impacts on ecosystem services can only be defined as potential impacts, since the location of the intervention or the area where its influence is noticed may not be known;
 - b) *This trigger is often associated with* policies, plans or programmes without defined geographical area of intervention, such as sectoral policies, or policies, plans or programmes producing social/economic drivers of change which cannot be geographically demarcated;
 - c) *Summary of procedure:*
 - i) Identify drivers of change, i.e. activities leading to biophysical changes known to affect biodiversity (see box 3 above);
 - ii) Within the administrative boundaries (province, state, country) to which the policy, plan or programme applies, identify ecosystems sensitive to the expected biophysical changes. Within these administrative boundaries sensitive ecosystem can be identified. The SEA needs to develop a mechanism to avoid, mitigate or compensate potential negative impacts to these ecosystems including the identification of less damaging alternatives.
34. *Triggers 1 and 2 combined:* The policy, plan or programme concerns activities producing direct drivers of change in an area with important ecosystem services:
- a) *Focus:* Knowledge of the nature of interventions and the area of influence allows relatively detailed assessment of potential impacts by defining changes in composition or structure of ecosystems, or changes in key processes maintaining ecosystems and associated ecosystem services;
 - b) *This combination of triggers is often associated with* SEAs carried out for programmes (resembling complex, large-scale EIAs). Examples are detailed spatial plans, programme level location and routing alternatives or technology alternatives;

- c) *Summary of procedure:* The procedure is a combination of the procedures for trigger 1 and 2, but the combination allows for greater detail in defining expected impacts:
- i) Identify direct drivers of change and define their spatial and temporal range of influence;
 - ii) Identify ecosystems lying within this range of influence (in some cases species or genetic level information may be needed);
 - iii) Describe effects of identified drivers of change on identified ecosystems in terms of changes in composition or structure of biodiversity, or changes in key processes responsible for the creation or maintenance of biodiversity;
 - iv) If a driver of change significantly affects either composition, or structure, or a key process, there is a very high probability that ecosystem services provided by the ecosystem will be significantly affected;
 - v) Identify stakeholders of these ecosystem services and invite them to participate in the process. Take into account the absent (future) stakeholders.
35. *Trigger 3:* The policy, plan or programme is concerned with interventions affecting indirect drivers of change. An example of such a trigger would be trade liberalization in the agricultural sector and the effects this might have on biodiversity. A study carried out within the framework of the Convention on Biological Diversity synthesized existing approaches and assessment frameworks.^{18/}
36. Baseline conditions, trends and characteristics of the production and socio-economic systems determine whether indirect consequences will affect biodiversity. This SEA works with a combination of economic modelling studies, empirical evidence from literature, case study analysis and causal chain analysis. Biodiversity impact is described in very broad terms, mainly as changes in surface area and species richness. Groupings of countries with comparable characteristics are studied in further detail by selecting one country per grouping in which an in-depth case-study is carried out. The difficulty in the identification of biodiversity-related impacts lies in the definition of impact mechanism.
37. More research and case material is needed to elaborate this biodiversity trigger. The MA methodology is potentially valuable to identify linkages between indirect and direct drivers of change. The scenarios working group of the MA considered the possible evolution of ecosystem services during the twenty-first century by developing four global scenarios exploring plausible future changes in drivers, ecosystems, ecosystem services, and human well-being. The reports on global and sub-global assessments may also provide suitable material.
38. Figure 2 provides a summary overview of the way in which potential biodiversity impacts of a policy, plan or programme can be identified. It starts with the identification of potential biodiversity triggers in the policy, plan or programme to be analysed, including: (i) an area with valued ecosystem services; (ii) activities affecting direct drivers of change; (iii) activities affecting indirect drivers of change; or a combination of (i) and (ii) where

^{18/} See UNEP/CBD/COP/7/INF/15.

activities with known drivers of change influence a known area with valued ecosystem services. If one of these triggers is present in the policy, plan or programme, the flow chart shows the type of information that can and should be obtained in the SEA process. The link between indirect and direct drivers of change is characterized by complex interactions, many of which are presently subject to intense research efforts worldwide.

Figure 2. Summary overview of procedure to define biodiversity impacts starting with one or a combination of biodiversity triggers.



39. The appendix to the present guidance provides a summary overview of the conditions under which a strategic environmental assessment should place particular attention to biodiversity issues and how they should be addressed.

Appendix

Summary Overview of when and how to address biodiversity in strategic environmental assessment

Biodiversity triggers in policy, plan or programme	When is biodiversity attention needed	How to address biodiversity issues
<p><i>Trigger 1</i> Area known to provide important ecosystem services</p>	<p><i>Does the policy, plan or programme influence:</i> Important ecosystem services both protected (formal) or non-protected (stakeholder values) Areas with legal and/or international status; Important biodiversity to be maintained for future generations</p>	<p><i>Area focus</i> Systematic conservation planning for non-protected biodiversity. Ecosystem services mapping. Link ecosystem services to stakeholders. Invite stakeholders for consultation.</p>
<p><i>Trigger 2</i> Policy, plan or programme affecting direct drivers of change (i.e. biophysical and non-biophysical interventions with biophysical consequences known to affect ecosystem services)</p>	<p><i>Does the policy, plan or programme lead to:</i> Biophysical changes known to significantly affect ecosystem services (e.g. land conversion, fragmentation, emissions, introductions, extraction, etc.) Non-biophysical changes with known biophysical consequences (e.g. relocation / migration of people, migrant labour, change in land-use practices, enhanced accessibility, marginalization).</p>	<p><i>Focus on direct drivers of change and potentially affected ecosystem</i> Identify drivers of change, i.e. biophysical changes known to affect biodiversity. Within administrative boundaries to which the policy, plan or programme applies, identify ecosystems sensitive to expected biophysical changes.</p>
<p><i>Combined triggers 1 & 2</i> Interventions with known direct drivers of change affecting area with known ecosystem services</p>	<p>Combination of triggers 1 and 2 above</p>	<p><i>Knowledge of intervention and area of influence allows prediction of impacts on composition or structure of biodiversity or on key processes maintaining biodiversity</i> Focus on direct drivers of change, i.e. biophysical changes known to affect biodiversity. Define spatial and temporal influence. Identify ecosystems within range of influence. Define impacts of drivers of change on composition, structure, or key processes. Describe affected ecosystems services and link services to stakeholders. Invite stakeholders into SEA process. Take into account the absent (future) stakeholders.</p>
<p><i>Trigger 3</i> Policy, plan or programme affecting indirect drivers of change, but without direct biophysical consequences</p>	<p><i>Are indirect drivers of change affecting the way in which a society:</i> produces or consumes goods, occupies land and water, or exploits ecosystem services?</p>	<p><i>More research and case material needed</i> MA methodology potentially valuable to identify linkages between indirect and direct drivers of change.</p>



10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)

“Healthy wetlands, healthy people”

Changwon, Republic of Korea,
28 October-4 November 2008

Resolution X.18

**The application of response options from the Millennium
Ecosystem Assessment (MA) within the Ramsar Wise Use Toolkit**

1. RECALLING that the Ramsar Convention, the Convention on Biological Diversity (CBD), and the UN Convention to Combat Desertification (UNCCD) were recognized by the Millennium Ecosystem Assessment (MA) as key intergovernmental end-users of its findings and advice;
2. RECALLING that the MA also prepared for the Ramsar Convention the *Ecosystems and Human Well-being. Wetlands and Water, Synthesis* report, with input from members of the Scientific and Technical Review Panel (STRP) and Ramsar Secretariat; FURTHER RECALLING that that report only became available at the time of the 9th meeting of the Conference of the Contracting Parties in 2005, and only in English, so that further advice to Parties on its implications and the application of its findings, including response options, could not be provided at that time; and NOTING that that report has subsequently become available in Spanish, Russian, Arabic and Chinese as well, although not yet in French;
3. FURTHER NOTING that, because the MA Synthesis report to the Ramsar Convention was prepared at the same time that the full MA reports were also being finalised, it was not possible to review thoroughly all other MA volumes for relevant response options for inclusion in the Synthesis report;
4. RECALLING that in Resolution IX.1 Annex A (2005) the Contracting Parties to the Ramsar Convention recognized and adopted the MA's Conceptual Framework for ecosystems and human well-being as a framework for the delivery of the wise use of wetlands and the maintenance of their ecological character, and for the application of the Ramsar 'toolkit' of Wise Use Handbooks;
5. AWARE that the STRP recommended that its 2006-2008 task concerning reviewing the MA's response options in relation to Ramsar's current Conceptual Framework for wise use and the wise use responses available in the Ramsar Wise Use Handbooks should be a high priority, and that this was approved by Standing Committee Decision SC35-15;
6. ALSO AWARE that, at the request of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) of the Convention on Biological Diversity, UNEP undertook a detailed assessment (UNEP/CBD/COP/9/13) of the use and impact of the MA from the point of view of stakeholders, including national decision makers, which

indicated a limited uptake of the concepts and findings of the MA among decision makers, including its findings in relation to responses, in the limited time following the publication of the MA reports and completion of the project;

7. NOTING that Decision IX/15 of the 9th meeting of the Conference of the Parties to the Convention on Biological Diversity (Bonn, Germany, May 2008) emphasizes the importance of promoting the application of the MA framework, methodologies, and findings at national and subnational levels as appropriate, and emphasizes the urgent need for capacity building in this regard;
8. AWARE of the ongoing discussions concerning the new Intergovernmental Science-Policy Platform in Biodiversity and Ecosystem Services (IPBES), as a follow-up to the Millennium Ecosystem Assessment (MA), and the consultative process towards and International Mechanism of Scientific Expertise on Biodiversity (IMoSEB), which may strengthen the science input to international work on biodiversity and ecosystem services;
9. THANKING the STRP and its Wise Use Working Group for undertaking a comprehensive review of MA response options relevant to the Ramsar Convention;
10. NOTING the key findings of the STRP review, which include that:
 - i) the Ramsar definition of ‘wetlands’ was not applied consistently in the MA’s work and reports, which has resulted in the terms ‘wetlands’ and ‘inland waters’ being used interchangeably throughout and often in association with other wetland habitat types – e.g., “wetlands and mangroves” and “lakes, rivers, wetlands, and shallow groundwater aquifers”;
 - ii) the MA outputs concerning responses contained little detail on the wise use of wetlands; and where wetland wise use was treated in the response options, they were largely focused on addressing direct drivers of change (e.g., water abstraction, unsustainable harvest, and resource consumption);
 - iii) the MA outputs concerning responses contain few relevant options that address indirect drivers of change (e.g., economic and socio-political drivers) and a limited number that deal with trade-offs in decision-making relating to wetland wise use;
 - iv) the majority of the response options that address direct drivers of change in wetlands are already articulated within Ramsar’s existing toolkit of Wise Use Handbooks or can readily be added to future revisions of this toolkit;
 - v) exceptions to that, however, are response options that are contained within the underlying MA chapters that deal with ecosystem services (e.g., nutrient cycling, food, human health, and climate change and air quality) and some MA chapters that deal with natural and human-made systems (e.g., urban systems, cultivated systems and dryland systems); and
 - vi) some of the MA’s response options additional to responses already covered by Ramsar’s Wise Use Handbooks have already been included in STRP products being considered at COP10 and/or published as Ramsar Technical Reports, such as that on “Wetlands and human health and well-being” (Resolution X.23);

11. ALSO NOTING that the full report of the STRP's review of MA response options will be published as a Ramsar Technical Report to serve as a guide to Contracting Parties and others on the application of the MA response options to enhance the implementation of the Ramsar Convention at the national level; and
12. FURTHER NOTING that the information provided in the UNEP 4th Global Environment Outlook report (GEO-4, 2007) extends the analyses undertaken by the MA with an emphasis on the entire water cycle rather than individual systems or services, and so provides further relevant material for potential inclusion in the Ramsar Technical Report;

THE CONFERENCE OF THE CONTRACTING PARTIES

13. ENCOURAGES Contracting Parties to utilise, as appropriate, the MA response options relevant to their implementation of the Ramsar Convention at the national level, as provided in the forthcoming Ramsar Technical Report ;
14. ALSO ENCOURAGES the Ramsar Secretariat and Contracting Parties to collaborate with the secretariats and national focal points of other MEAs in pursuing implementation actions based on the MA outputs and on the STRP review of MA response options, and REQUESTS the Secretariat to make the STRP review available to the subsidiary bodies of those MEAs;
15. REQUESTS the Ramsar Secretariat, with the advice of the STRP, to incorporate information on relevant MA response options, as provided in the forthcoming Ramsar Technical Report, into the appropriate Ramsar Wise Use Handbooks in any revisions and publication of a further edition following COP10;
16. INSTRUCTS the STRP to prepare further advice for Contracting Parties, as a high priority, concerning how to apply MA response options identified in the forthcoming Ramsar Technical Report that address broad implementation themes not currently covered by the toolkit of Ramsar Wise Use Handbooks, including *inter alia* nutrient cycling, food, and climate change; and
17. ALSO INSTRUCTS the STRP, in the context of the Resolution VIII.34 on *Agriculture, wetlands and water resource management*, to prepare further advice to the Contracting Parties on the interrelated Comprehensive Assessment of Water Management in Agriculture (IWMI, CGIAR initiative) and Global Environment Outlook-4 (GEO-4) of UNEP.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.19

**Wetlands and river basin management: consolidated scientific and
technical guidance**

1. AWARE of the suite of technical and scientific guidelines and other materials prepared by the Scientific and Technical Review Panel (STRP) to support Contracting Parties in their implementation of wetland conservation and wise use;
2. NOTING that the 9th Meeting of the Conference of the Contracting Parties (COP9) instructed the STRP to prepare further advice and guidance for consideration by Contracting Parties at COP10, focusing on the immediate and high priority tasks set out in Annex 1 to Resolution IX.2;
3. THANKING the STRP for its work in preparing the advice and guidance annexed to this Resolution, as well as for the supporting technical reviews and reports being made available to Contracting Parties and others as COP Information Papers and Ramsar Technical Reports; and
4. ALSO THANKING the government of Sweden for its financial support to the Panel and Working Groups for the preparation of this advice and guidance and the technical reports, and EXPRESSING GREAT APPRECIATION to the many organizations and individuals that have provided significant in-kind support to the work of the Panel, including through supporting the time and work of its members and observers and through providing to the Panel information and case studies related to river basin management;

THE CONFERENCE OF THE CONTRACTING PARTIES

5. NOTES the “Consolidated Guidance for integrating wetland conservation and wise use into river basin management” provided in the annex to this Resolution, and INVITES Contracting Parties to make good use of it as appropriate, adapting it as necessary to suit national conditions and circumstances, within the frameworks of existing regional initiatives and commitments, in the context of sustainable development and in accordance with national institutions and legal frameworks;
6. CONFIRMS that the “Consolidated Guidance for integrating wetland conservation and wise use into river basin management” in the annex to this Resolution updates and wholly supersedes the earlier guidance on this matter adopted as the annex to Resolution VII.18 and as Annex Ci to Resolution IX.1;

7. INVITES Contracting Parties to draw this “Consolidated Guidance for integrating wetland conservation and wise use into river basin management” to the attention of all relevant stakeholders, including *inter alia* government ministries, departments and agencies, water and basin management agencies, non-governmental organizations, and civil society, and FURTHER INVITES Contracting Parties to encourage these stakeholders to take these guidelines into account, together with those of the Ramsar Toolkit of Wise Use Handbooks, in their decision-making and activities that relate to the delivery of the wise use of wetlands through the maintenance of their ecological character;
8. INSTRUCTS the Scientific and Technical Review Panel to undertake, as a priority task during the next two triennia, a review of the operative paragraphs of all adopted Resolutions concerning water and wetlands interactions; to make recommendations concerning consolidation, updating and retirement of aspects of these Resolutions in relation to recent developments; and to prepare for COP12 consideration a new draft Resolution concerning water and wetlands issues;
9. INSTRUCTS the Ramsar Secretariat to disseminate widely the “Consolidated Guidance for integrating wetland conservation and wise use into river basin management” annexed to this Resolution, including through amendment and updating of the Ramsar Wise Use Handbooks as well as through a proactive approach towards other relevant multilateral environmental agreements (MEAs), especially the Convention on Biological Diversity and the UNECE Water Convention, as well as the secretariats of regional and sub-regional bodies involved in management of shared river basins¹, and to build the capacity, especially in developing countries, of National Focal Points to use and widely mainstream this guidance in their countries; and
10. REQUESTS the Secretariat to invite the relevant MEAs, subregional and regional bodies mentioned in paragraph 9 above to report on actions taken in relation to this Resolution and the annexed guidance.

¹ Note: The terms “shared river basins” and “transboundary river basins” have both been used in previous Ramsar Resolutions and are both in wide usage in different parts of the world. For the purposes of this Resolution and its annexed guidance, the term “shared” is used to refer to river basins in which groundwater and surface water flow across or between two or more countries. However, the term “transboundary” river basins is also commonly used to describe river basins whose management is shared by different administrative units, for example between two or more local authorities, within the same country. In this guidance, it is used in this sense. The use of these expressions and the aforementioned explanation do not imply acceptance by all Parties. The reading of this Resolution and its annexed guidance shall be in accordance with Principle 2 of the Rio Declaration.

Annex

Consolidated Guidance for integrating wetland conservation and wise use into river basin management

Explanatory Note: The terms “shared river basins” and “transboundary river basins” have both been used in previous Ramsar Resolutions, and are both in wide usage in different parts of the world. For the purposes of this guidance, the term “shared” is used to refer to river basins in which ground water and surface water flows across or between two or more countries.

However, the term “transboundary” river basins is also commonly used to describe river basins whose management is shared by different administrative units, for example between two or more local authorities, within the same country. In this guidance, it is used in this sense. The use of these expressions and the aforementioned explanation does not imply acceptance by all Parties. The reading of this guidance shall be in accordance with Principle 2 of the Rio Declaration.

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Guidelines for Contracting Parties:

- A: Principles for integration of the conservation and wise use of wetlands into river basin management
- B: Guidelines for Contracting Parties relating to national policy and legislation for integrated river basin management
- C: Guidelines for Contracting Parties for the establishment of river basin management institutions and strengthening of institutional capacity for integrated river basin management
- D: Guidelines for Contracting Parties on national policy and programmes for CEPA related to integrated river basin management
- E: Guidelines for Contracting Parties on national policy related to stakeholder participation in integrated river basin management
- F: Guidelines for Contracting Parties for establishing adequate implementation capacity for integration of wetlands into river basin management
- G: Guidelines for Contracting Parties on establishing supporting policy, legislation and regulation at river basin level
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- I: Guidelines for Contracting Parties on developing CEPA programmes and stakeholder participation processes at river basin level
- J: Guidelines for Contracting Parties relating to inventory, assessment and enhancement of the role of wetlands in river basin management
- K: Guidelines for Contracting Parties relating to the identification of current and future supply and demand for water
- L: Guidelines for Contracting Parties for prioritizing the protection and restoration of wetlands and their biodiversity
- M: Guidelines for Contracting Parties relating to the maintenance of natural water regimes to maintain wetlands
- N: Guidelines for assessing and minimising the impacts of land use and water development projects on wetlands and their biodiversity
- O: Guidelines for Contracting Parties for the management of shared river basins and wetland systems, and partnership with relevant conventions, organizations and initiatives

1. Guidance given by the Convention text and previous decisions of the Conference of the Contracting Parties

1. The critical linkage between wetlands, water and river basin management is emphasized in the text of the Convention on Wetlands and in the decisions of the Contracting Parties at the triennial conferences. Notably the second paragraph of the Preamble of the Convention text states: “Considering the fundamental ecological functions of wetlands as regulators of water regimes”, and the 6th meeting of the Conference of the Contracting Parties (COP6, 1996) confirmed through Resolution VI.23 on *Ramsar and Water* that Contracting Parties “RECOGNIZE the important hydrological functions of wetlands, including groundwater recharge, water quality improvement and flood alleviation, and the inextricable link between water resources and wetlands, and REALIZE the need for planning at the river basin scale which involves integration of water resources management and wetland conservation.”
2. Resolution VI.23 further called upon Parties, in promoting the integration of water resource management and wetland conservation, to undertake a range of actions (including the establishment of hydrological monitoring networks on wetlands, studies of traditional water management systems, and economic valuation methods) to involve National Ramsar Committees and local stakeholders in river basin management, support multidisciplinary training, and work in partnership with water-related organizations.
3. Resolution VII.18 (1999) on *Guidelines for integrating wetland conservation and wise use into river basin management* noted the increasing demands being placed upon freshwater resources in many parts of the world, highlighted the importance placed on freshwater resources by the United Nations Commission on Sustainable Development, and recognized that “wetlands, because of their ecological and hydrological functions, are an intrinsic part of the overall water resource system and should be managed as such”. Parties were urged to apply, through integrated approaches, the guidance annexed to Resolution VII.18 within river basins in their own territories as well as in those river basins shared with neighbouring countries.
4. Resolution IX.1 Annex C(i) (2005), *Additional guidance and a framework for the analysis of case studies*, provided further advice on sequencing some of the actions set out in Resolution VII.18 related to integration of wetlands into river basin management. During the 2006-2008 triennium, further work was carried out by the Scientific and Technical Review Panel (STRP) to collate and analyse case studies of integration of wetlands into river basin management against the analytical framework presented in Resolution IX.1 Annex C (i). The “lessons learned” from the analysis of case studies have been drawn into the consolidated guidance (this document) to provide additional detail and refinement of some aspects of the existing guidance.
5. The *Framework for Ramsar’s water-related guidance* was adopted in 2005 as Annex C to Resolution IX.1 (also available as Ramsar Wise Use Handbook 6, 3rd edition, Ramsar Convention Secretariat, 2007). In addition to providing an overview of the full suite of Ramsar’s water-related guidance, the Framework contains detailed discussion of the role of wetland ecosystems and wetland management in Integrated Water Resources Management (IWRM). The Framework also contains a set of principles for the development and

implementation of Ramsar's water-related guidance, which apply, *inter alia*, to the guidance related to river basin management.

6. Operational Objective 2.2 of the Strategic Plan 1997-2002 approved at COP6 urged Parties "to integrate conservation and wise use of wetlands . . . into national, provincial and local planning and decision making on land use, groundwater management, catchment/river basin and coastal zone planning and all other environmental management". This was reiterated in Operational Objective 3.4 of the Strategic Plan 2003-2008. Operational Objective 12.1 of the 2003-2008 Strategic Plan also urged Parties to apply the guidelines in Resolution VII.18 in international cooperation related to management of shared wetlands.
7. Following on from the findings of the Millennium Ecosystem Assessment (MA, 2005), it is recognized in the Ramsar Strategic Plan for 2009-2015 that "increasing demands for water abstraction, and a lack of appreciation of the role and value of wetlands in the global hydrological cycle, are key contributing factors to the continued change, deterioration and loss of wetlands". The importance of wetlands as sources of freshwater is highlighted in both the MA (2005) Wetlands Synthesis and the introduction to the Strategic Plan 2009-2015, and the need for ecosystem-based approaches to policy and decision-making is emphasised.
8. Strategy 1.7 of the Strategic Plan 2009-2015 addresses the need to ensure that policies and implementation of Integrated Water Resource Management, applying an ecosystem-based approach, are included in the planning activities in all Contracting Parties and in their decision-making processes, particularly concerning groundwater management, catchment/river basin management, coastal and marine zone planning, and climate change mitigation and/or adaptation activities.
9. This Consolidated Guidance supersedes and entirely replaces the guidance contained in the Annex to Resolution VII.18 and in Annex C (i) to Resolution IX.1.

2. Introduction

2.1 The importance of wetlands for water and water-related ecosystem services

10. Wetlands provide a wide range of ecosystem services that contribute to human well-being, such as fish and fibre, water supply, maintenance of water quality, climate regulation, flood regulation, coastal protection, and recreation and tourism opportunities (MA, 2005). Wetlands are also critical for the conservation of biological diversity. There is increasing recognition of the value of these functions and other ecosystem services provided by wetlands. In particular, wetlands are vitally important for providing the regulating and supporting ecosystem services that underpin water resources management, and can thus be considered as essential components of overall water infrastructure (Emerton & Bos, 2004). However, this importance was not always adequately reflected in water resources planning and management in the past.
11. The degradation and loss of wetlands is more rapid than that of other ecosystems. Primary direct drivers of degradation and loss of wetlands include "infrastructure development, land conversion, water withdrawal, eutrophication and pollution, over-harvesting and over-

exploitation, and the introduction of invasive alien species” (MA, 2005). Degradation and loss of wetlands, and rapid changes in the river basins of which these wetlands are integral elements, has led to the disruption of natural hydrological cycles. In many cases this has resulted in greater frequency and severity of flooding, drought and pollution. The degradation and loss of wetlands and their biodiversity imposes major economic and social losses and costs to the human populations of these river basins through the loss of previously accessible wetland ecosystem services.

12. Demands on water resources continue to increase, as do the levels of pollutants. Water scarcity and limited or reduced access to water for domestic, agricultural and industrial uses are “key factors limiting development in many countries” (MA, 2005; CA, 2007). Global climate change is likely to exacerbate these problems. Water resource developments intended to address such problems can negatively impact on other services provided by wetlands. Proper consideration of the role and importance of wetlands in river basin management can greatly assist in securing safe, reliable sources of water and meeting sustainable development objectives such as the Millennium Development Goals. Hence the integration of wetland conservation and wise use into river basin management, as promoted by the Ramsar Convention, is essential to sustain the important ecosystem services associated with both wetlands and river basins and the benefits they provide to human populations.
13. River basins or river catchments (the land area between the source and the mouth of a river, including all of the lands that drain into the river) and coastal and marine systems influenced by catchment discharges are important geographical units for considering the management of wetlands and water resources. Wetlands play critical roles in river basin management and, conversely, land and water-related human activities within river basins can have very significant influences on the ecological character of wetlands in those basins.

2.2 Development of the Convention’s guidance on river basin management

14. The Convention’s guidance for integrating wetlands into river basin management is intended to help wetland managers to participate in and influence river basin planning and management, in order to ensure that the values and needs of wetland ecosystems are adequately integrated into river basin processes. While this guidance is intended primarily for the Contracting Parties to the Ramsar Convention, it will be of use to anyone with an interest in the ‘holistic’ approach to the management of wetlands. This approach, recognizing that wetlands are integral parts of river basins, requires that managers and planners focus at the river basin level in developing effective management strategies.
15. The move towards the integration of wetlands and wetland water requirements into water sector planning and activities has only been initiated formally in most countries since the mid-1990s, concurrently with wider adoption and application of Integrated Water Resources Management (IWRM) approaches, as advocated in, for example, the Implementation Plan of the 2002 Johannesburg World Summit on Sustainable Development (United Nations, 2002).
16. Yet awareness of the need for this integration has been growing for a long time in the water, environment, and wetland communities (see, for example, the Dublin Principles (Dublin Statement on Water and Sustainable Development, 1992) and Agenda 21 (United

Nations, 1993)). This awareness was reflected in Resolution VI.23 (*Ramsar and water*) and was taken up in several Operational Objectives in the Convention's 1997-2002 Strategic Plan. In order to support implementation of Resolution VI.23 and the 1997-2002 Strategic Plan, Contracting Parties then requested the preparation of scientific and technical guidance for integrating wetlands into river basin management, resulting in the adoption of Resolution VII.18 (*Guidelines for integrating wetland conservation and wise use into river basin management*).

17. The *Integrated Framework for the Convention's water-related guidance* (Resolution IX.1 Annex C; Ramsar Wise Use Handbook 6, 3rd edition, 2007) provided an overview of the relationships between wetlands, water resources management, and river basin management. The Framework described in some detail:
 - the links between wetland ecosystems and water resources management, through the hydrological cycle;
 - the importance of integrating the protection and wise use of wetlands into both river basin and water resources planning and management; and
 - the role of the Ramsar Convention's Contracting Parties in implementing IRBM and IWRM approaches.
18. The guidance in Resolution VII.18 described, in some detail, the different policy, planning, and management activities that are needed at national and river basin levels in order to support more effective integration of wetlands into river basin management.
19. Subsequent review of recent experiences of wetland management and protection in the context of river basin management has led to the growing recognition that there is a certain degree of sequencing required between planning and management activities at river basin level and at individual wetland or site level. A generic sequence based on an approach called the "Critical Path" (Dickens *et al*, 2004) was described in the additional guidance on integration of wetlands into river basin management, adopted as Resolution IX.1 Annex C(i) in 2005.
20. After COP9 in 2005, the STRP undertook a project to collate and analyse a range of case studies related to integration of wetlands into river basin planning and management. The results of this project are described in Ramsar Technical Report no. 12. Not all of the case studies covered in that Ramsar Technical Report explicitly described examples of application of the Convention's river basin management guidance, since the guidance was still relatively new. However, the case studies did provide valuable examples and learning related to:
 - specific activities covered in the Convention's river basin management guidance, and
 - typical obstacles to implementation that can arise if the sequence of activities is not adequately addressed.
21. The Convention's pieces of existing guidance related to river basin management (Resolution VII.18 and Resolution IX.1 Annex C (i)) were included together in Volume 7 of the Wise Use Handbooks, 3rd edition, 2007. These two previous guidances have now been fully integrated and supplemented with additional information and guidance derived from the case studies, and they form this Consolidated Guidance.

22. It is important to note that, in this Consolidated Guidance, the term “river basin management” encompasses planning as well as implementation activities. Both kinds of activities are critical to successful river basin management, and both are usually undertaken at various levels, including national level (and international level in shared river basins), river basin level, and local or community levels. Planning activities may include assessment, modeling and scenario generation, negotiation, decision-making, scheduling, budgeting and programme design. Implementation activities may include management actions such as modified agricultural practices, restoration of ecosystems, cleanup and rehabilitation of contaminated sites, operation of dams and water storage facilities, regulation and enforcement of laws, monitoring and reporting.

2.3 Understanding integration in the context of Ramsar, wetlands, and river basin management

Wetlands and Integrated River Basin Management

23. Wetlands are the primary resources from which water and all its benefits for humans are derived, and they are a major and critical component of the hydrological cycle that keeps us supplied with water. The protection and wise use of wetlands, and recognition of their role and value, are essential aspects of water resources planning and management.
24. Recent development and application of Integrated Water Resources Management (IWRM) and Integrated River Basin Management (IRBM) approaches, while initially being led by water sector policy in order to ensure the protection and sustainable development of water resources, has offered a significant opportunity for the wetlands sector to engage with the water sector and land use sectors at river basin level.
25. Definitions of IWRM and IRBM are many and varied, but most reflect the principal philosophy of coordinated, collaborative decision-making across multiple land and water use sectors on multiple, connected scales, in order to ensure that the social and economic benefits of land and water resource use can be sustained and shared equitably, while still protecting vital ecosystems and their services.
26. Some descriptions of IWRM reflect a narrower perspective, i.e., with a primary focus on managing the actual water component of water resources within a catchment or basin, while still recognizing the need to consider land use influences on the quantity, quality and reliability of water supplies. The concept of integrated river basin management, on the other hand, offers a somewhat broader perspective, i.e., considering the need to protect and manage the ecosystem services provided by both land and water resources within a river basin, and also recognizing the interdependence of these land-based and water-related ecosystem services as they are linked through the hydrological cycle.
27. For the purposes of the Ramsar Convention, the broader perspective offered by use of the term IRBM is more appropriate, since this term clearly includes both land and water aspects and allows management to address the role that wetland ecosystems play as the connecting links between land and water systems in a river basin.

28. It is important to note here that the term “river basin” encompasses the surface and subsurface water resources, soil and land resources, wetlands and associated ecosystems, including those coastal and nearshore systems that are hydrologically or ecologically linked to the river basin. The catchment areas of groundwater resources in the river basin may not always coincide with the boundaries of surface water catchment areas, and this should be considered in defining the extent of a river basin for management and administrative purposes.
29. In this guidance, references to “the water sector” include those institutions, groups, agencies and organizations, public or private, that are responsible for regulatory, operational and institutional aspects of water policy, planning and regulation; water infrastructure development, operation and maintenance; water allocation and permitting; water treatment and supply; wastewater management, treatment and discharge; water quality management; CEPA and extension services.
30. References to “the wetlands sector” generally include those institutions, groups, agencies and organizations, public or private, that are involved in some way in promoting or implementing wise use of wetlands. Their responsibilities and interests may encompass regulatory, operational or institutional aspects of wetland management, such as conservation, restoration, oversight and enforcement of compliance with regulations related to protection and management of wetlands, CEPA, policy and planning.
31. Experiences from several countries have shown that poorly integrated or strongly single-sector approaches to water resources management frequently lead to significant degradation of wetland ecosystems within a river basin, which in turn affects the productivity and accessibility of land and water resources in the basin, as well as the associated ecosystem services. This observation is also applicable to the case studies described in Ramsar Technical Report 12.
32. While it is not essential for a Contracting Party to be formally and actively implementing IWRM or IRBM approaches in order to be able to integrate wetland conservation and wise use into river basin management, it does help a great deal to have enabling national policy or legislation in place that supports implementation of IWRM or IRBM approaches.
33. Just the commitment, however, to consider wetland water requirements in water resources management can be a significant first step in moving towards more integrated approaches that encompass land, water and wetlands within the management of river basins. This first step can often catalyse development and application of IWRM and IRBM approaches, since wetlands themselves are integrative in two ways:
 - The nature of wetlands as connectors between land and water systems means that considering wetlands in water management is an integrative step.
 - The critical importance of wetlands to all sectors of society through the provision of water-related ecosystem services means that people will need to share the benefits of wetlands, and so will need to come together over wetlands, whether in conflict or in consensus, and this offers opportunities for integration between different sectors and interest groups.

Ramsar and Integrated River Basin Management

34. It has long been recognized, and is incorporated in all of Ramsar's guidance on wetland management planning, notably through Resolution VIII.14 (2002) and Ramsar Handbook 16, 3rd edition 2007 (*Managing wetlands*), that land uses in and around a wetland should be managed and planned in a way that is consistent with wise use objectives for the wetland itself.
35. Until recently, however, the equivalent water uses within, upstream of, and downstream of, a wetland have not always been given sufficient attention – rather they have been considered an external driving force more or less beyond the control of wetland managers. Ramsar Contracting Parties adopted Resolution VIII.1 (*Guidelines for the allocation and management of water for maintaining the ecological functions of wetlands*) in 2002, which provided guidance for wetland managers to engage more formally with the water sector in determining and assuring water allocations for wetlands ecosystems, and this represents a significant step forward in the process of integrating wetland needs into water resources planning and management.
36. Ultimately, in order to support the wise use of wetlands, management of wetlands must be undertaken within the context of their larger surrounding “waterscape” (the river basin or catchment, including the hydrological processes and functions within the basin or catchment) as well their larger surrounding landscape.
37. In the longer term, it is not sufficient to integrate wetland management objectives into land use management plans; they should also be integrated into water resource management plans. In turn, land and water resource management plans need to be integrated to ensure that these plans reflect common, agreed objectives for the wetlands in a river basin. Water-related management objectives for wetlands in a river basin should preferably be “hard-wired” into the business plans and operational plans of the relevant water and land management agencies, to ensure that wetland objectives are fully realized. The aim should be to match water resources strategies with land use strategies, so that these can be implemented jointly to support the maintenance of healthy, functional wetlands that provide a full range of benefits and services for people, including water supply.
38. Ramsar's water-related guidance is not intended to lead or drive the formulation and implementation of core water sector policy regarding water allocation, water supply and water resources management. Nevertheless, Contracting Parties should apply this guidance:
 - at international level, to promote the integration of wetlands into the management of shared river basins;
 - at national level, to establish processes for cross-sectoral planning and harmonization of policy objectives and to raise awareness about the role and value of wetlands in river basin management;
 - in their water sector institutions, to establish a supportive policy, legislative and institutional environment for implementing RBM that properly integrates wetlands; and
 - in their wetlands sector institutions, to ensure that the wetlands sector has the capacity, resources and information to participate meaningfully in river basin management planning, decision-making, and implementation.

2.4 Guiding principles for integrating wetlands into river basin management

39. A set of guiding principles was set out in the guidance annexed to Resolution VIII.1 (*Water allocation and management for maintaining the ecological functions of wetlands*) and in the *Integrated Framework for Ramsar's water-related guidance* (Ramsar Handbook 6, 3rd edition). These principles have been defined not only through analysis of previous policy documents adopted by the Ramsar Convention, but also by reference to IWRM principles developed by other international organizations and initiatives.
40. Parties should note the following guiding principles:

Guidelines Box A:

Principles for integration of the conservation and wise use of wetlands into river basin management

Contracting Parties should apply these guiding principles in initiating and implementing river basin management approaches into which wetland conservation and wise use are integrated.

- A1. **Sustainability as a goal.** Adequate protection from the impacts of land and water uses within and beyond a river basin should be provided in order to sustain the functioning of wetland ecosystems, respecting their natural dynamics for the benefit of future generations. This protection includes the provision of water allocations for wetland ecosystems.
- A2. **Clarity of process.** The process by which decisions are made on the management of river basins, including the allocation and management of water and wetlands, should be clear to all stakeholders.
- A3. **Equity in participation and decision-making factors.** There should be equity for different stakeholders in their participation in river basin management, including in land use, water allocation, and water management decisions related to wetlands.
- A4. **Credibility of science.** Scientific methods used to support land use and water management decisions related to wetlands, including water allocations to meet environmental water requirements of wetlands, should be credible and supported by review from the scientific community.
- A5. **Transparency in implementation.** Once plans and procedures for river basin management, water allocation and water management decisions related to wetlands have been defined and agreed, it is important that they are seen to be implemented correctly.
- A6. **Flexibility of management.** Like many ecosystems, wetlands are characterized by complexity, changing conditions and uncertainty. It is essential that an adaptive management strategy be adopted, which requires plans that can be changed as new information or understanding comes to light.
- A7. **Accountability for decisions.** Decision-makers should be accountable. If agreed procedures are not followed or subjective decisions can be shown to be contrary to the spirit of the above principles, then decision-makers should provide a full explanation.

Stakeholders should have recourse to an independent body if they feel that procedures have not been followed.

- A8. **Cross-sectoral cooperation in policy development and implementation.** All of the public sector agencies with responsibilities for activities or policies that influence land, water and wetlands within river basins should commit themselves to cooperative processes of consultation and joint setting of policy objectives, at national level as well as at river basin level.

Source: Ramsar Wise Use Handbook Vol 6, 3rd edition (2007)

2.5 Improving the integration of wetlands in river basin management

41. As mentioned above, the aim of river basin management should be to match water resources strategies with land use strategies, so that these can be implemented jointly to support the maintenance of healthy, functional wetlands that provide a full range of services for people, including water supply.
42. A clear, understandable and sequential process for river basin management planning and implementation provides opportunities for wetland managers to formulate their inputs appropriately and to engage with civil society, land and water users, water resource planners and managers as well as with their counterparts in land use sectors. The exact sequence is perhaps less important than the fact that there is a formal, organized and transparent process established, with which all relevant sectors and groups can engage. The Convention's guidance on integrating wetlands into river basin management is set out in the framework of such a sequential process, the so-called "Critical Path" approach, described in detail in this Consolidated Guidance.
43. In summary, to improve the integration of wetlands into river basin management, attention needs to focus on three major areas of activity:
 - A supportive policy, legislative and institutional environment that promotes cooperation between sectors and sectoral institutions and amongst stakeholder groups;
 - Communication, education, participation and awareness (CEPA) programmes to support communication of policy and operational needs and objectives across different sectors, primarily the water and wetlands sectors, and amongst different stakeholder groups;
 - Sequence and synchronization of planning and management activities in different sectors responsible for land use, water resources and wetlands.

3. Integrating wetlands into river basin management: overview of the scientific and technical guidance

3.1 The "Critical Path" approach

44. The cyclical, so-called "Critical Path" approach to integrating wetlands into river basin management evolved out of many experiences of the obstacles to implementation of the protection, management and wise use of individual wetlands at site level. Additional

experience from implementation of environmental flows concepts and policies has also brought the recognition that there is a certain degree of sequencing required, between planning and management activities at river basin level and between management and user activities at individual wetland or site level. Activities need to be progressively initiated and completed, in time and through scales from basin scale down to site scale, in order to ensure the successful management and wise use of wetlands.

45. These obstacles and issues are common to many countries and many wetland situations. It appears from experience that failure to implement management plans, and thus to achieve wise use objectives for individual wetlands, has often occurred when broader water resources planning, management and water allocation issues have not been adequately addressed in management plans for individual wetlands or groups of wetlands. Achievement of wetland management objectives will continue to be difficult until broader land use and water resources management plans at river basin level fully integrate the management and wise use objectives for the wetlands in question.
46. The Critical Path approach offers a “road map” that can help Contracting Parties to apply the existing suite of Ramsar’s wise use guidance in a systematic, sequential way to support integration of the conservation and wise use of wetlands into river basin management.
47. A generic version of the Critical Path approach is provided in Figure 1. For further information on how the Critical Path approach can be further developed to suit a specific national or river basin situation, readers may consult the report of the original project on which the “Critical Path” approach was based, available in Dickens *et al.* (2004). Figure 1 also shows the cross-references from steps in the critical path to existing, more detailed Ramsar guidance that is applicable for each of the steps.
48. The Critical Path cycle consists of a series of 10 steps, arranged within several phases:
 - i) A **preparatory phase at national level** (Step 0), providing an enabling and supportive policy, legislative, and institutional environment for river basin management that can be adequately integrated the conservation and wise use of wetlands;
 - ii) A **preparatory phase at river basin level** that involves review and possible revision of policy, legislative and institutional aspects related to river basin management (Steps 1 and 2);
 - iii) A **planning phase** involving hydrological, biophysical and socio-economic surveys, assessments and decision-making activities (Steps 3 to 6), leading to the development of a river basin management plan;
 - iv) An **implementation phase**, involving parallel implementation of the river basin management plan and any related wetlands management plans (Steps 7a and 7b);
 - v) A **review phase** involving operational review activities (monitoring, data analysis, reporting and response – Step 8) as well as more strategic review of longer-term progress against objectives and plans (Step 9), leading to further development or revision of policies, objectives and plans.

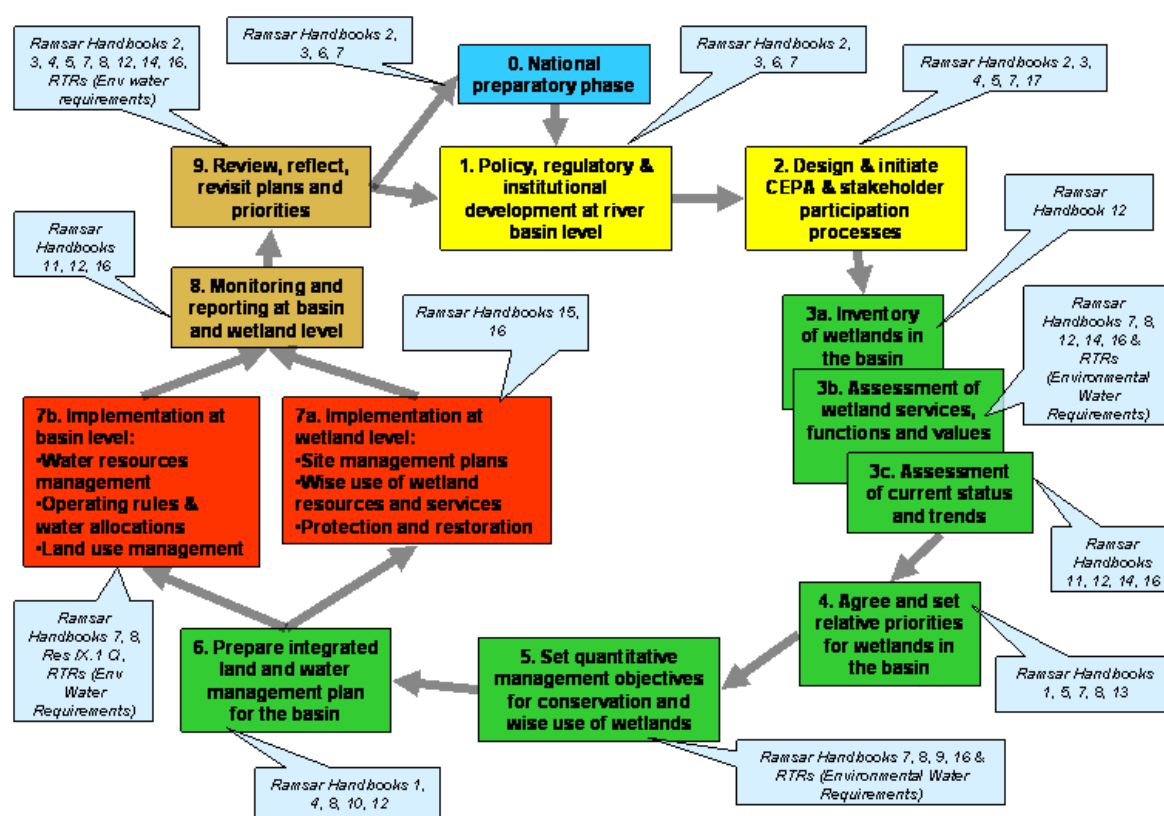


Figure 1: Generic version of the “Critical Path” approach, modified from the same figure in Resolution IX.1 Annex C(i) (2005). Note that stakeholder participation and CEPA processes should continue throughout the entire cycle.

3.2 Synchronisation with the water sector and other sectors

49. The Critical Path approach is focused on wetlands and their role in a basin: this wetland-focused cycle should be recognized as being nested within or closely linked to other spatial and economic planning and management cycles. Understanding the status and progression of these other cycles, particularly the water sector’s cycle of water resources planning and management, assists in synchronizing the wetlands cycle with these other cycles, sharing of information between sectors, and avoiding duplication of work.
50. Ideally, the Critical Path cycle should be started at the beginning (Step 1 in Figure 1) in a river basin, and completed in full and in sequence, but basins and situations are different and flexibility should be promoted. In many cases, larger-scale water and land management at basin level may have been going on for some time in parallel with, or more or less independently from, wetland management at site level, and the wetland level cycle may not be synchronized with river basin management cycles. Hence the most practical approach is to identify where each sector is in its planning and management cycle, and start from there in a process of gradual integration and synchronisation.
51. If other sectoral processes are well-structured but perhaps significantly ahead of the wetlands sector’s planning and management process, then rapid or desktop execution of steps in the Critical Path should be considered in order for the wetlands sector to “catch

up” and at least get wetland needs and values onto the water agenda in the basin. Critical Path steps can be executed more fully in the second iteration of the cycle.

52. Specialist CEPA initiatives from the wetlands sector can support the building of links and synchronization between the wetlands Critical Path and other sectoral processes. If the other sectoral processes are not well-structured, then focused CEPA initiatives could help to identify and clarify current processes in other sectors, in order for the wetlands sector to link with them.
53. Figure 2 provides a graphical representation of generic water sector planning and implementation processes for water resources management at river basin level, and how these are generally related to the wetland management planning and implementation cycle indicated in the Critical Path approach. Contracting Parties should consider ways to identify the various sectoral processes that are already in place or should be put in place in the future at national and river basin levels. The sectoral cycles shown in Figure 2, and the connections between these cycles, can then be adapted to suit local river basin situations.

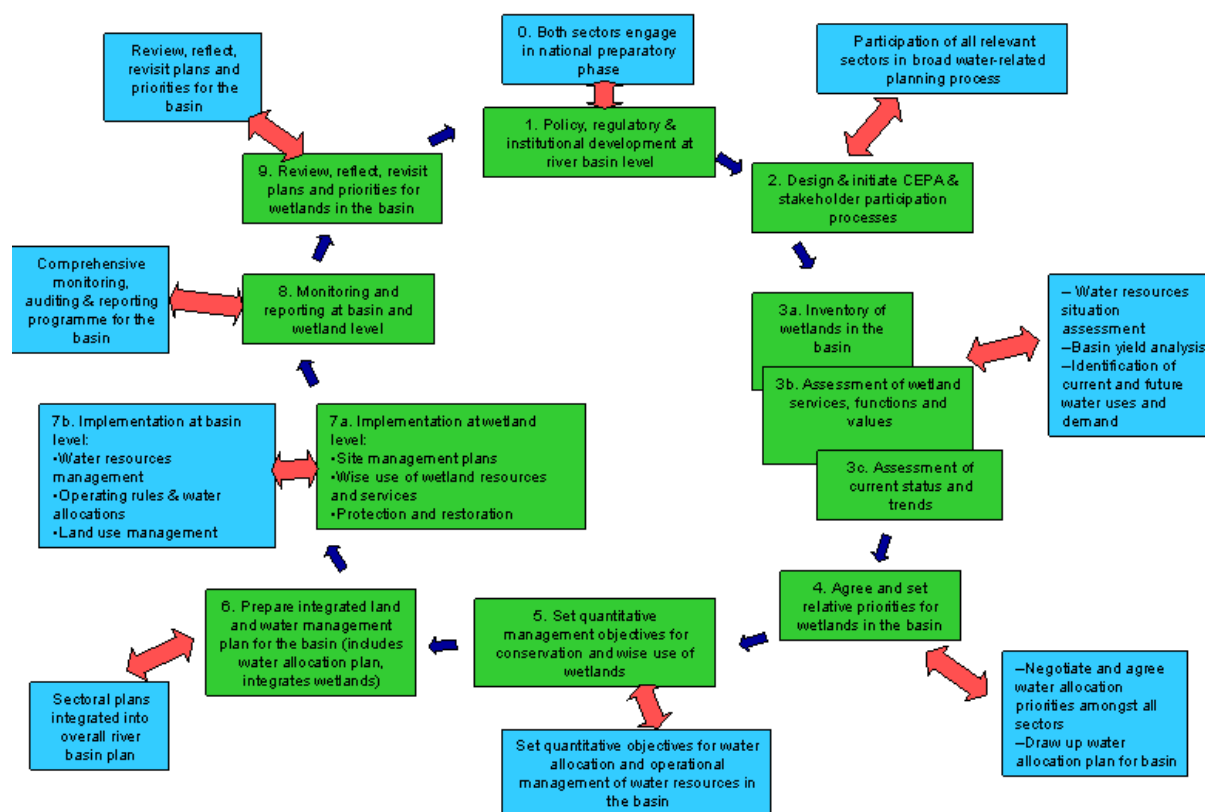


Figure 2: Synchronisation of planning and management processes in the wetlands and water sectors.

4. Integrating wetlands into river basin management: getting started

54. It is likely that almost every new initiative to integrate wetlands into river basin management will involve some degree of “retrofitting” of wetland-related aspects into existing river basin management activities. In these cases, it will be necessary to take into

account ongoing river basin management activities, review them, resolve the most acute obstacles, and gradually begin integrating wetlands through revision of land use and water resources management plans, programmes and regulations.

55. Existing river basin management activities may have led to significant structural modifications that affect river basins and water resources within basins, such as large dams, flood controls, and other modifications of the natural hydrological regime. Where possible, the operation of such structures should be adapted in order to take into account the protection and management of wetlands, particularly in terms of environmental water requirements.
56. The critical path approach is a cyclical one, because it is also an adaptive approach to management: learning and new understanding gained in the first cycle should be fed back into improving future application. Several of the case studies documented in the Ramsar Technical Report 12 demonstrate that moving towards integrated river basin management is a long-term, iterative process, one that requires patience and commitment from all stakeholders and sectors.
57. An integrated river basin management initiative can arise from an urgent need to resolve serious local water management problems, or it might arise from the desire to take a more inclusive, integrated approach to the early stages of planning for water resources developments in a relatively unimpacted river basin. It might be a bottom-up process, having been initiated at a local or sub-basin level as people try to solve local water and wetland problems, or it might be a top-down process of national policy implementation. In all likelihood, all of these factors might be present to some degree. The key to improving integration of wetlands into river basin management is to recognize the wide range of interests, concerns, local situations and possible solutions, and to take a progressive, step by step approach to implementation that builds commitment and willingness from all parties.
58. If a process seems blocked, perhaps due to inability of stakeholders to agree on priorities, then two key places to revisit are Steps 2 and 4 (see Figure 1). In these steps, the priorities for wetlands are identified, discussed and decided. If the stakeholder process has not been sufficiently inclusive or participatory, this could lead to perceived failure of the legitimacy of objectives. If the priorities that are set for wetlands in a basin are not practical or feasible, for example in terms of the amount of water that must be released from a dam, then this will probably lead to failure to recognize the wetland objectives and hence failure to implement them.
59. Although it appears to be a strongly sequential and thus constraining process, in fact the maxim of the Critical Path is “**Start anywhere, just get started**”. The value of applying this approach is that, even when a specific implementation process seems to have broken down completely, either at individual wetland level or at river basin level, it may not be necessary to stop and begin the process from scratch again. In cases such as this, the Critical Path can be used as an analytical tool to identify gaps, obstacles and bottlenecks related to water or river basin management issues, solve the most acute of these, and hopefully get implementation back on track and progressing again.

5. Integrating wetlands into river basin management: scientific and technical guidance at national level

5.1 Preparatory phase at national level

60. The national preparatory phase shown in Figure 1 is not strictly part of the Critical Path at river basin level, but this national preparatory phase is an essential factor for successful implementation of river basin management plans. In this phase, Parties need to be concerned with primarily national-level policy, legislative and Communication, Education, Participation and Awareness (CEPA) initiatives related to integrated river basin management. It is in the preparatory phase that a supportive, enabling environment is established at national level, one that can ensure a relatively smooth transition from planning to implementation at river basin level.
61. In general, national initiatives in the preparatory phase should be consistent with the guiding principles set out in Box A, *Principles for integration of the conservation and wise use of wetlands into river basin management*, particularly with regard to flexibility. National policy and legislation should support the development of solutions, objectives and plans at river basin level that are best suited to local conditions and can meet the needs of local people.
62. National policy and legislation should be enabling, providing frameworks for:
 - consistency in processes for setting river basin management objectives in different river basins;
 - equity in access to ecosystem services associated with land and water resources in river basins; and
 - strategic direction that recognizes national interests which may extend beyond river basin boundaries, such as biodiversity, water allocation, agricultural production, and economic development.
63. Reviewing policy and legislation can be a lengthy process, especially if substantial reform is indicated. Although such review can be undertaken in parallel with the other implementation steps 1 to 5 at river basin level (see Figure 1), implementation of a river basin management plan and associated wetland management plans will probably be compromised if this step is not sufficiently advanced, and preferably substantially completed, by the time implementation begins in the river basin (Step 7b in Figure 1).
64. There are four issues to be addressed in the national preparatory phase of the Critical Path:
 - policy and legislation in the relevant sectors, including processes for cross-sectoral planning and harmonization of policies;
 - institutional development;
 - CEPA;
 - mechanisms for ensuring adequate capacity (financial, human, technical) for implementation of river basin management processes.
65. These same issues are also addressed within the preparatory phase (Steps 1 and 2) at river basin level, but the focus at river basin level is much more local.

5.2 Policy and legislation at national level

Sectoral and over-arching policy and legislation

66. The water sector is arguably the most important place to begin when introducing policy shifts to promote and support integrated river basin management. Water policies need to be harmonized with related policies where they exist, such as National Wetland Policies, National Environment Plans, National Biodiversity Strategies, international agreements and legislative frameworks. The shift towards integrated water resources management on a river basin scale also requires the development of appropriate supporting economic instruments, incentives and tools that are suited to particular national and river basin situations.
67. Complete revision of existing laws and policies is not always necessary for initiating integrated river basin management approaches. More substantive sectoral reform of policy and legislation can be undertaken in an incremental manner later, but should be considered before river basin management institutions are significantly advanced in the planning phase of their work.
68. If integrated river basin management approaches are being formally introduced in a country for the first time, it is usually helpful to begin with a desk-top review of existing sectoral policies and legislation, in order to ensure that there is sufficient policy and legislative support for river basin level initiatives to proceed and to resolve the most significant conflicts where these are evident. Parties should ensure that relevant existing institutions are given a mandate to commence the planning phase at river basin level (steps 1 to 6 of the Critical Path as shown in Figure 1).
69. The principles of identifying the supporting and conflicting elements of policy and law apply equally to statutory as to customary law, although the challenges of integrating statutory and customary systems and providing for a pluralistic legal environment can be significant.
70. Initial desktop review of national policy and legislation should cover:
 - policies and laws from various national sectors (such as water, agriculture, environment, economic development, forestry and forest management, social development) that positively support the integration of wetland management with river basin management, and that generally contain shared principles and objectives;
 - policies, laws and regulations from various national sectors that conflict with the objectives of integrating wetland management and wise use into river basin management, and where revision or reform may be necessary; and
 - policies, laws and regulations that can be used for sanctions or enforcement purposes during the implementation phase if necessary, such as pollution prevention, land use planning controls, and resource exploitation limitations.
71. The following specific issues should be considered and addressed in national sectoral policy and legislation. In formulating effective overall policies on these issues, Contracting Parties should consider the options for promoting flexibility at river basin level where this is administratively feasible and technically appropriate:

- i) Determination, allocation and delivery of water for the maintenance of all ecosystems, including meeting the requirements of marine and coastal ecosystems;
- ii) Issuance of permits for individual and bulk water abstraction and use;
- iii) Domestic and industrial water use, treatment of effluent and the safe discharge of effluent;
- iv) Agricultural water use, mitigation of effects of large water management structures, return of water, limitations of pesticide and other agrochemical use;
- v) Determination of water quality standards for use for various purposes;
- vi) Rules and regulations regarding abstraction and use of groundwater;
- vii) Economic and financial policies and instruments related to drinking water supply, agriculture, industrial and other water uses;
- viii) Land and water conservation;
- ix) Integration of water and wetland biodiversity conservation imperatives within the national socio-economic development agenda;
- x) Invasive species that might have an impact on water or wetlands;
- xi) Delegation of certain regulatory or enforcement responsibilities to appropriate institutions at river basin level;
- xii) Application of Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), and Social Impact Assessment (SIA) tools for spatial planning and development initiatives which could impact on water resources and wetlands within river basins.

Cooperation and collaboration between sectors

- 72. Providing an enabling environment for collaboration, integration and joint planning between the water and wetlands sectors, and indeed with other sectors such as agriculture and land use, requires attention to the policy and regulatory contexts in all related sectors.
- 73. Conflicting policy objectives should be resolved and mechanisms provided in the policies and regulations of each sector to allow better integration of decision-making and operational procedures, whether through consultative or statutory processes.
- 74. Ideally, all the relevant sectors should coordinate their strategic planning at national level around sets of shared policy objectives. These shared policy objectives could include identification of specific river basins, sub-basins, or wetlands that are essential for meeting national biodiversity conservation targets, for sustaining rural livelihoods, or for urban water supply.
- 75. River basin organizations can be effective focal points for achieving both the necessary vertical integration from basin level down to site level and the horizontal integration between different agencies, land and water users, and interest sectors. However, significant institutional reform or restructuring is not a prerequisite for ensuring effective cross-sectoral cooperation at national level, since much can be achieved through less formal means such as the facilitation of cross-sectoral communication and agreement between different sectors on how overlapping responsibilities will be shared or assigned. It is essential that such agreements regarding cooperation and coordination are formalised within the national governance system, for example in joint White Papers or cross-sectoral Memoranda of Cooperation.

76. The following guidelines should be noted:

<p style="text-align: center;">Guidelines Box B: Guidelines for Contracting Parties relating to national policy and legislation for integrated river basin management</p>	
B1.	Review national policy and legislation in all key sectors to identify the key barriers at national level to integrated river basin management and promotion of integrated land and water use planning/management, and work to overcome those barriers.
B2.	Develop consultative processes at national and river basin level which involve the various sectors and institutions responsible for, at least, water management, environmental protection, agriculture, and forestry and forest management programmes.
B3.	Develop a comprehensive national water policy or national river basin management policy for integrating wetland conservation into river basin management to benefit management goals, such as water supply, flood management, pollution mitigation and the conservation of biological diversity. Ensure that this policy addresses the regulation of activities within river basins and the integration of wetland management into local policies and strategies/action plans, and that where appropriate, the policy addresses the need to avoid, minimize or compensate (for example, through conservation offsets) possible negative effects on wetlands of activities within river basins.
B4.	Incorporate wetland management issues into existing water or river basin management policies and also into National Wetland Policies and similar instruments (see Resolution VII.6 (also available in Ramsar Handbook 2, 3 rd edition) and Resolution VIII.1 (Ramsar Handbook 8, 3 rd edition)).
B5.	Review existing legislation and, as appropriate, develop new legislation to facilitate the implementation of key policy issues related to integrated river basin management, including introduction of economic incentives and disincentives and regulation of activities which may negatively affect water management. (See Resolution VII.7 on <i>Laws and Institutions</i> in Ramsar Handbook 3, 3 rd edition.)
B6.	Develop policy and legislation as needed to support the application of appropriate economic instruments and incentive measures (see Resolutions VII.15 and VIII.23), to promote water demand management, water conservation and more efficient and socially acceptable allocation of water resources.
B7.	Develop mechanisms to facilitate the transfer of resources from downstream beneficiaries to the protection and management of upper catchments and other critical areas.
B8.	Ensure that water allocations for wetland ecosystems are addressed in national water policy and legislation and in policy and regulation for Environmental Impact Assessments related to water resource developments. (See Resolution VIII.1 and Ramsar Handbook 8, 3 rd edition.)

- B9. Review national policy relating to protected areas in order to strengthen the options for protection of headwaters, upper catchments and critical wetland areas through their inclusion in protected area systems.
- B10. Review national policy relating to the needs of marine and coastal wetland ecosystems, particularly in relation to their freshwater requirements and the potential for inclusion in protected area systems, to ensure that these needs can be incorporated into river basin management where appropriate.

5.3 Institutional development

- 77. One of the key challenges in implementing integrated approaches to river basin management is the division of management responsibilities for one river basin between different administrative authorities, resulting in fragmented approaches to water resources planning and management. It is important to realise that water resource planning and management is a multidisciplinary, multi-sectoral process and it has therefore to be promoted as a collaborative framework among all the relevant agencies operating nationally and those involved within the river basin itself, as well as local communities. The development of institutions and administrative units in water resource management should preferably coincide with river basins' boundaries instead of political boundaries.
- 78. Realignment of administrative water resource management units to coincide with river basin boundaries in this way may require substantive changes to national policy in the water sector and also in the local government sector. It may be more useful to take an incremental approach at national level, which starts with enabling cooperative governance arrangements in order to improve alignment of administrative boundaries and responsibilities with river basin boundaries.
- 79. Initially, the relevant institutions and agencies can work out locally suitable arrangements for cooperation and coordination, with input from a consultative forum or fora composed of local stakeholders and interest groups. This may suffice until such time as national policy and legislation is in place to allow the formal constitution of river basin management agencies within each river basin.
- 80. A formal river basin management agency would ideally be a public sector institution with executive responsibilities for river basin planning and management, to which certain agreed powers and duties have been delegated, for example to allocate water within the basin or to enforce local water quality discharge standards.
- 81. Institutional development can be encouraged to progress gradually from consultative fora to fully functional river basin management agencies in a "bottom-up" way, or river basin management agencies can be established through a more "top-down" process initiated and supported from national level. In practice, countries have taken different approaches, depending upon their capacity for implementation and on the degree of political support for the development of river basin management institutions.
- 82. It is important for national policy and legislation to support flexibility in institutional arrangements at river basin level, to allow for variability in local conditions. Certain issues need to be considered in national policy and legislation in order to ensure that river basin

management institutions are designed and established in a way that reflects local needs, priorities, and biophysical and socio-economic situations, while also operating in a manner that is consistent with national policy, planning, regulatory and fiscal frameworks.

83. As noted in the previous section, establishing formal river basin management organizations is not a prerequisite for success, but the lack of some form of coordinating body can complicate the implementation of integrated land and water management at basin level.
84. Parties should work towards national policy and legislation that:
- recognizes the critical role of wetlands in water resources management and river basin management and the need to integrate the wise use of all wetlands into river basin management;
 - supports meaningful participation of local and national stakeholders in planning, decision-making and implementation at river basin level;
 - promotes and ensures equity amongst stakeholders in planning and decision-making related to access to land and water resources and associated ecosystem services;
 - describes the range of river basin management institutions that will be needed to support integrated river basin management and clarifies their roles, responsibilities and relationships with one another;
 - ensures that river basin management institutions will have the technical, infrastructural and human resource capacity to undertake the necessary technical work programmes to support integrated river basin management;
 - ensures that river basin management institutions will have the administrative capacity to discharge certain delegated powers and duties, including for example setting and enforcement of regulation, collection and management of revenues, fees and penalties associated with water management within the basin;
 - provides for accountability and adequate oversight of river basin management agencies in the execution of their duties and responsibilities;
 - provides for the establishment of an independent body to consider and adjudicate appeals in cases where stakeholders feel that agreed procedures have not been followed.
85. The following guidelines should be noted:

Guidelines Box C:
Guidelines for Contracting Parties for the establishment of river basin management institutions and strengthening of institutional capacity for integrated river basin management

- C1. Promote the establishment of appropriate mechanisms to bring together all major groups involved in river basin management such as government, municipalities, water regulatory bodies, academic institutions, industries, farmers, local communities, NGOs, etc., to participate in the management of river basins.
- C2. Review existing legislation and, as appropriate, develop new policy and legislation to facilitate the establishment of the necessary coordination and collaboration mechanisms

and river basin management institutions (See Resolution VII.7 on *Laws and Institutions* in Ramsar Handbook 3, 3rd edition).

- C3. Make multistakeholder river basin management institutions responsible for preparing river basin management plans.
- C4. Develop national policies and programmes to strengthen the capacity of river basin management institutions (see also Guidelines Box F related to implementation capacity and Guidelines Box D related to CEPA).

5.4 Communication, Education, Participation and Awareness (CEPA)

CEPA and participation in river basin management

- 86. The role of communication and awareness initiatives, at various levels from policy and technical through to the general public, cannot be overestimated. A free flow of information, appropriately packaged, greatly reduces resistance to change and helps people to see the benefits of working towards multiple social, environmental and economic objectives in a river basin.
- 87. An important element within the concept of integrated river basin management is that planning and management institutions work with and for the entire community of water users in a river basin, including wetland users and wildlife, as well as relevant stakeholders outside the river basin. In order to identify the needs and concerns of all water users, broad participation in the planning and management of water resources is an important goal.
- 88. This participation has “vertical” and “horizontal” aspects. Both need to be addressed in the preparatory and planning phases of integrated river basin management.
 - Vertical participation refers to the structured participation of representative stakeholder agencies, organizations, groups or individuals in river basin management activities at different levels, i.e. between the central river basin management institution at basin level and stakeholders “on the ground”, and between the central river basin management institution at basin level and national sectoral agencies, as well as international bodies in the case of shared river basins.
 - Horizontal participation refers to the structured participation of agencies, organizations, groups or individuals across all the relevant sectoral boundaries to develop shared objectives for river basin management. Horizontal participation could occur, for example, between the water, wetlands, agriculture, biodiversity and health sectors, whether the participation is at village level between individual citizens, at local government level between departments, at national level between ministries, or at international level between missions.
- 89. CEPA (Communication, Education, Participation and Awareness) is an essential underpinning aspect of effective participation in integrated river basin management by public sector institutions, interest groups, government and non-government organizations,

and local stakeholders. All Parties are expected to have national wetlands CEPA programmes in place, and these programmes should be reviewed to ensure that specific CEPA issues related to effective integrated river basin management are addressed.

90. In the preparatory phase, it is necessary to consider what national policy, programmes and possibly legislation might be needed to enable effective, broad-based and equitable participation in river basin management. Parties should ensure that both vertical and horizontal participation and collaboration are formally supported in the mandates, planning and decision-making processes and budgets of the various institutions responsible for or participating in integrated river basin management.

Vertical communication and participation: between institutions and local people

91. The importance of consultation and participation in river basin management and water resource planning is now widely recognized and accepted. A management shift has taken place with a greater role being provided for civil society. Recent experience has shown that effective collaboration between agencies and local people increases the chance of success in achieving and implementing effective river basin plans. Early consultations with the public can also help identify previously unknown uses and values of resources in the basin and help determine the relative importance of different values.
92. The understanding of what consultation and participation mean in practice differs however, and so does related terminology. In the context of IRBM, *stakeholder participation* is considered the most widely accepted and most inclusive term, as this can range from individuals and associations of individuals up to (public and private) sectors, governments and government institutions, to international organizations.
93. As Ramsar Handbook 5 on Participatory Skills says: “*Stakeholders* are taken to be bearers of separate interests and/or contributions for the management of a wetland, with a particular focus on *interest groups* within local and indigenous communities. By the same token, the government agencies responsible for wetland management and local authorities may also be considered as stakeholders.”
94. The Ramsar Handbook also provides the following guiding principles for stakeholder participation:
 - Incentives for local and indigenous people’s involvement and wise use are essential: everyone must benefit in the long term (refer to Section II, Chapter 2.1 of Ramsar Handbook 5, 3rd edition for more detailed information)
 - Trust among stakeholders is essential and must be developed (refer to Section II, Chapter 2.2)
 - Flexibility is required (refer to Section II, Chapter 2.3)
 - Knowledge exchange and capacity building are fundamental (refer to Section II, Chapter 2.4)
 - Continuity of resources and effort is important (refer to Section II, Chapter 2.5)

Horizontal communication and participation: across sectoral boundaries

95. In the past, there has been a general lack of awareness of the cross-sectoral nature of water problems and the need for a new development paradigm towards integrating the technical, economic, environmental, social and legal aspects of water management. Awareness has significantly improved recently, due in part to intensive communication and education efforts in the water and wetlands sectors at global, national and local levels. However, it is still challenging to work across sectoral boundaries, whether this is at international level in a shared river basin, at national level between the relevant policy sectors, or at river basin level between local sectoral stakeholder groups.
96. Cross-sectoral communication is particularly important for the water and wetlands sectors. Ramsar's water-related guidance, particularly on river basin management and water allocation and management (see Ramsar Handbooks 7 and 8 and the forthcoming Ramsar Technical Reports on environmental water requirements), is aimed at providing supporting material for the Ramsar implementing authorities in each Contracting Party to use in persuading or influencing the water sector to change the way they do, or have done, river basin management so as to better maintain and protect wetland ecosystem services.
97. Most wetland managers at site or country level, however, may not be fully familiar with such daily operational practices of river basin management, and they will have difficulty assisting the water managers to integrate the water requirements of wetland ecosystems into water resources planning and to implement these requirements in water management practices.
98. Frequently the two sectors fail to find common ground due, not to a mismatch in values or intentions, but rather to an inability to describe, quantify and communicate interests, objectives and operational requirements. In order to ensure understanding and foster collaboration and cooperation between sectors, wetland managers and water resource managers must find a common language in which to set shared objectives for water resources and wetlands.
99. Bridging this particular communication gap between sectors often requires specialist communication, education and public awareness efforts at technical and policy levels, in addition to ongoing CEPA initiatives aimed at general awareness amongst the public and broad stakeholder groups.
100. Wetland managers need sufficient understanding of the technical and operational aspects of water resources management to understand:
 - i) first, how to articulate and quantify the requirements of wetland ecosystems in the operational currencies of river basin management; and
 - ii) second, how to work with water managers to develop basin operating rules, including location of new water infrastructure and water offtakes, as well as flow regimes that represent the optimal allocation of water between multiple uses, including ecosystem maintenance.
101. Similarly, water managers, particularly those working at the river basin scale, require knowledge and quantitative understanding not only of the water resource functions and ecosystem services of wetlands, and how to deliver the water required to maintain these services, but also of the operational currencies in which ecosystem water requirements are

generally described. The Ramsar Technical Reports on environmental water requirements being prepared by the Scientific and Technical Review Panel (STRP) will provide more detail and examples of these issues.

102. The following guidelines should be noted:

Guidelines Box D:

Guidelines for Contracting Parties on national policy and programmes for Communication, Education, Participation and Awareness (CEPA) activities related to integrated river basin management

(Refer also to Resolutions VII.8 and VIII.31)

- D1. Promote the protection and restoration of wetland areas, and their biodiversity, within river basins.
- D2. Design and implement communication, education, participation, and awareness programmes on the importance of wetland conservation to support water resources management, consistent with the guidelines set out in the Convention's CEPA Programme 2009-2015 (Resolution X.8).
- D3. Provide training for water resources managers and wetland managers at all levels to understand and implement the concepts of integrated water resource management and integrated river basin management, including the importance of wetlands in river basin management.
- D4. Develop awareness campaigns to minimise activities that lead to the degradation of river systems, such as excessive and incorrect use of inappropriate pesticides and fertilisers, poor sanitation, drainage of wetlands, and clearance of forests in the river basin.
- D5. Identify, design and implement community-based demonstration projects and provide additional economic incentives to the local communities to encourage river basin management practices that integrate wetland conservation and wise use.
- D6. Document and promote sustainable wetland and river basin management practices developed through traditional knowledge and skills.
- D7. Promote appropriate communication, education, participation, and awareness programmes as effective tools for integrated management of river basins. (See Resolution X.8 on the Convention's CEPA Programme 2009-2015.)
- D8. Support capacity building of community-based organizations and NGOs to develop skills for participating in monitoring and management of resources within river basins.

Guidelines Box E:

Guidelines for Contracting Parties on national policy related to stakeholder participation in integrated river basin management

(Refer also to Resolution VIII.36: *Participatory Environmental Management as a tool for management and wise use of wetlands*)

- E1. Develop consultative processes which involve the various sectors and institutions responsible for water management, environmental protection, and agriculture (at least) in harmonization of their policies and national sectoral plans to address the conservation, utilization and management of water resources and wetlands.
- E2. Ensure that national water policy provides mechanisms to identify and involve stakeholders in planning and management of river basins and their wetlands, including review of land tenure arrangements where this might be necessary.
- E3. Develop appropriate national policies and programmes to support and facilitate: i) the active participation of stakeholders; ii) responses by river basin management institutions to the particular needs of stakeholders, and iii) sharing of authority and responsibility for resource management according to arrangements that are agreed by all parties.

5.5 Capacity for implementation of integrated river basin management

- 103. If river basin management agencies and wetland management institutions do not have sufficient capacity to undertake planning and implementation activities, there could be significant delays between the end of the planning phase and the start of the implementation phase at river basin level.
- 104. The longer such implementation is delayed after the planning has been substantially completed, the greater will be the risk of failure of a river basin management initiative, and the greater the dissatisfaction of people who have a stake in the implementation.
- 105. The following are aspects of overall capacity for implementation which should be considered in the preparatory phase at national level and in the planning phase at river basin level (Step 6 in Figure 1):
 - **Infrastructural capacity** includes the physical infrastructure such as pumps, pipes, dams, treatment works, gauging stations, monitoring equipment and networks, and other tools for managing land, water resources, and wetlands in river basins.
 - **Institutional capacity** includes not only the establishment of the necessary institutions, the granting of their mandates, powers and duties, and inter-institutional arrangements, but also the necessary administrative infrastructure such as buildings, communication networks, administrative procedures, and business processes.
 - **Competency** includes principally the human resources needed to implement integrated river basin management, as well as the integration of wetlands specifically into river basin management. Development of competency should address not only the skills, knowledge and attitudes of personnel but also longer term training and capacity building needs in the relevant education sectors. (Also see the relevant sections and guidelines related to CEPA.)

- **Information and knowledge capacity** includes information systems for collection and management of data collected through international, national and river basin monitoring networks; the use of this data to generate information for management purposes as well as for increasing general awareness; and the application of knowledge to develop, adapt and refine river basin management activities and the way in which wetlands are integrated into such activities.
 - **Financial capacity** for implementation is essential and underpins the preceding aspects of implementation capacity. Early consideration should be given to how river basin management activities, and the integration of wetlands into these activities, will be supported financially, and how the financial sustainability of river basin management institutions will be assured. Decisions on which mechanisms will be used to provide long-term financial support for activities and institutions, at both national and river basin levels, will significantly determine the design of river basin management institutions; their administrative, infrastructural and human resources capacity; the scope of their operations, powers and duties; and ultimately the state of wetlands, land and water resources in the river basins for which these institutions are responsible.
106. In planning for implementation, it is necessary to consider all the aspects of implementation capacity described in the preceding paragraph. Lack of these capacities, or weak capacity in one or more of these aspects, can pose severe constraints to wetland management, particularly in developing countries.
107. Public sector capacity can potentially be complemented by empowering local people to plan, manage and control the wetlands in their own landscape. This requires the building of awareness of wetland values and the roles of wetlands in the wider river basin, and also requires willingness on the part of local people to take responsibility for their wetlands and for the land and water use practices that can affect wetlands. Strong CEPA programmes, with extension support in the field, are essential for sustaining such local capacity. (Also see the relevant sections and guidelines related to CEPA).
108. The necessary enabling policy, legislation and financial mechanisms should be put in place at national level to support the development of capacity for implementation. These mechanisms should be agreed upon and established in good time, so as not to delay implementation at river basin level.
109. The following guidelines should be noted:

Guidelines Box F:

Guidelines for Contracting Parties for establishing adequate implementation capacity for integration of wetlands into river basin management

- F1. Develop supporting policy or initiatives to secure adequate financial resources for ensuring effective operation of organizations charged with planning and management of water resources, river basin management and wetland conservation and, as appropriate, seek resources from alternative sources and financial arrangements.

- F2. Recognizing that socio-economic development is often critically dependent on the protection of aquatic ecosystems, encourage different sectors (such as conservation, water, economic development) to collaborate in allocating or securing sufficient resources to implement policies and legislation for integrated water resources management and integrated river basin management.
- F3. Establish national policy and regulatory mechanisms so that where appropriate, river basin management institutions can raise or have access to the funds needed for integrated river basin management, or alternatively they can seek these resources from the development assistance community.
- F4. Assess the competency and human resources requirements for implementation of river basin management and wetland sectors, and ensure that appropriate training and capacity-building programmes and policies are established in order to meet these requirements in a timely manner.
- F5. Promote the inclusion of staff within river basin management institutions who have expertise in the ecological functions of wetlands.
- F6. Strengthen and maintain the capabilities of local institutions (universities, research institutions, and water management agencies) to undertake comprehensive water demand assessments which include ecological water demands, as well as to undertake other scientific and technical studies needed to support integration of wetland conservation and wise use into river basin management.

6. Integrating wetlands into river basin management: scientific and technical guidance at river basin level

110. This section provides descriptions and explanations of each of the major components of the Critical Path at river basin level (see Figures 1 and 2) and covers:

- the preparatory phase - Steps 1 and 2,
- the planning phase - Steps 3, 4, 5 and 6,
- the implementation phase - Steps 7a and 7b, and
- the review phase - Steps 8 and 9.

6.1 General sequencing in the preparatory and planning phases

- 111. The activities in Steps 1 (policy, regulatory and institutional contexts), 2 (CEPA and stakeholder participation process), 3 (inventory, assessment and technical studies), 4 (setting priorities) and 5 (setting objectives) are arranged in a general sequence of initiation. However, in practice most of these steps can be undertaken in parallel, as long as all are at an adequate level of completion prior to Step 6 (water and land use management plan for the basin).
- 112. An obstacle can arise if the activity of agreeing on, and setting priorities for, wetlands in a basin (Step 4) does not include all the relevant stakeholders, including water and land

users, as well as responsible agencies or authorities, in a legitimate decision-making process. Thus it is essential that policy, regulatory and institutional issues be resolved such that the relevant authorities can work together, and that a credible, inclusive stakeholder participation process can be established and sustained, with stakeholders having been helped to understand the relevant technical and strategic issues.

113. Inventories and specialist desk and field studies, covering ecological, hydrological, economic and social aspects (Step 3), can commence at an early stage in the process. It should be recognized, however, that the level of detail and resolution required in these studies will be influenced by the processes of determining priorities and quantitative objectives in Steps 4 and 5, which in turn will require a certain degree of numerical confidence, depending on the sensitivity and importance of the wetlands and the associated water resources. If the priorities that are set for wetlands in a basin are not practical or feasible, for example in terms of the amount of water that must be released from a dam, then this will probably lead to failure to recognize the wetland objectives and hence failure to implement them. Hence there may be some iteration required between Steps 3, 4 and 5.
114. If some or all of Steps 1 to 5 have not been addressed sufficiently before commencing the development of a management plan for the basin in Step 6, then it is likely that wetland requirements, particularly for water quantity and water quality, will not be recognized adequately. This could prove an obstacle to implementation of wetland management plans at site level.
115. This obstacle can be overcome by returning to undertake Steps 1 to 5 and then coming back to Step 6. However, this does not necessarily mean stopping the whole planning process in order to fill in the missing steps: rather, the missing steps can be addressed by desktop or rapid field study, on the understanding that the necessary detail can and will be provided in the next iteration of the Critical Path cycle.

6.2 Preparatory phase at river basin level

Step 1a: Establishing supporting policy, legislation and regulation at river basin level

What is this step and why is it important?

116. The purpose of this step is to ensure that any policies, legislation and regulation that may be relevant at river basin level, such as those administered by local governments, are aligned in such a way as to support integration of wetlands into river basin management and the collaborative management that is required for successful implementation.
117. As is true for the national preparatory phase, complete revision of all local policy and regulation related to wetlands, land use and water resources is not necessary in order to initiate planning for integrated river basin management. However, there should be adequate supporting policy and regulation to ensure that all elements of the agreed river basin management plan can be implemented once the planning phase has been completed.
118. As a minimum, an initial desktop review should be conducted of all the relevant overlapping policy and regulation that is operative in the river basin, ranging from national

to local, including customary practices at community level if relevant, and any relevant international agreements in a shared river basin. The review should also include existing spatial planning policies, land use plans and water resource management plans for parts of the basin or the entire basin.

119. Inconsistent or conflicting policy and regulatory elements should be identified, so that these can be revised in time to ensure a smooth later transition from the planning phase to the implementation phase. As the planning phase progresses, and especially in Steps 4, 5 and 6, the emerging elements of the integrated river basin management plan should be checked once more against the review of local policy and regulation in order to ascertain whether any additional revision of local policy, regulation and planning procedures may be needed to support implementation of the proposed river basin plan.

How does this step relate to others in the Critical Path?

120. Step 1 at river basin level can proceed before the national preparatory phase has begun, or the two may be undertaken in parallel. However, at least some attention to the national policy and legislative environment is likely to be necessary, to ensure that all the necessary aspects of a river basin management plan can be implemented and that suitable institutional arrangements (including funding) can be established at river basin level to support such implementation.

Who is involved in this step?

121. This step may be initiated by a national government agency, if the river basin management process is being led by a national policy initiative or if a river basin management agency has not yet been established.
122. Alternatively, this step is sometimes initiated by a responsible agency at river basin level, such as a local government concerned about the management of the river basin or a wetland management agency or organization concerned about the management of a specific wetland or wetlands in the river basin.
123. In some cases, this step may be initiated by a non-government organization, a community organization, a particular interest group or a research group, possibly with external donor support. However, more formal revisions to legislative, regulatory, planning or administrative procedures will require the participation and commitment of the responsible local and national government agencies.

Additional information and guidance related to this step

124. Refer to Handbooks 2, 3 and 7 (3rd edition, 2007) for further detailed guidance, and see also Resolution VIII.23, *Incentive measures as tools for achieving the wise use of wetlands*.
125. The following guidelines should be noted:

Guidelines Box G:
Guidelines for Contracting Parties on establishing supporting policy, legislation and regulation at river basin level

Parties should also refer to guidelines in Box B for national policy and legislation.

- G1. Review all relevant sectoral plans, policies and regulations that are in effect at local and river basin level, including local customary practices and laws, and review land tenure arrangements where this might be necessary, in order to identify the key barriers to integrated river basin management and promotion of integrated land and water use planning/management, and work to overcome those barriers. (See also Guideline B1.)
- G2. Develop consultative processes which involve the various sectors and institutions within the river basin who are responsible for water management, environmental protection, agriculture, and land use. (See also Guideline B2.)
- G3. Incorporate wetland management issues into existing management plans, policies and regulations relevant to the river basin, and also incorporate water resource management issues into management plans and policies for wetlands in the river basin. (See also Guideline B4.)
- G4. Within an appropriate national policy framework, develop and implement locally applicable incentive measures to promote water conservation and more efficient and socially acceptable allocation of water resources within the river basin. (See also Guideline B6.)
- G5. Within an appropriate national policy framework, develop and implement mechanisms to facilitate the transfer of resources from downstream beneficiaries to the protection and management of upper catchments and other critical areas. (See also Guideline B7.)
- G6. Ensure that water allocations for wetland ecosystems are addressed in water resources plans and water allocation schedules for the river basin. (See also Guideline B8.)
- G7. Ensure that the needs of marine and coastal wetland ecosystems, particularly in relation to their freshwater requirements, are addressed in river basin management plans and water allocation schedules where appropriate. (See also Guideline B10.)

Step 1b: Establishing appropriate institutional arrangements at river basin level

What is this step and why is it important?

- 126. The purpose of this step is to ensure that appropriate institutional capacity is established within the basin to plan for and implement integrated river basin management, whether through the formation of an entirely new organization or through a collaborative arrangement between existing organizations and groups with overlapping responsibilities and interests.
- 127. New institutional arrangements, at international, national or local levels, are sometimes politically difficult to implement from scratch, and it is necessary and generally better to begin working with the existing range of responsible and interested institutions. Memoranda of cooperation, or cooperative policy, can be used to formalize relationships

when necessary. As relationships and understanding grow, the structure and function of new institutions, which would be more effective for implementing integrated river basin management, should become clear. Subsequent institutional reform and restructuring will then have more support.

128. Since every river basin is different in its socio-economic, biophysical and governance aspects, there is no single “right” institutional arrangement for river basin management. Ideally, there should be a consistent national framework and policy for establishment, oversight and operation of river basin management institutions at river basin level, but local flexibility should be encouraged.

How does this step relate to others in the Critical Path?

129. Much of the planning phase in the Critical Path can be undertaken without a river basin management agency necessarily being in place, since collaborative agreements, memoranda of cooperation and other cooperative processes can suffice. However, before the implementation phase (Step 7b) commences, a suitable institution or group of collaborating institutions should preferably be in place at river basin level, with delegated authority where appropriate, and with the necessary resources (including human resources, infrastructure, and funding) having been secured, to ensure the viability and sustainability of these institutions.

Who is involved in this step?

130. Experiences from the case studies (see Ramsar Technical Report 12) indicate that a common strategy when initiating this step is for an independent agent to act as a facilitator amongst all the relevant institutions at basin and local levels, to assist them in communication and collaboration across sectoral boundaries. Typically, an independent agent might be a contracted consultant, a non-governmental organization representative, a donor agency staff person or consultant, or a civil society or community organization representative. Using an independent agent can be a very effective approach for getting all the responsible organizations and groups together and beginning to work collaboratively.
131. However, in many cases, independent facilitation in the early stage of Step 1b is supported by time-limited grant funding through the national government, an external donor, or a community-based group. While this provides significant flexibility and efficiency, it can also leave implementation very vulnerable if the river basin management plan has not been taken up formally into the policy mandates and business cycles of the existing responsible institutions, or if suitable public sector institutional capacity has not been firmly established, once the grant funding ceases.

Additional information and guidance related to this step

132. Refer to Handbooks 2, 3, 5 and 7 for further detailed guidance.
133. The following guidelines should be noted:

**Guidelines Box H:
Guidelines for Contracting Parties on establishing appropriate institutional
arrangements at river basin level**

Parties should also refer to guidelines in Box C related to national policy and programmes for establishment of river basin management institutions.

- H1. Establish appropriate mechanisms to bring together all major relevant groups, such as government, municipalities, water regulatory bodies, academic institutions, industries, farmers, local communities, NGOs, etc., to participate in the management of the river basin. (See also Guideline C4.)
- H2. Develop and implement programmes to strengthen the capacity of river basin management institutions (see also Guidelines Box F related to implementation capacity; Guidelines Boxes D and I related to CEPA).

***Step 2: Developing Communication, Education, participation and Awareness (CEPA)
programmes and stakeholder participation processes at river basin level***

What is this step and why is it important?

- 134. The purpose of this step is to design, plan and initiate a broad programme of stakeholder participation at river basin level, supported by a range of targeted as well as ongoing CEPA activities and products. The objectives of such a programme would be:
 - to ensure that stakeholder interests, particularly those related to wetlands and wetland services, are identified and addressed in river basin management policy, planning, decision-making, implementation, monitoring and review; and
 - to promote, facilitate and support the meaningful participation of stakeholders in all aspects of river basin management.

How does this step relate to others in the Critical Path?

- 135. Although, for convenience, this is noted as a single discrete step in Figure 1, in fact the participation of interested, affected and accountable stakeholders is a process that should continue throughout the cycle of the Critical Path.
- 136. At different steps, different stakeholders may need to be involved, and the process may take various forms from awareness-raising through participatory appraisal, consultation, participation and formal negotiation. For example, in Steps 1a and 1b, the principal stakeholders may be the relevant government and regulatory agencies, perhaps also including concerned non-governmental and community groups. In Step 4, individual water users and landowners may be involved, along with sectoral agencies and conservation groups, in negotiation and consensus-seeking processes.
- 137. Participation is included in Step 2 because the participatory process should be designed early in the cycle and properly resourced. Training, as well as the preparation of information and learning materials, may be needed well ahead of the key planning step of

setting priorities (Step 4). In addition, it is important to allow enough time to identify all the relevant stakeholders, well before key implementation decisions are taken.

138. Ensuring that stakeholders can participate fully in river basin management is particularly important when the protection and wise use of wetlands, land and water resources in the basin depend upon the commitment and willingness of those stakeholders to implement agreed actions within the river basin management plan, such as maintenance of riparian vegetation, compliance with limits on resource utilisation, compliance with water quality standards, or implementation of agreed management practices.

Who is involved in this step?

139. This step can be undertaken or initiated by an independent facilitator or expert group supported by external or grant funding. However, partly to ensure long-term stability of the process, and partly to ensure its legitimacy and representivity, it is preferable for the lead agent to be a public sector institution or organization responsible for river basin management. This does not necessarily require a river basin management agency to have been established prior to initiating the CEPA step, but there should at least be collaborative institutional arrangements in place at river basin level, in order to provide a legitimate framework and official support for stakeholder participation.

Additional information and guidance related to this step

140. Refer to Ramsar Handbooks 4, 5, and 7 (3rd edition) for further detailed guidance.
141. The following guidelines should be noted:

<p style="text-align: center;">Guidelines Box I: Guidelines for Contracting Parties on CEPA programmes and stakeholder participation processes at river basin level</p>

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| <ol style="list-style-type: none">I1. Apply the Guidelines in Box D relating to CEPA programmes, incorporating wetlands, water resources and land use information specific to the river basin, in order to develop tailored CEPA materials, campaigns, programmes, and training initiatives.I2. Apply the Guidelines in Box E relating to sectoral cooperation and stakeholder participation in river basin management, ensuring that i) consultative processes are suited to the local socio-economic conditions in the river basin and that ii) the participation of stakeholders is supported where necessary by appropriate funding, capacity building, consensus-building, and conflict resolution mechanisms. |
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6.3 Planning phase at river basin level

Step 3: Undertaking wetland-related inventories and assessments to support river basin planning

What is this step and why is it important?

142. This step involves the collation, collection and preparation of appropriate information related to the biophysical, ecological and socio-economic aspects of the river basin. The purpose of this step is to provide a sufficient basis for agreeing on priorities (Step 4) and management objectives for the river basin (Step 5), particularly those objectives related to wetlands and wetland ecosystems within the basin.
143. This step has three components that are specifically wetland-related:
- i) Step 3a: Inventory of wetlands, including wetland-related services in the river basin;
 - ii) Step 3b: Assessment of the functions and values of wetlands and wetland-related services in the river basin, including assessment of the hydrological and water resource functions of wetlands, the ecological functions of wetlands within the broader ecoregion, and the socio-economic functions and values of wetlands (such as those related to human health, food and water security, livelihood and poverty reduction, adaptation to climate change, and cultural practices);
 - iii) Step 3c: Assessment of current status and trends in the wetlands and wetland-related services, as well as the degree to which the wetlands are potentially fulfilling their identified functions.
144. Wetlands can be managed in ways that deliver not only a range of water resource management objectives, such as maintaining the reliability and quality of water supplies, recharging groundwater supplies, reducing erosion, and protecting people from floods, but also a range of services considered valuable in other sectors, such as health, agriculture, tourism and fisheries.
145. It is important to have good information on where the wetlands are in the river basin, what their functions are, what services they provide, and what the values are of those services and functions to people in the basin and outside the basin. Having this information available makes it possible to assess the role that wetlands could play in the management of water resources within the basin, as well as in other related sectors.
146. Numerous studies throughout the world have shown that it is almost always more cost-effective to maintain natural wetlands than to drain or convert the wetlands to other (often marginal) uses and then try to provide the same services through structural control measures such as dams, embankments, water treatment facilities, etc. In many cases it has also been found cost-effective to restore or even create wetlands to provide these services and functions rather than to create expensive engineering structures.
147. There are various methodologies in use for systematically addressing the roles and values of wetlands in spatial planning, land use management, and river basin management. Parties can review these for suitability in the case of each river basin, depending on the local situation in terms of complexity of land use, size of the basin, data availability, and technical capacity within the institutions responsible for the planning phase.

How does this step relate to others in the Critical Path?

148. This is a step that can be initiated relatively early, and it can run in parallel with the preparatory phase (policy and institutional development as well as initiation of participation and consultation processes). The scope of work and the level of technical detail required for these studies is partly influenced by priority-setting in Step 4 -- while rapid assessment techniques are often appropriate to determine the relative importance and functions of wetlands within a river basin, it may be necessary to return to Step 3 to undertake more detailed or intensive field studies on specific wetland ecosystems that are considered priorities within the river basin due to their importance or sensitivity. Nevertheless, Step 3 can begin with desktop studies if necessary, later progressing to much more detailed field work, according to a fieldwork and measurement programme that is informed by planning priorities.
149. An important component of the technical studies in Step 3 is to consider the water quantity and quality requirements of wetland ecosystems within the river basin, since this information will be needed in Step 4 for setting relative priorities within the basin, particularly for water resources planning purposes. Initial estimates and assessments of Environmental Water Requirements should be undertaken in Step 3 if this information is not yet available. Later, more intensive studies and detailed field work may be required in order to refine these assessments for conversion to formal water allocations in Step 5.
150. There is an important point of synchronisation and integration with broader water sector planning and management cycles at this point in the cycle (see Figure 2). Ideally, the wetlands-related inventory and assessment steps should be undertaken at the same time as a broader water resources situation assessment and hydrological yield analysis or yield estimation for the river basin. This provides opportunities for information about the water quantity and quality requirements of wetlands, as well as the water resources functions and values of wetlands, to be fully integrated into water resources planning studies and the preparation of water use and water demand scenarios. These scenarios will then reflect more accurately the true costs and benefits of various water management options, particularly in relation to water allocations for maintaining wetland ecosystems and their associated ecosystem services.
151. Specialised and highly targeted CEPA processes and products may be required, in order to bridge any technical gaps between the two sectors at this point (see discussion on communication between the water and wetlands sectors). For example, there may be a need to ensure that spatial, hydrological and geographic data are easily transferable and that the scale and resolution of information from both sectors are compatible.
152. In Step 3, Parties should consider initiating a Strategic Environmental Assessment (SEA) process for the river basin. If SEA is initiated early in Step 3, then the information requirements of the SEA process can be addressed when developing the scope and terms of reference for the technical studies that are part of Steps 3a, 3b and 3c. The SEA process can complement and support the river basin planning process by providing a basis for decisions regarding priorities and objectives for the basin. SEA can also help to provide a planning baseline against which to evaluate project-specific Environmental Impact Assessments (EIA) and Cost-Benefit Analyses (CBA) in the implementation phase (Steps 7a and 7b). Guidance on EIA and SEA can be found in Ramsar Handbook 13 (3rd edition).

Who is involved in this step?

153. This step is primarily a technical task and should involve suitably qualified scientific and technical specialists in the gathering and preparation of the information. However, it is important also to involve stakeholders in this step in order to ensure that as much local knowledge as possible is made available, whether that knowledge is traditional or from other scientific studies. Involvement of local universities, research organizations, and technical personnel from local government departments will enhance the breadth and value of information collected, and it will help to ensure credibility as well as providing opportunities to build capacity for future collaboration in the implementation phase.

Additional information and guidance related to this step

154. For more information on inventory and assessment of wetlands, refer to Ramsar Handbooks (3rd edition) 11 (*Inventory, assessment and monitoring*); 12 (*Wetland inventory*); and 10 (*Coastal management*).
155. For more information on understanding and quantifying groundwater-wetlands interactions, see Ramsar Handbook 9, 3rd edition (*Managing groundwater*).
156. For more information on valuation of wetlands and their associated services, see Ramsar Technical Report no. 3 (*Valuing wetlands*).
157. For more information on determination of environmental water requirements, see Ramsar Handbook 8, 3rd edition (*Water allocation and management*), Ramsar Technical Reports no. 8 (*Determination and implementation of environment water requirements*); no. 9 (*Determination of environmental water requirements for estuaries, coastal and nearshore wetlands*); and no. 10 (*Determination of environmental water requirements for rivers*); and Resolution VIII.2 (*Recommendations of the World Commission on Dams*).
158. For more information on Strategic Environmental Assessment (SEA), see Ramsar Handbook 13 (*Impact assessment*) and Resolution X.17 on EIA and SEA.
159. The following guidelines should be noted:

Guidelines Box J:

Guidelines for Contracting Parties relating to inventory, assessment and enhancement of the role of wetlands in river basin management

- J1. Review information on functional and biodiversity assessment methodologies and the ways in which these can be applied to improve integration of wetlands into river basin management; adapt these to local situations.
- J2. Undertake studies to identify the ecosystem services and the functions and benefits to water management that are provided by the wetlands within each river basin, ensuring that such studies address interactions between groundwater and wetlands as well as environmental water requirements of wetland ecosystems.

- J3. Based on the findings of inventory and assessment of wetlands, protect urgently through appropriate actions the remaining wetland areas that contribute to water resource management. (See also Guideline B9 relating to protected areas.)
- J4. Consider the rehabilitation or restoration of degraded wetlands, or the creation of additional constructed wetlands within river basins, to provide services related to water management (refer to Resolutions VII.17 and VIII.16).
- J5. Ensure adequate consideration in river basin management programmes of non-structural flood control methods that take advantage of the natural functions of wetlands (for example, restoring floodplain wetlands or creating flood corridors) to supplement or replace existing flood control infrastructure.

Assessment of current and future supply and demand for water

- 160. An essential component of decision-making in river basin management is knowledge of both current and future supply of and demand upon water resources in a river basin, taking into consideration the possible impacts of climate change. Current and future assessments of the resource need to focus on the human uses of water (such as irrigation, hydro-electricity, and domestic or industrial water supply) as well as the water required to sustain wetland ecosystems within different parts of a river basin. Water demands and environmental water requirements should be defined in terms of water quantity as well as water quality.
- 161. Environmental water requirements can be more complex to quantify than human demands, and consequently they have often been ignored or underestimated in projected water demands. Ignoring environmental water requirements may lead to major environmental, economic and social problems associated with loss of ecosystem services, such as collapse of fisheries or downstream saline intrusion. It is also important to recognize that the greatest damage to the environment may occur during extreme events rather than from the average situation.
- 162. Socio-economic systems are constantly changing, and therefore it is often necessary to develop a range of future demand scenarios and to develop flexible sustainable use strategies that can be adapted to a range of circumstances. Linked to the assessment of water demands is the identification and resolution of the significant water-related problems arising from the demand patterns identified in the scenarios. These problems should not be restricted to issues related to human activities but should also include ecological problems such as adaptation to reduced water supply or quality within certain ecosystems.
- 163. Water demand, in excess of the water required to meet basic human needs for drinking, cooking and personal hygiene, can be significantly influenced by incentives for sustainable water and wetland use. Provision of incentives for practising environmentally sustainable water use can help to minimise the impacts on wetland areas. Such incentives should recognize the importance and value of other ecosystem services supplied by wetlands, services that might be lost or reduced as a result of abstracting water to meet demands for water supply or allowing waste discharges in order to meet demands for waste disposal options.

164. Water demand management policies should encourage the optimization of water use, while also recognizing the significant public health-related value of access to safe, reliable water. Within a sectoral policy context, incentives for sustainable use of water resources need to be provided. Equally, environmentally unsound or inequitable incentives that are encouraging unsustainable practices need to be identified and removed. (Refer to Resolution VII.15 and Resolution VIII.23.)
165. The following guidelines should be noted:

Guidelines Box K:
Guidelines for Contracting Parties relating to the identification of current and future supply and demand for water

- K1. Undertake assessments of current and potential future water supply and demand for water resources within the river basin to meet both ecological and human requirements and identify areas of potential shortage or conflict.
- K2. Undertake assessments to establish the economic and social costs that are likely to result if the ecological water demands are not met. (See also Handbook 8 (*Water allocation and management*); Resolution VIII.1 and Resolutions VIII.2.)
- K3. Based on the above assessments, develop mechanisms to solve problems and conflicts over water quantity and quality at both national and river basin levels within the country. (See also Guidelines E1 and I2.)
- K4. Within an appropriate national policy framework, develop appropriate water demand management strategies to assist in sustaining the ecological functions and values of water resources and wetlands in the river basin. (See also Guideline B6.)
- K5. Review relevant incentive/perverse incentive measures and consider removing those measures that lead to destruction/degradation of wetlands in the river basin; introduce or enhance measures that will encourage restoration and wise use of wetlands. (Refer to Resolutions VII.15, VII.17, VIII.16 and VIII.23.)

Step 4: Setting agreed priorities for wetlands in the basin

What is this step and why is it important?

166. This step involves consideration of all the wetlands and wetland ecosystems in the river basin, including their interconnections with each other and with water and land resources in the basin. This should be a broadly consultative process, based on the information gathered during Step 3 on biophysical, ecological and socio-economic processes and priorities in the basin, to identify the relative importance of the range of ecosystem services currently or potentially provided by all the wetlands in the river basin. Such consultation may need to extend to international level, particularly in the cases of river basins or where particular wetland ecosystems in the river basin are important for regional or global

conservation purposes (such as wetlands on international flyways or wetlands on the Ramsar List).

167. Some wetlands might be afforded a higher protection status than others, due to their importance in conservation, hydrological, economic, social or cultural terms, their sensitivity, or the dependence of local populations upon their services. The protection status of a wetland is likely to influence the development of water and land use objectives not only in the immediate surrounding area of the wetland, but possibly also in the broader river basin. Hence, it is necessary to take a strategic view of the whole river basin and the wetlands within the basin in order to reconcile and integrate sectoral needs and demands with the needs for protection and management of the basin's wetlands.
168. The protection and restoration of wetlands is an important element of strategic planning within each river basin, not only because the wetlands provide services that can assist with water management, but also because wetlands are critical ecosystems that deserve protection and restoration in their own right. (Refer also to Resolutions VII.17 and VIII.16.)
169. Many wetland-dependent species require management in the river basin context to ensure their survival. In most countries, the protection of habitats and wildlife is conducted according to administrative boundaries and not river basin boundaries. This can lead to protection measures for one site or species being nullified by activities elsewhere in the river basin which, for example, block migration of the fish species or water flow to the wetland site. The restoration of degraded wetlands is one of the most important possibilities for reversing the trend of declining biological diversity within river basins.
170. The List of designated Ramsar sites provides a tool for recognizing and agreeing on wetlands of international importance, which in turn will convey a high protection status in the river basin management plan, but similar tools are needed to recognize wetlands of regional, national or local importance, or those of hydrological importance within a basin. Note also that not all wetlands which qualify as internationally important have as yet been designated by Contracting Parties, and the importance of any such sites not yet designated should also be taken into account.
171. Several planning approaches and frameworks have been developed and applied in structured planning processes that facilitate the integration of wetland services, functions and values into river basin management. Parties are encouraged to review those that are available and assess their suitability for local situations and different river basins.

How does this step relate to others in the Critical Path?

172. Step 4 is an essential precursor to Step 5. Outcomes of Step 4 should provide information on relative priorities, qualitative management objectives, and management strategies for wetlands in the river basin. This information should reflect a multisectoral, multi-stakeholder agreement on how the river basin and its resources will be managed to meet, in a sustainable manner, sectoral needs and demands. The qualitative objectives developed in Step 4 form the basis for derivation of quantitative and detailed river basin management objectives in Step 5.

173. The relative priorities for protection and restoration of wetlands in the river basin should also inform the prioritisation of implementation actions later in the implementation phase (Steps 7a and 7b). Ensuring that activities in Step 4 are formalized, participatory and well-informed will greatly assist in prioritizing implementation actions later, including the use of financial resources as well as the allocation of water.

Who is involved in this step?

174. In order to facilitate the achievement of consensus on the river basin management plan in Step 6, it is important that this step 4 includes all stakeholders and that it is well structured and formalized, with appropriate records of decisions on the relative priorities of all wetlands in the river basin.
175. The following guidelines should be noted:

**Guidelines Box L:
Guidelines for Contracting Parties for prioritizing the protection and restoration of
wetlands and their biodiversity**

- L1. Assess the status of wetlands and their biodiversity in each river basin and, where indicated, undertake the actions needed to provide better protection measures, taking into account the importance and value of the ecosystem services provided by these wetlands as well as the need for protecting wetlands whose functions and services are important for water resources management. (See also Guidelines B9 and J3.)
- L2. In assessing the status of wetlands in each river basin, consider the inclusion of key sites in the List of Wetlands of International Importance (Ramsar List).
- L3. Ensure that management plans for Ramsar sites and other wetlands are prepared taking into consideration the potential off-site impacts from within the river basin, as well as the site-specific issues. (Refer to Resolution 5.7, Ramsar COP5.)
- L4. Review and, where necessary, adjust regulations and procedures for conservation of wetland-related biodiversity, especially for fish and other aquatic species, to protect rare species and prevent over-exploitation of more common species.

Step 5: Setting quantitative management objectives for wetlands in the basin

What is this step and why is it important?

176. In this Step 5, the priorities agreed for wetlands in the preceding Step 4 should be translated into practical, measurable, implementable and enforceable management objectives for wetlands in the river basin. The wetland objectives should address all of the aspects necessary for protection, management and wise use of wetlands in the river basin, including water quantity and quality, land use, habitat protection, resource utilisation and exploitation, restoration, and biodiversity conservation.

177. The wetland objectives arising from Step 5 should then be integrated into the broader river basin management plan (Step 6) through the development of specific targets, timelines, action plans and operating rules for the river basin that can give effect to the wetlands objectives.
178. In setting quantitative management objectives for wetlands in the river basin, it is particularly important to maintain the natural characteristics (water quantity and water quality) of water regimes as far as possible. Wetland ecosystems depend on the maintenance of the natural water regimes such as flows, quantity and quality, temperature, and timing to maintain their biodiversity, functions and values. The construction of structures that prevent the flow of water, and of channels that carry water out of the floodplain faster than would occur naturally, result in the degradation of natural wetlands and eventual loss of the services they provide. In this respect, Parties should note Resolution VIII.1, *Guidelines for the allocation and management of water for maintaining the ecological function of wetlands*.

How does this step relate to others in the Critical Path?

179. The quantitative management objectives provide the baseline against which to assess environmental impacts of current and future land and water developments (in implementation Step 7). These objectives also need to be integrated into the business planning of the responsible land, water and wetlands management agencies, as well as into any community or customary use agreements and into other sectoral policies.

Who is involved in this step?

180. This is primarily a scientific task, but it requires the participation of responsible agencies as well as affected stakeholders.

Additional information and guidance related to this step

181. Refer to Ramsar Handbooks 7, 8 and 16, and Ramsar Technical Report no. 8 (in prep.), *Determination and implementation of environment water requirements*, for further detailed guidance. See also Handbook 8 (*Water allocation and management*) and Resolution VIII.2.
182. The following guidelines should be noted:

<p style="text-align: center;">Guidelines Box M: Guidelines for Contracting Parties relating to the maintenance of natural water regimes to maintain wetlands</p>
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| <p>M1. Undertake studies to determine appropriate flow regimes for meeting the environmental water requirements of wetland ecosystems in the river basin, including water quantity and water quality, considering minimum flows, taking into account natural seasonal and inter-annual variability and allowing for an adaptive approach to implementation and refinement of these flow regimes.</p> |
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- M2. With this information, establish the optimum flow allocations and regimes in the river basin to maintain key wetlands and other key ecological services and functions of river basins.
- M3. In situations where available information on biological parameters and physical habitat is inadequate for a definitive determination of the environmental water requirements of wetlands, use the precautionary principle to maintain the natural situation as closely as possible.
- M4. Develop sustainable water allocation plans for the various resource users within the river basin, including allocating water to maintain wetlands.
- M5. Regulate and monitor the impacts of land use in the river basin (agriculture, urban development, forestry, mining) and major infrastructure developments (levees, embankments, roadways, weirs, small dams and cuttings) undertaken within river and flood corridors and near wetlands.

Step 6: Preparing an integrated land and water management plan for the basin

What is this step and why is it important?

183. This step involves the development of an integrated plan for management of wetlands, land and water resources in the river basin, according to the priorities and needs agreed upon in Steps 4 and 5. Whether this is an initial concept plan (based on desktop studies and containing limited detail) or a comprehensive operational plan for land, water and wetland management in the basin, ideally there should be a formal plan, signed off by all the responsible sectoral agencies, and with one institution formally accepting the lead role in implementation.
184. There is no single best way to set out such an integrated plan, and each country or basin should consider what format and structure would be most appropriate for its own situation. If a statutory river basin management institution has been established, and has been given the responsibility for preparation of the river basin management plan, then that institution may prepare a single plan that addresses the roles and responsibilities of all the relevant sectors. Alternatively, each sector might prepare a plan for its own activities and responsibilities, but these sectoral plans should be coordinated at river basin level.
185. A river basin management plan, whether simple or detailed, should include certain elements in order to facilitate later implementation:
- The plan should clearly set out targets, timelines, action plans, operating rules and responsibilities, based on the outcomes of Steps 4 and 5.
 - The plan should include an appropriate monitoring and reporting programme for the basin that is designed to deliver information related to the actual management objectives that have been agreed upon for the river basin.
 - The plan should provide specific information on how the responsible institutions and agencies will respond to information arising from the monitoring and reporting programme.

- The plan should indicate how resources and funding will be made available to support ongoing river basin management activities, both for institutional coordinating functions as well as for on-the-ground implementation such as habitat restoration projects.
 - There should be a clear statement regarding the process of review of the plan: how often the overall basin plan will be reviewed and the processes to be followed for review and revision when revision is indicated.
186. The river basin plan should include a plan and programme for implementation. This is particularly important, to avoid subsequent delays between the planning and implementation phases. See also the section 5.1 above on the preparatory phase at national level.
187. Many technically sound river basin management initiatives do not get beyond the planning stage into implementation. While it is recognized that some of the obstacles to implementation are political, and some are technical, a significant factor in promoting successful transition from planning to implementation is to have a practical implementation programme in place before the end of the planning phase. This implementation programme should be realistic and designed to be feasible within the constraints of the human resource capacity, technical capacity, and financial capacity of the river basin management institutions at national and river basin levels.
188. The implementation programme should take account of possible needs for phased implementation, especially in basins that are very large, or where institutional capacity is limited, or where significant problems must be addressed that are associated with long-term degradation of wetlands, land and water resources. Implementation could be phased geographically, i.e., at different times in different sub-basins, or it could be phased sectorally, i.e., addressing certain sectoral priorities before others, depending on the priorities agreed in Step 4.

How does this step relate to others in the Critical path?

189. This is a step at which it is essential that the different sectoral planning and management processes are synchronized and integrated, or at least coordinated. This is another key step at which specialist CEPA programmes and products may be needed, to support cross-sectoral communication, collaborative planning, and harmonization of sectoral objectives.

Who is involved in this step?

190. This step should be led by the river basin management institution who has the mandate for preparation of the integrated river basin management plan. While technical specialists may be needed to assist in drawing up the plan, the responsible institution should “own” the plan and should coordinate with the other sectoral agencies and institutions that will give effect to the integrated plan through their own sectoral implementation programmes.

Additional information and guidance related to this step

191. Refer to Ramsar Handbooks 1, 7, 10, 12, and 16, 3rd edition, for further detailed guidance. See also Guidelines Box F above.

Planning for implementation: assessing and minimising the impacts of land use and water development projects on wetlands and their biodiversity

192. The impacts of existing land use and water development projects on river systems and wetlands in a river basin need to be monitored and controlled through the coordination and integration of regulations and guidelines on forestry, agriculture, mining and extraction, urban development and water management, and water use. In many cases the implementation of such regulations and guidelines may lead to advantages for the land and water users themselves -- through improved economic efficiency, enhanced production, and better health and quality of life.
193. It is necessary to ensure that appropriate enforcement and compliance mechanisms are in place and are being effectively implemented in support of the integrated river basin management plan.
194. Proposed new land use and water development projects should be considered against the integrated management objectives for the river basin, to ensure that the agreed river basin management objectives are not compromised by the impacts of new projects and developments. In a number of cases it has been found that the social and economic losses as a result of degradation of wetlands due to land use and water development projects have been significantly greater than the benefits gained from the projects themselves.
195. A range of assessment techniques is available to identify social and environmental costs of land use and water development projects and activities. These include Environmental Impact Assessment (EIA), Social Impact Assessment (SIA), Cost Benefit Analysis (CBA), and Participatory Rural Appraisal (PRA). It is important that the relevant assessment techniques be applied within a regulatory or formal context and in broadly consultative processes involving all stakeholders. The assessments should provide all the information necessary for approval or refusal of a project, including the information needed to determine appropriate licence conditions and mitigation requirements, including the periods before, during and after the project lifespan.
196. In order to fully assess the costs and benefits of proposed new projects, it is important to have good information on the values of wetlands and their services, as well as the potential social and economic costs of losing those services. Some of this information should have been gathered during the studies described in Step 3.
197. Another very helpful framework against which to assess potential project impacts is a Strategic Environmental Assessment (SEA) for an entire river basin (see also Step 3). If the SEA framework is in place, this can greatly facilitate the consideration of project proposals, definition of the scope of work for project-specific EIA, SEA and CBA.

Additional information and guidance related to this aspect

198. Refer to Handbook 8 (*Water allocation and management*), Handbook 9 (*Managing groundwater*), Resolution VIII.2 (*Report of the World Commission on Dams*) and Resolution X.17 (*Environmental Impact Assessment and Strategic Environmental Assessment: updated scientific and technical guidance*).

199. The following guidelines should be noted:

<p style="text-align: center;">Guidelines Box N: Guidelines for assessing and minimising the impacts of land use and water development projects on wetlands and their biodiversity</p>	
N1.	Develop integrated land use plans for each river basin as a means to minimise the impact of different activities and land uses on the river and wetland systems as well as local residents. (See also Guidelines B3 and B9.)
N2.	Develop and enforce appropriate regulations to control land uses, especially forestry, agriculture, mining or urban waste management, so as to minimise their impact on river and wetland ecosystems. (See also Guideline B3.)
N3.	Carry out Environmental Impact Assessment (EIA) and Cost Benefit Analysis (CBA) studies for land use or water development projects which may have significant impacts on rivers and wetlands, using independent multidisciplinary teams and in consultation with all stakeholders, and consider alternative proposals including the no-development option.
N4.	Disseminate the findings of any EIA and CBA in a form that can be readily understood by all stakeholders.
N5.	Ensure that there are adequate control and mitigation measures to minimise or compensate for impacts if land use or water development projects are allowed to proceed.
N6.	Ensure that proposals for water development projects are carefully reviewed at their initial stages to determine whether non-structural alternatives may be feasible, possible, and desirable alternatives.
N7.	Take all necessary actions in order to minimise the impact of land use or water development projects on wetland biodiversity, ecosystem services, and socio-economic benefits during the construction phase and longer-term operation.
N8.	Ensure that the project design/planning process includes a step by step process to integrate environmental issues, especially initial biodiversity/resource surveys and post-project evaluation and monitoring.
N9.	Incorporate long-term social benefit and cost considerations into the process from the very initial stages of project preparation.

6.4 Implementation phase at river basin level

Step 7: Implementation at river basin and wetland levels

What is this step and why is it important?

200. Step 7 addresses parallel, coordinated implementation of the river basin management plan at two levels: river basin level (Step 7b) and wetland level (Step 7a). At wetland level, the responsibility for implementation may lie with a single sector (the wetlands sector), and possibly even with a single agency or institution. At river basin level, the lead institution may be a statutory river basin management agency or an institution or group of institutions working in collaboration. Whatever institutional arrangements are in place, implementation of the management plan at basin level will require coordination and integration among all the relevant sectors.
201. It can be very challenging to implement two kinds of instruments, a basin-level plan and a wetland-level plan, in parallel and in a way that ensures integration, consistency and synchronisation of activities at the necessary times and places.
202. Typical problems arising in implementation include:
- Sectoral spatial and temporal planning scales are often very different, depending on the sector and the objectives, and separate agencies may be responsible for the lead in each case.
 - Business planning and budget cycles amongst the sectoral agencies may not be matched.
 - Effective communication channels for data, information, policy and responses to problems may not have been established.
203. These problems are amongst the aspects that should be considered in the preparatory phase at river basin level, and appropriate solutions should be developed during the planning phase to facilitate coordination of implementation activities later.

How does this step relate to others in the Critical Path?

204. This step is dependent on the preparatory and planning phases having been completed to an appropriate level of detail. Three critical gaps in particular that can lead to problems in this step are:
- inadequate provisions for implementation capacity (see section 5.5 above);
 - failure to establish adequate institutional arrangements within the public sector to give effect to aspects of the river basin management plan (such as enforcement of discharge permits, operation of dams and other hydrological control structures, or collection of fees and tariffs) (see section 5.3 above and Step 1b);
 - inadequate attention in the planning phase to the design and support for an appropriate implementation programme (see Step 6).
205. Implementation is more likely to progress, especially in the early stages, if a realistic and clear implementation programme has been included in the river basin management plan, and has been taken up into the plans and programmes of all the relevant sectors whose activities influence land, water and wetlands within the basin.

Who is involved in this step?

206. Sometimes the day-to-day problems of working in parallel can be addressed through a joint working group that is fully inclusive of the various agencies and interest groups. This could have the status of, for example, the governing board of a river basin management agency if one is in place, or it may be a much less formal working group of technical officials who meet often to discuss and resolve operational problems.
207. Whatever the level at which the joint working group is established, it needs political support from the highest levels of all the organizations and agencies that are members of the working group. If this political support is not forthcoming, then committed technical field officials can often address most operational problems, but their work may be greatly hampered by legal challenges (for example, related to water allocations) and lack of organizational policy guidelines.

Additional information and guidance related to this step

208. Refer to Ramsar Handbooks 7, 8, 16, and 13 and Ramsar Technical Report no. 8 (in prep.) on *Determination and implementation of environment water requirements* for further detailed guidance.

6.5 Review phase at river basin level

209. There are two levels of review:
 - At the operational level (Step 8), monitoring results can and should feed back very quickly into refined management objectives or remedial actions, without necessarily requiring substantive review of the formal basin and wetland management plans.
 - Formal strategic review (Step 9) of wetland and basin management plans should be conducted on a regular basis. Five to ten years is an appropriate time period, but it can be matched to business planning cycles as appropriate. As a result of this review, management priorities and objectives may be substantively revised (rather than just refined) to take account of changing ecological, social or economic conditions.

Step 8: Operational review activities: Monitoring and reporting

What is this step and why is it important?

210. The long-term sustainability of monitoring networks, the management and storage of the data, and the preparation and dissemination of reports are critical issues for implementation. Adaptive ecosystem management approaches generally rely on the inclusion of explicit monitoring and reporting steps to close the cycle. This step provides the “glue” which holds the whole Critical Path together. Yet monitoring and reporting activities are often those for which the least time and money is budgeted, and they are often the first to be cut back when budgets are tight.
211. It is likely that some of the management objectives will be social or economic, related to livelihood protection and enhancement. Monitoring programmes will then also need to provide information to track progress on these objectives, as well as on more widely-understood hydrological and ecological objectives. Performance criteria against which to

evaluate the progress and management of planning and implementation activities are also necessary.

212. Reports presenting information on status, trends and progress may need to be packaged in different ways for different audiences such as politicians, agency managers, stakeholders, and community interest groups. Here, CEPA processes and products play an important role in preparing information for consultation, decision-making and planning at various levels in the river basin.

How does this step relate to others in the Critical Path?

213. Monitoring programmes need to be designed against the priorities and objectives set in Steps 4 and 5. There is little value in monitoring if the resulting information cannot be used to assess achievement of or progress towards the agreed management objectives for the river basin and for the wetlands within the basin.
214. Information will also be needed in the more strategic part of the review phase (Step 9) to guide review and possible revision of plans and objectives. The design of reports to support this activity should be considered as an important aspect of the monitoring and reporting programme.
215. Monitoring of the responses of ecosystems in the river basin to management interventions (such as the implementation of flow regimes to deliver environmental water requirements) is essential in order to follow an adaptive management philosophy successfully. The scientific understanding gained from monitoring these responses is critical in refining and optimizing management interventions during the strategic review in Step 9.

Who is involved in this step?

216. It is possible that some of the necessary data might already be collected on a routine basis by one or more of the responsible sectoral agencies at river basin, national, regional or even international level. In such cases, the need at river basin level might be to identify who is monitoring, where they are monitoring, what they are measuring and how often, and then to initiate a process of coordination and collaboration to enhance the sharing and transferability of relevant information wherever possible. In other cases, there might be few or no other relevant monitoring programmes in place, and the river basin management institution will need to develop and implement its own programme.
217. It is important to identify, as early as possible but at least in the river basin management plan (Step 6), who will take on the responsibility for managing data and information for the river basin as a whole. This function could be undertaken by, for example, a local university on behalf of the river basin management institution, or by a dedicated department within the river basin management institution. Whoever takes on the responsibility should have adequate long-term technical, infrastructural, and competency capacity to do so, and the necessary human and financial resources should be secured.
218. The local community can also play an important role in managing and monitoring wetlands and rivers. Community-based monitoring programmes have the potential to generate very useful information for river basin management, and they can be excellent for

early warning of potential problems. However, the greatest value of community-based monitoring programmes may be in raising awareness and interest amongst communities and individuals, which can lead to behavioral changes that can significantly benefit wetlands and water resources in a river basin.

Additional information and guidelines related to this step

219. Refer to Handbooks 7, 9, 11 and 16, 3rd edition, for further information.

Step 9: Strategic review activities: Review, reflection and revisiting of plans and priorities

What is this step and why is it important?

220. Like monitoring, this is an essential step whose importance is generally greatly underestimated.
221. If carried out properly at both operational and strategic levels, this review step supports effective “learning-by-doing”, which is the foundation principle of adaptive management of ecosystems.

How does this step relate to others in the Critical Path?

222. This step relates to the Critical Path in two ways.
- First, this step closes the cycle when undertaken as a retrospective review of a full cycle of river basin management. Having adequate and appropriate information available for a strategic review step depends upon all the preceding steps having been undertaken to a level that is sufficient to inform dialogue and decision-making on future priorities for the river basin.
 - Secondly, this step opens the cycle when undertaken as the starting point for “retrofitting”, i.e., attempting to begin integrating wetlands for the first time into an already existing river basin management process.
223. In a case where such “retrofitting” is planned, it is often helpful to begin with as full a strategic review (Step 9) as is possible with the available information. All available information related to management of the river basin, past and current, should be gathered and synthesised for such an assessment. This should include biophysical, ecological, socio-economic and institutional, as well as relevant information on the activities, plans and information held by other sectoral agencies.

Who is involved in this step?

224. The preparation of a situation assessment can often be undertaken by an independent individual or organization, possibly with external support or with support from a relevant sectoral agency intending to lead the initiation of river basin management planning. Most often, this would be a water sector agency or institution, at national or river basin level.

225. In a strategic review, the responsible river basin management institution should lead the dialogue and decision-making activities associated with this step. Preparation of the information required to support dialogue and decision-making could be carried out with assistance from external specialists if the institution does not have sufficient capacity.

Additional information and guidance related to this step

226. Refer to Ramsar Handbooks 2, 3, 4, 5, 7, 8, 12, 14 and 16, 3rd edition, and Ramsar Technical Report no. 8 (in prep.), *Determination and implementation of environment water requirements*, for further detailed guidance.

7. Integrating wetlands into river basin management: international cooperation and partnerships

227. All of the principles, guidelines and information provided in the preceding sections, dealing with the phases of integrated river basin management, are applicable to shared and/or transboundary river basins. Transboundary river basins include those basins that are shared by two or more countries, and also those basins whose management may be shared between different administrative units, for example between states in a federal system. In the context of this guidance, transboundary basins are not limited to rivers and can include transboundary aquifers and lakes.
228. Section 7.1 addresses special issues related to internationally shared river basins, i.e. those which are shared between one or more countries. Section 7.2 deals with international partnerships for implementing integrated river basin approaches more generally, whether the river basins themselves are shared or not.
229. The challenges associated with communication, participation, collaboration and institutional arrangements in the management of shared river basins, and in the management of wetlands within shared river basins, are more complex but not very different in nature to those same challenges in river basins that lie entirely within a single political or administrative boundary.
230. In a shared river basin, more time and attention might be needed to effect harmonization of laws and policies, as well as other international agreements, in the preparatory phase. CEPA and participatory processes may need to consider multiple languages and cultures within a shared basin. Sectoral planning processes will need to take account not only of the needs and priorities of other sectors, but also of other countries that share the basin.
231. Even though it is challenging, collaborative management of shared river basins has the potential to be a “catalyst for cooperation” (WWAP, 2006) rather than a source of conflicts.

7.1 Special issues related to shared river basin and wetland systems

232. In cases where a river basin is shared between two or more Contracting Parties, the Ramsar Convention’s Article 5 makes it clear that these Parties are expected to cooperate in the management of such resources.

233. The declaration of the Second World Water Forum, in Paris in March 1998, emphasized that riverine countries need to have a common vision for the efficient management and effective protection of shared water resources. The Africa Water Vision 2025 (UN Water/Africa, undated) takes the view that “water basins serve as a basis for regional cooperation and development, and are treated as natural assets for all within such basins”.
234. There is a range of possible institutional arrangements that might facilitate cooperation between countries that share a river basin. The most formal arrangement might be the establishment of an international river basin organization or commission, created by several basin countries to facilitate consultation, negotiation and broad coordination, with appropriate statutory and regulatory powers delegated to it by the member countries.
235. Less formal arrangements might include bilateral and multilateral joint technical groups, established for the purpose of sharing information about the basin and its management and for cooperating on implementation at technical levels, such as in joint monitoring programmes.
236. As a minimum, countries sharing a river basin are encouraged to establish frequent specific contacts in order to exchange information on wetlands and river basin management. Opportunities for information exchange and collaboration include:
 - establishing networks for monitoring and exchanging data on the water quality and quantity in the basin;
 - a joint analysis of information on the quantity and type of water used for various purposes in each country;
 - exchange of information on protection measures for groundwater, upper catchments and wetlands;
 - sharing of information on structural and non-structural mechanisms for regulating flow for navigation and flood prevention;
 - joint planning related to regional protected area systems covering inland as well as coastal wetland ecosystems;
 - development of scientific programmes to address migration of aquatic biota such as mammals and reptiles within and between river basins;
 - establishment of programmes to support equitable sharing of water resources.
237. The aim should be the preparation of technical reports on the river basin, including information on the needs of the local inhabitants in each part of the basin as well as existing or potential problems in parts of the river basin that require separate or collaborative efforts to deal with them.
238. In some cases, several countries within a region may wish to collaborate on issues and programmes of regional interest, such as equitable allocation of water, power generation, protected area networks or transport planning, that affect or are affected by conditions in a number of neighbouring river basins, even if these basins themselves each lie entirely within one country. In such cases, the guidance on international cooperation and partnerships is equally relevant.

7.2 Partnerships with relevant conventions, organizations and initiatives

239. In order to undertake an effective approach to promoting the integration of wetland conservation and wise use into river basin management, it is important that the Contracting Parties to the Ramsar Convention be aware of, and take into consideration, the related activities of other international conventions, organizations and initiatives.
240. The sustainable use of freshwater has been identified as a critical component of Agenda 21 and as such has been the focus of a series of meetings under the auspices of the United Nation's Commission on Sustainable Development and other UN agencies. Other relevant recent and current international initiatives include:
- the Global Water Partnership, which provides a framework to coordinate efforts to promote integrated water resource management, especially in developing countries;
 - the Vision for Water, Life and the Environment, developed under the auspices of the World Water Council;
 - the establishment of the United Nations Decade of Water (<http://www.un.org/waterforlifedecade/index.html>);
 - the outcome of the World Summit on Sustainable Development in Johannesburg in 2002, which called for the development of integrated water resources management and water efficiency plans in all countries by 2005, with support to developing countries;
 - the Transboundary River Basin Initiative (TRIB) project, initiated by the United Nations Development Programme.
241. It is important that guidelines and activities under the framework of the Ramsar Convention serve as a linkage and input to other relevant initiatives at the international level.
242. Several other conventions and agreements are relevant in terms of these Guidelines at the global and regional level:
- The Convention on Biological Diversity (CBD), which has identified the conservation of the biodiversity of inland waters as a particular priority. CBD has adopted a Joint Work Programme with the Ramsar Convention to address this matter. CBD decision IX/19, paragraphs 2 and 3, refers specifically to the importance of improved international cooperation regarding the allocation and management of water and urges its Parties to strengthen relevant international cooperative arrangements for this.
 - Various international or transboundary watercourse conventions and agreements exist that require states to avoid, eliminate or mitigate significant harm to other watercourse states. These assist states to establish rules with regard to the changes in use of an international watercourse and cover issues such as EIA, consultation, joint protection of watercourse ecosystems, pollution control, introduction of alien species, prevention of erosion, siltation, and salt water intrusion. These are general frameworks for the protection and ecologically sound management of transboundary surface waters and groundwaters in both lakes and rivers. Further details of the relevance, utility and legal nature of two important United Nations watercourse conventions are provided by the CBD (Brels, Coates & Loures, 2008).
 - The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) and the Washington Declaration were adopted in

1995 and UNEP was tasked to lead the coordination effort and hosts the GPA Coordination Office. It addresses the linkages between freshwater and the marine environment. The comprehensive, multi-sectoral approach of the GPA also reflects the desire of Governments to strengthen the collaboration and coordination of all agencies with mandates relevant to the impact of land-based activities on the marine environment, through their participation in a global programme.

243. At the regional and river basin level there are a great number of multilateral and bilateral agreements which provide a basis for cooperation in the management of shared water resources. UNEP (2002) recently conducted a review of such agreements.

Guidelines Box O:

Guidelines for Contracting Parties for the management of shared river basins and wetland systems, and partnership with relevant conventions, organizations and initiatives

- O1. Identify and describe shared river basins, document the key issues of common concern in the basin (diagnostic study), and develop formal joint management arrangements or collaboration for development and implementation of action plans to deal with such issues.
- O2. Where appropriate, establish or strengthen bi- or multi-state river basin management commissions to promote international cooperation for shared water resources and wetland management.
- O3. With regard to shared river basins, Contracting Parties should inform the Ramsar Secretariat of the establishment of any joint management arrangements and also of actions by other party or non-party states which may lead to changes in the ecological character of sites included in the List of Wetlands of International Importance (Ramsar List) in their own portion of the basin.
- O4. Ensure that these guidelines, and other related guidelines under the Ramsar Convention, are brought to the attention of the relevant international conventions, organizations and programmes, with a view to ensuring that the objectives of the Ramsar Convention are reflected in the activities of these other initiatives.
- O5. Ensure close coordination at the national level between the Ramsar Administrative Authorities and the focal points for other international conventions and agreements related to these subjects.
- O6. Ensure, as appropriate, adequate consideration of wetland-related issues in the operation of any regional agreements related to shared river basins and water resources.

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10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)

“Healthy wetlands, healthy people”

Changwon, Republic of Korea,
28 October-4 November 2008

Resolution X.20

Biogeographic regionalization in the application of the *Strategic Framework for the List of Wetlands of International Importance: scientific and technical guidance*

1. RECALLING the Contracting Parties' requests to the Scientific & Technical Review Panel (STRP) in Resolutions VIII.7 and VIII.11 (2002) to provide advice on biogeographic regionalization schemes and on interpretation of the term “under-represented type” in the context of available information on the global extent of different wetland types and their representation in the Ramsar List, and to investigate methods of defining targets for representation of wetland types in the Ramsar List in the context of the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance*;
2. RECOGNIZING that a relevant biogeographic regionalization scheme is a key basis for interpreting and assessing under-representation in the Ramsar List under Criteria 1 and 3 for Ramsar site identification and designation and NOTING that some Parties have national or regional bioregionalisations that they can or may utilise for this purpose;
3. NOTING the existence of several global biogeographic regionalizations in the terrestrial environment, which were developed for different purposes, such that the relevance for application of any one of them will depend on the precise analytical questions being considered;
4. NOTING ALSO that the STRP's 2006-2008 efforts on these matters have benefited from the major work published in 2007 in a peer-reviewed journal by an international consortium (led by The Nature Conservancy (TNC) and including members of the STRP and the Ramsar Secretariat) which has developed, through broad consultation, a standardized and hierarchical biogeographic regionalization of coastal and near-shore marine environments – the Marine Ecoregions of the World (MEOW) – and that since its publication, the MEOW has gained broad international acceptance as an appropriate global standard for the biogeographic regionalization of the coastal and near-shore marine environment, with updates planned for the future;
5. FURTHER NOTING that the 2007 MEOW publication includes an initial assessment of the distribution and gaps of Ramsar sites in relation to the MEOW hierarchical regionalization scheme, and that further technical guidance on this subject has been prepared by the STRP for publication as a Ramsar Technical Report that will demonstrate the usefulness of MEOW in understanding the representativeness of Ramsar sites

designations with respect to the development of national and international networks of coastal and near-shore marine wetlands;

6. CONCERNED, however, that the lack of information on wetland types provided in the Information Sheets on Ramsar Wetlands (RIS) for many Ramsar sites, and the lack of global inventories for many types of wetland (as reported in the *Global review of wetland resources and priorities for wetland inventory* and recorded in Resolution VIII.6), continue to constrain the scope of analyses of representation and under-representation in the Ramsar List; and
7. THANKING the STRP and the International Water Management Institute (IWMI) for their work on this task, and The Nature Conservancy for its fruitful collaboration with the STRP and Ramsar Secretariat in the development of the MEOW biogeographic regionalization scheme;

THE CONFERENCE OF THE CONTRACTING PARTIES

8. ENDORSES the supplementary guidance provided in the annex to this Resolution and ENCOURAGES Contracting Parties to use it in their application of the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance*, as they consider appropriate, in cooperation with neighbouring Contracting Parties where appropriate;
9. REAFFIRMS the central need for comprehensive wetland inventories at national and international scales, including of different wetland types, as called for in Resolutions VIII.6 and IX.1 (Annex E) as well as in the Convention's past and current Strategic Plans, in order to permit the better assessment of the representativeness of wetland types within the Ramsar List;
10. REQUESTS the STRP, Ramsar Secretariat, and Wetlands International to seek ways to make available through the Ramsar Sites Information Service (RSIS) digital versions of the MEOW biogeographic regionalization schemes for realms, provinces, and ecoregions, as well as their updates when they become available, in order to help Contracting Parties to identify priority wetlands for designation as Ramsar sites in the coastal and near-shore marine environment, as well as digital versions of relevant terrestrial biogeographic regionalisation schemes;
11. ALSO REQUESTS the STRP, in collaboration with appropriate scientific institutes and conservation organizations such as IUCN, IWMI, The Nature Conservancy (TNC), and WWF, to investigate further the usefulness of existing terrestrial and inland biogeographical regionalization schemes for supporting the application of the *Strategic Framework*, and that the Standing Committee, considering STRP's further review, at the earliest feasible opportunity advise Contracting Parties of any additional bioreogionalisation schemes that they may usefully apply;
12. FURTHER REQUESTS the STRP to develop methods for assessing the representativeness of wetlands in the Ramsar List in relation to the application of other Criteria for Ramsar site designation, their targets, and the guidelines for their application, as currently provided in the *Strategic Framework*; and

13. INSTRUCTS the Ramsar Secretariat to disseminate widely the guidelines annexed to this Resolution, including through amendment and updating of the Ramsar Toolkit of Wise Use Handbooks.

Annex

Supplementary guidance on the application of biogeographic regionalization schemes

Background

1. The *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* adopted by COP7 and amended by COP8 and COP9 states that under both Criteria 1 and 3:
 32. ... Contracting Parties are expected to identify sites of international importance within an agreed biogeographic regionalization. The Glossary (Appendix E) defines this term as “a scientifically rigorous determination of regions as established using biological and physical parameters such as climate, soil type, vegetation cover, etc.” Note that for many Contracting Parties, biogeographic regions will be transboundary in nature and will require collaboration between countries to define those wetland types which are representative, unique, etc. In some regions and countries, the term “bioregion” is used as a synonym for “biogeographic region”.

Add additional guidance after current paragraph 32 of the *Strategic Framework*

Marine bioregionalization schemes

- XX. The major assessment of Marine Ecoregions of the World (MEOW) (Spalding *et al.* 2007) has developed a new global system of biogeographic regionalization for coastal and shelf areas. It presents a nested system of 12 realms, 62 provinces, and 232 ecoregions (see <http://www.nature.org/tncscience/news/meow.html> and <http://conserveonline.org/workspaces/ecoregional.shapefile/MEOW/view.html>). This system provides considerably better spatial resolution than earlier global systems, yet it preserves many common elements from earlier global and regional systems and so it can be cross-referenced to many existing regional biogeographic classifications.
- XX. As the MEOW classification has been developed through wide international consensus, has received broad international acceptance, and incorporates many pre-existing classifications, it is recommended for application by the Ramsar Convention (at its ecoregional scale) with respect to coastal and near-shore marine areas within the scope of the Convention.
- XX. Since its initial publication, a number of formal corrections to the MEOW ecoregions have been collated, including minor boundary adjustments and changes to nomenclature. It is planned that a formal update to the MEOW system will be issued within one to two years after its initial publication and will include all such adjustments.

Terrestrial bioregionalization schemes

- XX. Three principle biogeographic regionalization schemes have been developed for use in conservation planning and assessment in terrestrial environments (Udvardy 1975; Bailey 1998; Olson *et al.* 2001). None of these schemes addresses inland wetland ecosystems, as they are largely derived from the distributions and similarities of other terrestrial ecosystems (forests, grasslands, etc.). They have differing spatial resolutions and have been developed for different purposes based on different types of data.

Udvardy's Biogeographical Provinces (Udvardy 1975)

Intended to provide a satisfactory classification of the world's biotic areas and to provide a framework for conserving species as well as ecologic areas, the classification is a hierarchical system of geographical areas (Realms, Biomes and Provinces) based on the distribution of species and the distribution of ecosystem units. Realms are based on phylogenetic subdivisions, Biomes on both vegetation and climatic features, and Provinces on fauna, flora and ecology.

Bailey's Ecoregions (Bailey 1998)

Originally intended to illustrate how the national forests of the U.S. fit within the global ecoregional scheme, an ecoregion is defined here as any large portion of the Earth's surface over which the ecosystems have characteristics in common. There are three levels within the classification system; Domains, Divisions and Provinces. Ecoregions are based on macroclimate following the theory that macroclimates are among the most significant factors affecting the distribution of life on Earth. Temperature and rainfall along with climatic zones were used to identify the Domains and Divisions. Provinces were based on the physiognomy of the vegetation, modified by climate.

WWF Terrestrial Ecoregions (Olson *et al.* 2001)

Derived primarily as a tool for prioritizing areas for conservation, the WWF Terrestrial Ecoregions comprise relatively large units of land or water containing a geographically distinct assemblage of natural communities. These communities share a majority of their species, ecological dynamics and environmental conditions, and they interact in ways that are critical for their long-term persistence. The hierarchical classification system consists of Realms, Biomes, and Ecoregions, which reflect the distribution of distinct biotas.

- XX. In addition, WWF-US has recently been leading the development of a scheme for Freshwater Ecoregions of the World (FEOW) (Abell *et al.* 2008), which are being derived by aggregating and subdividing watersheds based on the distribution patterns of aquatic species, notably fish.
- XX. In Europe, a biogeographic regionalisation scheme (<http://dataservice.eea.europa.eu/atlas/viewdata/viewpub.asp?id=3641>) contains 11 biogeographic regions and forms the basis for establishing the Natura 2000 network of the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora and the Emerald Network of the Convention on European Wildlife and Natural Habitats (Bern Convention) (www.dataservice.eea.europa.eu/dataservice).
- XX. As these schemes have been or are being developed for different purposes and using different criteria, and have not been assessed or their common features and differences articulated, it is not proposed at this stage that any single inland/terrestrial classification should be adopted for use by the Convention. Contracting Parties are encouraged to make

use of these schemes as they consider appropriate or to draw to the attention of the STRP other schemes that better represent the biogeographical distribution of inland wetlands, keeping in mind the differences in scale necessary to present wetland distribution nationally and internationally.

- XX. Recording precise locational information on the Ramsar Information Sheet will allow Ramsar sites to be placed within the context of each or any of these schemes, depending on which is most appropriate for any particular international analytical purpose. It would also allow analyses to be undertaken with respect to international regionalization schemes that do not have global coverage, for example, biogeographic regionalizations used within Europe (above).
- XX. Additional information and advice relating to the use of biogeographic regionalization schemes in the context of the Ramsar Convention is provided by Rebelo, Finlayson & Stroud (2009). This publication includes examples of the use of MEOW in analytical contexts to assess the coverage in the Ramsar List, and gaps in coverage, of specific coastal and near-shore marine wetland types, including mangroves, coral reefs, and saltmarshes.

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**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.21

**Guidance on responding to the continued spread of highly
pathogenic avian influenza**

1. CONSCIOUS of the spread of highly pathogenic avian influenza (HPAI) subtype H5N1 across Eurasia and into Africa, the implications of this disease on livelihoods and human health, and the direct and indirect implications for the conservation of waterbirds and their wetland habitats (including Ramsar sites and other protected wetlands);
2. UNDERSTANDING that this virus evolved in and spread within domestic poultry but with subsequent introductions to wild bird populations, and that control of this disease within the poultry sector will reduce risks to wild waterbirds and wetlands in some situations;
3. CONCERNED that as a result of lack of understanding of the role of waterbirds and wetlands in the epidemiology of HPAI H5N1 some negative attitudes towards waterbirds and wetlands have developed with subsequent conservation and management implications, such as inappropriate closure of wetland sites (including Ramsar sites and other protected wetlands);
4. VERY CONCERNED at actual or proposed instances of the destruction of waterbirds, their nests, and their wetland habitats, as both misguided and ineffective responses to the spread of HPAI H5N1 which, as stressed by Resolution IX.23 (2005) on *Highly pathogenic avian influenza and its consequences for wetland and waterbird conservation and wise use*, do not amount to wise use;
5. RECOGNIZING that issues related to HPAI H5N1 outbreaks affect many sectors and that in order to reduce risks and maximise the effectiveness of responses, fully integrated actions are required at both national and international levels. Common visions, engagement and coordination among stakeholders, including effective coordination within governments, is critical and requires close cooperation among Multilateral Environment Agreements (MEAs) and other relevant international and national organizations;
6. COGNIZANT that the implementation of response strategies for HPAI H5N1 will involve various approaches according to particular national situations, international obligations, and the extent of disease prevalence;

7. NOTING continuing deficiencies in scientific knowledge concerning the role that some wild bird species play in the transmission and spread of HPAI H5N1 and the important need to undertake and report epidemiological investigations following cases where HPAI H5N1 infection is found in wild birds – whether apparently associated with outbreaks in poultry or not – in order to learn from these and reduce future risks;
8. CONSCIOUS that capacity development and training are essential to all responses to this and other emerging infectious diseases, and will benefit other aspects of wetland conservation, but that in many countries this remains a major issue requiring attention, especially within the veterinary sector;
9. AWARE that the long-term success of disease control measures depends on developing better public awareness and education, especially among stakeholders such as poultry keepers, the media, the public health sector, the public, wetland site managers and those within government;
10. RECALLING the conclusions and recommendations arising from the second technical meeting of the Scientific Task Force on Avian Influenza and Wild Birds (2007)¹, which reviewed recent case studies, experiences and practical ‘lessons learned’ in responding to outbreaks of HPAI H5N1; and
11. RECALLING the request to the STRP from the 9th meeting of the Conference of the Contracting Parties (COP9) in Resolution IX.23 to develop practical advice to assist countries in responding to this serious and rapidly developing situation, and to report on this to COP10;

THE CONFERENCE OF THE CONTRACTING PARTIES

12. STRONGLY REAFFIRMS the conclusion of Resolution IX.23 that attempts to eliminate HPAI in wild bird populations through lethal responses such as culling are not feasible and may exacerbate the problem by causing further dispersion of infected birds and that destruction or substantive modification of wetland habitats and waterbird nest sites in order to reduce contact between wild birds and humans and their domestic birds does not amount to wise use as urged by Article 3.1 of the Convention; and STRESSES that surveillance should be undertaken within the context of normal legal regulations regarding wildlife and should have minimal impact on threatened and other populations concerned;
13. ENCOURAGES all stakeholders to plan and test response strategies at various spatial scales, including national, subnational, and site scales according to level of risk, and where possible to collect and incorporate lessons learned from associated habitat management responses, and to conduct this planning at times of low risk prior to disease outbreak situations;
14. STRONGLY ENCOURAGES Contracting Parties and other governments to establish emergency response measures that involve those with relevant scientific expertise including specialist ornithologists and ensure the provision of timely advice to governments on the gathering, use, and interpretation of relevant data and information in developing risk assessments, wild bird surveillance strategies and programmes, appropriate response

¹ Available at <http://www.aiweb.info/document.aspx?DocID=334>

strategies, and the implementation of epidemiological investigations in the event of outbreaks of HPAI, so that these responses are made on the basis of best available information, and that wild birds are not automatically assumed to be the sources of infection;

15. URGES relevant national and international organizations to work with Contracting Parties to further develop and exchange information for decision makers, since the collection and synthesis of data and information on waterbirds and wetlands (such as the preparation and use of wetland inventories; information on the distribution, abundance and movements of birds; and the movements of poultry and poultry products) is a critical part of preparing risk assessments at various scales, as well as a part of essential contingency planning;
16. STRESSES the need for surveillance programmes in poultry to follow international scientific guidance as described in the World Organization for Animal Health (OIE) Terrestrial Animal Health Code, and in wild birds as described by the UN Food and Agriculture Organization (FAO), and also using initiatives such as the Global Avian Influenza Network for Wild Bird Surveillance (GAINS) to ensure that high quality data can inform successful epidemiological investigations;
17. URGES Contracting Parties and other governments and relevant international organizations to cooperate internationally in research programmes, surveillance, risk assessments, training in the epidemiology of wildlife diseases, exchange and sharing of relevant data and information, and collection of samples from surveillance programmes especially at times of heightened risk;
18. EMPHASISES the need for improving capacity for surveillance and response strategies where such capacity is not adequate, understanding that structures and capability for effective avian influenza control may aid control of future disease issues that affect wetland biodiversity, viability and livelihoods;
19. ADVOCATES the development of integrated communication programmes aimed at promoting balanced understanding and awareness of actual risks and appropriate responses in a range of stakeholder groups, including poultry keepers, to reduce risks to human health and increase early disease diagnosis; the public health sector, the public and media, to improve accuracy and availability of messages so as to reduce inappropriate responses; the public, to aid in public reporting for surveillance programmes; and wetland site managers, to improve contingency planning;
20. WELCOMES the broad consensus on approaches and responses developed between UN agencies, international conventions, and other international organizations; accordingly STRONGLY ENCOURAGES the continuing work, resources permitting, of the Scientific Task Force on Avian Influenza and Wild Birds to keep this developing situation under review especially as regards wetlands; identify issues for which relevant guidance is lacking (such as for example, appropriate management responses when infection is confirmed on wetlands); and particularly, to collate and synthesise further 'lessons learned' from past and current outbreaks with regard *inter alia*, to contingency planning and response strategies; and REQUESTS the continued participation in the work of the Task Force by the Convention working through the STRP and the Secretariat;

21. REQUESTS the STRP to determine whether lessons learned from responses to HPAI H5N1 have implications for Ramsar guidance relating to wetlands and their wise use, and to suggest that any such resulting modifications to guidance be submitted to the Standing Committee for consideration at COP11; and FURTHER REQUESTS the STRP in collaboration with other relevant organizations to consider how best to develop practical guidance on the prevention and control of other diseases of either domestic or wild animals in wetlands, especially those diseases that have implications for human health, and how such guidance can be best incorporated into management plans at Ramsar sites and other wetlands; and
22. ADOPTS the guidance annexed to this Resolution on responding to the issues raised by the spread of HPAI H5N1; URGES Contracting Parties and other governments to implement this guidance and further disseminate it to other interested parties (including its translation into local languages); and FURTHER REQUESTS the Secretariat and STRP to assist, with relevant international agencies and the Scientific Task Force on Avian Influenza and Wild Birds, in continuing to develop guidance that will assist countries effectively to respond to the spread and re-emergence of HPAI H5N1, and to report progress to the Standing Committee and COP11.

Annex

Guidance on responding to the continued spread of highly pathogenic avian influenza

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Introduction and mandate

1. Disease can have significant impacts on wildlife populations and is of special concern for species of conservation importance that have small populations and/or are highly localised at some stages of their life cycle. Many wildlife diseases are zoonotic, that is, they can infect not only wild and domestic animals, but also have the capacity to infect humans.
2. Highly pathogenic avian influenza H5N1 of Asian lineage (HPAI H5N1) is a viral zoonotic disease that emerged in poultry in southeast Asia between 1997 and 2003. It has since attracted widespread media attention and the attention of decision-makers within governments and international agencies. Between 2003 and 2008, the virus spread in an unprecedented fashion across Asia, the Middle East, Africa and Europe. The disease has had major impacts on rural livelihoods linked to the keeping of domestic birds (mainly chickens, ducks, turkeys, ostrich and quail) and nature conservation, including mortality of waterbirds at many Ramsar sites and negative public attitude toward waterbirds and their habitats as a result of lack of understanding of the role of wild birds in the epidemiology of the disease. There have also been major concerns as to the potential for viral change that might precipitate a human influenza pandemic, given the ongoing exposure of humans to the circulating avian virus through close contact with infected domestic birds and their products.
3. The total number of wild birds known to have been affected has been small in contrast to the number of domestic birds affected. Perhaps a greater threat than direct mortality has been the development of public fear about waterbirds resulting in misguided attempts to control the disease by disturbing or destroying wild birds and their habitats, inappropriate closure of some wetland sites and other outcomes detrimental to nature conservation. Such responses have often been encouraged by misleading and exaggerated messages in the media.
4. Addressing issues raised by the spread of HPAI H5N1 offers an important opportunity to promote effective structures and policies that can also provide models for the control of other emergent diseases. This is an important objective since wildlife disease is increasingly being recognized as a central issue for conservation managers. This is in addition to the disease's very significant impact on domestic animals and human health.
5. The UN Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE) are leading efforts to control avian influenza within the agricultural sector (poultry industry), whilst preparedness for a potential influenza pandemic, and control and prevention of human zoonotic disease, are the responsibilities of the World Health Organization (WHO).
6. Ramsar's 9th meeting of the Conference of the Contracting Parties (COP9) in 2005 recognized that, as well as the direct impacts of HPAI H5N1 on susceptible birds, public attitudes (and therefore support for wetland conservation, particularly of Ramsar sites and other wetlands of importance for waterbirds) could be negatively affected by concerns about the possible role of waterbirds in the spread of HPAI H5N1. Parties at COP9 were also greatly concerned that in many countries there was a significant lack of information and, in some countries, public misunderstanding, about important issues related to the spread of HPAI, the risks it may pose, and how to anticipate and respond to outbreaks of HPAI. Accordingly COP9 agreed Resolution IX.23 on *Highly pathogenic avian influenza and its*

consequences for wetland and waterbird conservation and wise use. This Resolution *inter alia* called on the Convention's Scientific and Technical Review Panel (STRP) to develop practical advice that could assist countries in responding to this serious and rapidly developing situation.

7. In particular, Ramsar COP9 requested the STRP, with the Scientific Task Force on Avian Influenza and Wild Birds, to provide relevant input on practical measures to reduce the risk of disease transmission between wild, captive and domestic birds to those agencies developing contingency and wetland management plans related to HPAI H5N1; to share this information, including practical advice that will assist countries to respond to this serious and rapidly developing situation; and to report to COP10.
8. In response, the STRP has developed guidance for consideration by the Convention's Standing Committee and Contracting Parties at COP10. The advice comes in four main sections:
 - Section 1. A 'guide to avian influenza guidance';
 - Section 2. Guidelines for reducing avian influenza risks at Ramsar sites and other wetlands;
 - Section 3. Recommended ornithological information to be collected during surveillance programmes or field assessment; and
 - Section 4. Guidelines for Ornithological Expert Panels.
9. The policy positions and technical guidance of the main international conventions and environment agreements concerned with the conservation of wild birds, such as the Convention on Biological Diversity (CBD), Convention on Migratory Species (CMS), and the Ramsar Convention, have been set out in Resolutions agreed and adopted at their respective Conferences of Contracting Parties (see Section 1.3). In addition, the Scientific Task Force on Avian Influenza and Wild Birds (Appendix 2) established by CMS and now co-convened with FAO, is coordinating international scientific advice, including advice on the conservation impact of avian influenza. The Task Force website provides access to a wide range of resources on avian influenza, wildlife, and the environment and is accessible at www.aiweb.info.
10. Regrettably, since November 2005, there has been further spread of this virus westwards through Eurasia and into Africa². As a consequence, further experience since Ramsar COP9 in 2005 has been gained with respect to the establishment of surveillance systems for the virus and responding to cases of infection. Important lessons include:
 - That there is a need for risk assessment and response processes at various scales, including the preparation and implementation of cross-sectoral national contingency plans involving all relevant parts of government. Such planning is central to preparing and responding to HPAI outbreaks, and should be undertaken, wherever possible, before disease occurs.

² Kilpatrick, M., Chmura, A.A., Gibbons, D.W., Fleischer, R.C., Marra, P.P. & Daszak, P. 2006. Predicting the global spread of H5N1 avian influenza. *Proceedings of the National Academy of Sciences* 103(15): 19368–19373. <http://www.pnas.org/cgi/reprint/103/51/19368>; and

Sabirovic, M., Wilesmith, J., Hall, S., Coulson, N., Landeg, F. 2006. Situation Analysis – Outbreaks of HPAI H5N1 virus in Europe during 2005/2006 – An overview and commentary. DEFRA, International Animal Health Division, United Kingdom. 40 pp. <http://www.defra.gov.uk/animalh/diseases/monitoring/pdf/hpai-europe300606.pdf>

- That the development and implementation of surveillance and early warning systems valuably inform responses. These schemes should be developed on the basis of best practice international guidance, be informed by risk assessments, be undertaken to the highest standards – including validation and quality assurance of data – and be implemented using strategic approaches at regional or wider scales.
- That accurate identification of wild birds, either captured as part of surveillance programmes or reported from infection outbreaks, is critical to understanding the epidemiology of the disease and thus the processes of risk assessment.
- That whilst there is now a wide range of guidance on issues concerning HPAI H5N1, this exists mostly in just a few international languages, and there is an important need to ensure that key elements are made more widely available to stakeholders and translated into other languages.
- That there has been a welcome increase in the amount of surveillance, including the development of national and regional early warning systems. The development of the Global Avian Influenza Network for Surveillance (GAINS: www.gains.org) has been a very positive development, which has facilitated the sharing of relevant data and information at international scales. Yet the quality of much ornithological information from AI surveillance programmes is often poor, especially with regard to the precise identification of bird species. As recommended by the Scientific Task Force on Avian Influenza and Wild Birds, the involvement of ornithologists in these programmes would help resolve these issues.
- That, as well as traditional marking methods, i.e., ringing/banding, new methodologies such as satellite telemetry have the potential to provide information on the movements of wild birds, especially at flyway scales, and thus can better inform risk assessments.
- That there remains a need for further analysis of ornithological datasets and research on a range of issues related to the role of waterbirds in the epidemiology of the disease, as well as a better understanding of the details of the formal and informal trade in poultry.

1) **Guidance related to preparing for and responding to outbreaks of highly pathogenic avian influenza, especially at wetlands**

1.1) **Introduction**

11. Ramsar COP9 requested the Scientific and Technical Review Panel (STRP), with the Scientific Task Force on Avian Influenza and Wild Birds, to provide relevant input on practical measures to reduce the risk of disease transmission between wild, captive and domestic birds to those agencies developing contingency and wetland management plans related to HPAI H5N1; to share this information, including practical advice that will assist countries in responding to this serious and rapidly developing situation; and to report to COP10.
12. Since COP9, a large body of guidance on responding to the challenges of the spread of HPAI H5N1 has been produced, including much material made available through FAO and OIE websites (see Section 1.3). This includes guidance related to surveillance, enhanced biosecurity, contingency planning and preparation, and responses to outbreaks of HPAI infection.
13. Presented here is a 'guide to guidance', a guide to the significant body of information that has been published (mostly since 2005) and which is of potential utility to Ramsar Contracting Parties and others governments and organizations.
14. The guide consists of a guidance framework (Section 1.2), which provides a conceptual map of the available guidance, and a directory of guidance materials (Section 1.3), which organizes the guidance under a number of separate issues and provides source information and hyperlinks.

1.2) **A guidance framework**

15. Responding to avian influenza – to the perceived threat as well as to outbreaks of disease – involves a wide range of activities from writing contingency plans to sampling wild birds to dealing with the media. Additional complexity is added by the varying scale on which these activities must be completed – for example, contingency plans are required at the international, national, subnational and site levels.
16. These activities are summarised in Table 1, which provides a 'road-map' not only to the activities required at different levels of risk but also to the guidance that exists for these activities.
17. The levels of risk are defined as follows:
 - **Low risk** - no known infection in geographical region
 - **Medium risk** - spreading infection in wild birds or poultry in region
 - **High risk** - infection in neighbouring countries/regions
 - **Immediate risk** - infection in a country/region affecting either wild birds or poultry
 - **Post infection** - period following an incursion of HPAI

18. The required activities and available guidance are also categorised under seven separate themes:
 - Expert advice and integration within government;
 - Risk assessment;
 - Contingency planning;
 - Surveillance and early warning (wild birds);
 - Epidemiological investigations (response and reporting);
 - Communication, education and public awareness, including media handling; and
 - Guidance for other stakeholders, including relevant statutory bodies.
19. For each theme (for example, contingency planning) and at each level of risk (above), Table 1 provides an introduction to the main activities that should be considered and the principle sources of guidance that are available. **Note, however, that this table does not provide a definitive summary of legal obligations under the auspices of other relevant international organizations.**
20. A further – cross-cutting – theme of capacity development is of very great importance and underpins the ability to respond in all themes and at all risk stages. Relevant guidance on capacity development is separately highlighted in Table 1.

Table 1. A conceptual map of response activities and the corresponding guidance available. Numbers relate to specific guidance listed in Section 1.3.

MAJOR THEMES

Risk level	Expert advice & integration within government	Risk assessment	Contingency planning	Surveillance & early-warning (wild birds)	Epidemiological investigations (response & reporting)	Communication (CEPA) & media issues	Other stakeholders inc. relevant statutory bodies
Low risk No known infection in geographical region	Identify relevant multi-disciplinary expertise [21]. Establish an Ornithological Expert Panel (OEP – see Section 4) processes & arrangements [12]. Identify OEP links with neighbouring countries. Develop information tools to assist decision making [06, 17, 18].	As part of the development of a contingency plan, establish arrangements for developing risk assessments. Undertake risk assessment in discussion with Ornithological Expert Panel (OEP – Section 4 [01, 02, 14, 20, 41]. Develop information tools to assist decision making [06, 17, 18].	Develop contingency plan for appropriate area, including wetland sites [42, 14, 15, 16, 20], captive collections [44, 45, 54]) in consultation with stakeholders and experts [08, 09, 10, 41]. Collaboration with neighbouring countries. Ensure contingency plans are in line with relevant international and national obligations, <i>inter alia</i> , for nature conservation and animal health [21].	Develop national strategy [25, 39, 319, 369], including: - Determining lists of potentially higher risk species [01, 03, 06, 18] and areas [06] - Consultation - International co-ordination. Determine and address capacity development needs. Implement strategy with appropriate methodology [65, 61, 66, 67, 64, 69, 68]. Ensure provision of data to GAINS [64] and/or other reporting hub(s) [62, 63].	Identify relevant multi-disciplinary expertise [21]. Establish arrangements with multi-disciplinary epidemiological teams. Establish protocols [55, 38, 41, 43].	Establish media strategy in context of the national contingency plan [08, 09, 75-80]. Develop media tool kit [78, 79, 80] – including frequently asked questions, maps, positive stories, images, etc. Publish relevant explanatory materials/statement on appropriate web-sites. Identify organizational spokespeople and appropriately train them [75-80].	Develop and maintain contact networks with appropriate stakeholders and establish communication procedures. Establish dialogue regarding best practice biosecurity [26]. Disseminate best practice health & safety guidance to relevant stakeholders [59, 55, 56, 57, 73 58].

Risk level	Expert advice & integration within government	Risk assessment	Contingency planning	Surveillance & early-warning (wild birds)	Epidemiological investigations (response & reporting)	Communication (CEPA) & media issues	Other stakeholders inc. relevant statutory bodies
Medium risk Spreading infection in wild birds or poultry in region	Undertake risk assessment in discussion with OEP.	Update risk assessment in discussion with OEP and neighbouring countries/regions.	Implement appropriate processes of contingency plans.	OEP to consider need for enhanced surveillance.		Update media tool kit and explanatory materials [78, 79, 80]. Consider briefing appropriate media on relevant issues.	Review and update contact network. Brief appropriate stakeholders via a contact network. Advise on relevant and necessary responses [26].
High risk Infection in neighbouring countries/ regions	Convene OEP. Update risk assessment. Exchange risk assessment with neighbouring countries/regions.	Update risk assessment in discussion with OEP and neighbouring countries/regions.	Implement appropriate processes of contingency plans.	OEP to consider need for enhanced surveillance.	Ensure preparedness of epidemiological investigation teams and wider contingency planning issues in the event of an outbreak.	Update media tool kit and explanatory materials [78, 79, 80]. Brief appropriate media on the issues. Implement media strategy.	Review and update contact network. Brief appropriate stakeholders via a contact network. Advise on relevant and necessary responses [26].
Immediate risk Active infection in a country affecting either wild birds or poultry	Convene OEP. Use expert advice to guide epidemiological investigations. Use expert advice to guide local responses at the infected premise(s). Use expert advice to determine surveillance needs.	Update risk assessment in discussion with OEP and neighbouring countries/regions. Undertake formal reporting to OIE as appropriate.	Implement appropriate processes of contingency plans.	OEP to consider need for enhanced surveillance especially around infected premises and including potential bridge species.	Undertake epidemiological investigations around infected premise(s) involving relevant expertise. Communicate epidemiological findings with linked countries/regions. Publish results including negative results.	Update media tool kit and explanatory materials [78, 79, 80]. Undertake regular briefings of appropriate media on relevant issues. Implement media strategy.	Review and update contact network.. Undertake regular briefings of appropriate stakeholders via contact network. Advise on relevant and necessary responses [26].

Risk level	Expert advice & integration within government	Risk assessment	Contingency planning	Surveillance & early-warning (wild birds)	Epidemiological investigations (response & reporting)	Communication (CEPA) & media issues	Other stakeholders inc. relevant statutory bodies
Post infection (Period following an incursion of HPAI)	Review and update OEP procedures in light of lessons learnt [e.g. 27].	Review and update risk assessment procedures in light of lessons learnt.	Review and update contingency plans in light of lessons learnt.	Review list of potentially higher risk species and areas. Review and update surveillance strategy in light of lessons learnt.	Review and update epidemiological investigation strategy in light of lessons learnt.	Review and update media strategy in light of lessons learnt.	Review and update communication arrangements in light of lessons learnt.

CROSS-CUTTING ISSUES

(Relevant at all risk levels)	Risk assessment	Contingency planning	Expert advice & integration within government	Surveillance & early-warning (wild birds)	Epidemiological investigations (response & reporting)	Communication (CEPA) & media issues	Other stakeholders inc. relevant statutory bodies
Capacity development	Develop information tools to assist decision making.	Ensure capacity development in addressed is contingency planning.	Develop information tools to assist decision making.	Determine capacity dev needs and address shortcomings.	Ensure adequate capacity to undertake investigations.	Training of spokespeople.	

1.3) A directory of good practice guidance concerning highly pathogenic avian influenza H5N1

21. This directory aims to provide an introduction to the increasingly large number of technical and other guidances that have been produced in recent years related to issues arising from the spread of HPAI H5N1.
22. The directory provides hyperlinks to publications that are accessible via the Internet, and it has also attempted to categorise such guidance with respect to its intended audience and its technical level (i.e., accessibility to various groups within society) and to indicate the language(s) available. The current listing is dominated by publications in the English language. It is hoped that future versions of this listing will contain a better representation of publications in other languages. Contracting Parties and others are encouraged to submit further examples of good practice guidance to Ramsar's STRP so that this listing can be continually updated.

Important note: The Ramsar Convention does not necessarily endorse any of the content of the external web links listed here. These are given solely in the context of their possible utility to Contracting Parties and others.

23. **Levels of accessibility** are roughly assessed as follows:

Public	Content accessible to untrained public
General	Content accessible to informed public, other stakeholder groups and interested parties, as well as trained professionals
Technical	Language and content aimed largely at professionals or technical specialists in the subject area concerned

Structure and content

24. Guidance documents are organized under the following topics and subtopics:

- | | |
|---|--|
| <ul style="list-style-type: none"> • Contingency planning and risk assessment <ul style="list-style-type: none"> ○ Background ○ General ○ Nature reserves and wild birds • Prevention and control <ul style="list-style-type: none"> ○ Background ○ General ○ Nature reserves and wild birds ○ Captive collections ○ Poultry holdings ○ Vaccination ○ Health & Safety | <ul style="list-style-type: none"> • Surveillance and early warning systems <ul style="list-style-type: none"> ○ General ○ Methodology ○ Past initiatives ○ Health & Safety • Communication, education and public awareness (CEPA) <ul style="list-style-type: none"> ○ General |
|---|--|

Table 2. Directory of guidance materials related to avian influenza.

	AUDIENCE	LEVEL
CONTINGENCY PLANNING AND RISK ASSESSMENT		
BACKGROUND		
European Food Safety Authority (EFSA) 01 Opinion of EFSA panel on animal health and welfare and their scientific report on migratory birds and their possible role in the spread of highly pathogenic avian influenza English: http://www.efsa.europa.eu/en/science/ahaw/ahaw_opinions/1484.html	Policy makers & scientists	Technical
02 Opinion adopted by the AHAW Panel related to Animal health and welfare risks associated with the import of wild birds other than poultry into the European Union English: http://www.efsa.europa.eu/en/science/ahaw/ahaw_opinions/ahaw_op_ej410_captive_birds.html	Policy makers & scientists	Technical
USGS National Wildlife Health Center (NWHC) 03 List of Species Affected by H5N1 (Avian Influenza) English: http://www.nwhc.usgs.gov/disease_information/avian_influenza/affected_species_chart.jsp	Policy makers & scientists	General
Centers for Disease Control and Prevention (CDC) 04 Wildlife Trade and Global Disease Emergence English: http://www.cdc.gov/ncidod/EID/vol11no07/05-0194.htm	Policy makers & scientists	General
Department for Environment, Food and Rural Affairs (United Kingdom) 05 Outbreaks of H5N1 HPAI virus in Europe during 2005/2006: an overview and commentary English: http://www.defra.gov.uk/animalh/diseases/monitoring/pdf/hpai-europe300606.pdf	Policy makers & scientists	General
British Trust for Ornithology 06 Avian Influenza Incursion Analysis (through wild birds) English: http://www.bto.org/research/reports/Avian_flu.pdf	Policy makers & scientists	Technical
European Commission 07 National websites of EU Member States dealing with H5N1 Various EU languages: http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/nat_websites_en.htm	Policy makers & poultry sector	General
GENERAL		
Food and Agriculture Organization (FAO) 08 Manual on the preparation of national animal disease emergency preparedness plans English: http://www.fao.org/DOCREP/004/X2096E/X2096E00.HTM	Policy makers & veterinary professionals	Technical
09 National contingency and avian/human pandemic influenza preparedness plans Various languages: http://www.fao.org/avianflu/en/strategydocs.html	Policy makers	General
10 Preparing for highly pathogenic avian influenza: a manual for countries at risk English: http://www.fao.org/docs/eims/upload/200354/HPAI_manual.pdf	Policy makers & poultry sector	General
World Organization for Animal Health (OIE) 11 Terrestrial Animal Health Code English: http://www.oie.int/eng/Normes/mcode/en_sommaire.htm	Policy makers, poultry sector & veterinary	General

http://www.oie.int/eng/normes/mcode/en_titre_1.3.htm (Section 1.3: Risk Analysis) http://www.oie.int/eng/normes/mcode/en_chapitre_2.7.12.htm (Section 2.7.12: Avian Influenza)	professionals	
Ramsar Convention on Wetlands 12 Ornithological Expert Panels English: Section 4 of this Annex (Annex to Ramsar Resolution X.10) French: Section 4 of this Annex (Annex to Ramsar Resolution X.10) Spanish: Section 4 of this Annex (Annex to Ramsar Resolution X.10)	Policy makers	General
NATURE RESERVES AND WILD BIRDS		
Ramsar Convention on Wetlands 13 Handbook 11: Inventory, assessment and monitoring English: http://ramsar.org/lib/lib_handbooks2006_e11.pdf French: http://ramsar.org/lib/lib_handbooks2006_f11.pdf (Manuel 11: Inventaire, évaluation et suiv) Spanish: http://ramsar.org/lib/lib_handbooks2006_s11.pdf (Manual 11: Inventario, evaluación y monitoreo) 14 Wetland Risk Assessment Framework English: http://www.ramsar.org/key_guide_risk_e.htm French: http://www.ramsar.org/key_guide_risk_f.htm (Cadre d'évaluation des risques pour les zones humides) Spanish: http://www.ramsar.org/key_guide_risk_s.htm (Marco para evaluar el riesgo en humedales) 15 The Ramsar 'Toolkit' English: http://www.ramsar.org/lib/lib_handbooks2006_e.htm French: http://www.ramsar.org/lib/lib_handbooks2006_f.htm (La "boîte à outils" de la Convention de Ramsar) Spanish: http://www.ramsar.org/lib/lib_handbooks2006_s.htm ("Juego de herramientas" de la Convención de Ramsar) 16 Handbook 16: Managing wetlands English: http://ramsar.org/lib/lib_handbooks2006_e16.pdf French: http://ramsar.org/lib/lib_handbooks2006_f16.pdf (Gestion des zones humides) Spanish: http://ramsar.org/lib/lib_handbooks2006_s16.pdf (Manejo de humedales)	Site managers	General
	Policy makers & site managers	General
	Policy makers & site managers	General
	Site managers	General
European Commission		
17 Urgent preliminary assessment of ornithological data relevant to the spread of Avian Influenza in Europe English: http://ec.europa.eu/environment/nature/conservation/wildbirds/birdflue/docs/rep_spread_avian_influenza_report.pdf	Policy makers & scientists	Technical
18 Ornithological data relevant to the spread of Avian Influenza in Europe (phase II): further identification and first field assessment of Higher Risk Species English: http://ec.europa.eu/environment/nature/conservation/wildbirds/birdflue/docs/spread_avian_influenza.pdf	Policy makers & scientists	Technical
19 Methodology for rapid assessment of ornithological sites English: http://ec.europa.eu/environment/nature/nature_conservation/focus_wild_birds/avian_influenza/pdf/3	Policy makers & site managers	General
Health Protection Agency / Department for Environment, Food and Rural Affairs (United Kingdom)		
20 Risk assessment: avian influenza in public parks/parkland & open waters due to wild bird exposure English: http://www.hpa.org.uk/infections/topics_az/influenza/avian/documents/AIParksandOpenWatersRiskAssessment-July2006.pdf	Public, captive collection managers & site managers	General

PREVENTION AND CONTROL		
BACKGROUND		
<p>Ramsar Convention on Wetlands</p> <p>21 Resolution IX.23. Highly pathogenic avian influenza and its consequences for wetland and waterbird conservation and wise use (8-15 Nov 2005, Kampala, Uganda) English: http://www.ramsar.org/res/key_res_ix_23_e.htm French: http://www.ramsar.org/res/key_res_ix_23_f.htm (Résolution IX.23. L'influenza aviaire hautement pathogène et ses conséquences pour la conservation et l'utilisation rationnelle des zones humides et des oiseaux d'eau) Spanish: http://www.ramsar.org/res/key_res_ix_23_s.htm (Resolución IX.23. La gripe aviar hiperpatogénica y sus consecuencias para la conservación y el uso racional de los humedales y las aves acuáticas)</p>	Policy makers & Ramsar administrative authorities	General
<p>Food and Agriculture Organization (FAO)</p> <p>22 Enhancing control of highly pathogenic avian influenza in developing countries through compensation: issues and good practice English: http://www.fao.org/docs/eims/upload//217132/gui_hpai_compensation.pdf</p> <p>23 Highly Pathogenic Avian Influenza in Africa English: http://www.fao.org/docs/eims/upload//217651/hpai_strategy_africa_en.pdf</p> <p>24 Epidemiology of H5N1 Avian Influenza in Asia and implications for regional control English: http://www.fao.org/ag/againfo/subjects/documents/ai/HPAI-Masseyreport.pdf</p> <p>25 FAO Regional Office for Latin America and the Caribbean Spanish: http://www.rlc.fao.org/es/prioridades/transfron/aviar/default.htm</p>	<p>Policy makers & poultry sector</p> <p>Policy makers</p> <p>Policy makers & poultry sector</p> <p>Policy makers & poultry sector</p>	<p>General</p> <p>General</p> <p>Technical</p> <p>General</p>
<p>SCOFCAH/ORNIS</p> <p>26 Summary Record of the Joint Standing Committee on the Food Chain and Animal Health (SCOFCAH) and of the Ornis Committee/SWG held in Brussels on 1 Dec 2006 English: http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/docs/scofcah_ornis_com_01122006_en.pdf</p>	Policy makers	General
<p><i>Avian Diseases</i> (journal)</p> <p>27 Lessons learned from Asian H5N1 outbreak control (Sims, L.D. 2007. Lessons learned from Asian H5N1 outbreak control. <i>Avian Diseases</i> 50: 174-181) English: http://www.ncbi.nlm.nih.gov/sites/entrez?term=17494550&cmd=search&db=pubmed</p>	Policy makers & scientists	Technical
GENERAL		
<p><i>Emerging Infectious Diseases</i> (journal)</p> <p>28 [Tackling a] multifocal avian influenza (H5N1) outbreak English: http://www.cdc.gov/eid/content/13/10/1601.htm</p>	Policy makers	General
<p><i>Eurosurveillance Weekly</i> (journal)</p> <p>29 Preventing introduction and spread of avian influenza among bird flocks in Europe: recommendations by European Animal Health Panel English: http://www.eurosurveillance.org/ew/2005/050929.asp</p>	Policy makers	General

<p>Food and Agriculture Organization (FAO)</p> <p>30 Recommendations on the Prevention, Control and Eradication of Highly Pathogenic Avian Influenza (HPAI) in Asia English: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/27septrecomm.pdf</p> <p>31 Emergency assistance for early detection and prevention of avian influenza in the Eastern Europe and Caucasus regions English: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/cd/documents/RAF3004d.pdf</p> <p>32 Emergency assistance for early detection and prevention of avian influenza in Western Africa English: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/cd/documents/RAF3016.pdf</p> <p>33 Emergency assistance for early detection and prevention of avian influenza in the Middle East region English: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/cd/documents/RAF3005.pdf</p> <p>34 Emergency assistance for early detection and prevention of avian influenza in eastern and southern Africa English: http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/cd/documents/RAF3017.pdf</p> <p>35 List of FAO avian influenza manuals and training materials Spanish: http://www.fao.org/avianflu/es/manuals_es.html</p>	<p>Policy makers & poultry sector</p> <p>Policy makers & poultry sector</p> <p>Policy makers & poultry sector</p> <p>Policy makers & poultry sector</p> <p>Policy makers & poultry sector</p> <p>Policy makers, poultry sector & scientists</p>	<p>General</p> <p>General</p> <p>General</p> <p>General</p> <p>General</p> <p>General</p>
<p>Wetlands International</p> <p>36 How to stop further outbreaks English: http://www.wetlands.org/articlemenu.aspx?id=31c525ed-c4d5-491e-83d9-120dbf3979c1</p>	<p>Public, policy makers & scientists</p>	<p>General</p>
<p>BirdLife International</p> <p>37 Guidance for public authorities English: http://www.birdlife.org/action/science/species/avian_flu/pdfs/Guidance_Public_Authorities.pdf</p>	<p>Public & policy makers</p>	<p>General</p>
<p>Department for Environment, Food and Rural Affairs (United Kingdom)</p> <p>38 Summary epidemiological report on a H5N1 HPAI case in turkeys in England, January 2007 (includes modus operandi of the UK Ornithological Expert Panel (OEP)) English: http://www.defra.gov.uk/animalh/diseases/notifiable/disease/ai/pdf/epid_findings050407.pdf</p>	<p>Policy makers, poultry sector & scientists</p>	<p>General</p>
<p>European Commission</p> <p>39 Council Directive 2005/94/EC of 20 December 2005 on Community measures for the control of avian influenza and repealing Directive 92/40/EEC All EU languages: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005L0094:EN:NOT</p> <p>40 Commission Decision of 26 April 2004 approving contingency plans for the control of avian influenza and Newcastle disease (Text with EEA relevance) (notified under document number C(2004) 1517) All EU languages: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004D0402:EN:NOT</p>	<p>Policy makers & poultry sector</p> <p>Policy makers & poultry sector</p>	<p>Technical</p> <p>Technical</p>
<p>World Organization for Animal Health (OIE)</p> <p>41 Terrestrial Animal Health Code English: http://www.oie.int/eng/Normes/mcode/en_sommaire.htm http://www.oie.int/eng/normes/mcode/en_chapitre_1.1.2.htm (Section 1.1.2: Notification of Diseases and Epidemiological Information to OIE) http://www.oie.int/eng/normes/mcode/en_chapitre_2.7.12.htm (Section 2.7.12: Avian Influenza)</p>	<p>Policy makers, poultry sector & veterinary professionals</p>	<p>General</p>

NATURE RESERVES AND WILD BIRDS		
Ramsar Convention on Wetlands		
42 Guidelines for reducing avian influenza risks at Ramsar sites and other wetlands of importance to waterbirds English: Section 2 of this Annex (Annex to Ramsar Resolution X.10) French: Section 2 of this Annex (Annex to Ramsar Resolution X.10) Spanish: Section 2 of this Annex (Annex to Ramsar Resolution X.10)	Site managers	General
43 Recommended ornithological information to be collected during surveillance programmes or field assessment of wild bird mortality events, especially at wetlands English: Section 3 of this Annex (Annex to Ramsar Resolution X.10) French: Section 3 of this Annex (Annex to Ramsar Resolution X.10) Spanish: Section 3 of this Annex (Annex to Ramsar Resolution X.10)	Scientists, veterinary professionals, and site managers	General
CAPTIVE COLLECTIONS (See also: VACCINATION)		
European Commission		
44 Commission Decision of 28 August 2007 concerning measures to prevent the spread of highly pathogenic avian influenza to other captive birds kept in zoos and approved bodies, institutes or centres in the Member States All EU languages: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0598:EN:NOT	Policy makers & captive collection managers	Technical
British and Irish Association of Zoos and Aquariums (BIAZA)		
45 Advice from the British and Irish Association of Zoos and Aquariums on avian influenza English: http://www.biaza.org.uk/public/pages/care/avian.asp	Captive collection managers	General
POULTRY HOLDINGS (See also: VACCINATION)		
<i>Emerging Infectious Diseases</i> (journal)		
46 Control of avian influenza in poultry English: http://www.cdc.gov/ncidod/EID/vol12no09/06-0430.htm	Policy makers & poultry sector	General
Food and Agriculture Organization (FAO)		
47 Prevention and Control of Avian Flu in Small-scale Poultry: A guide for veterinary paraprofessionals English: http://www.fao.org/ag/againfo/subjects/documents/ai/AIManual_VN2005(en).pdf French: http://www.fao.org/ag/againfo/subjects/documents/ai/AI-Manual-french.pdf Indonesian: http://www.fao.org/ag/againfo/subjects/documents/ai/AI_GuideIndonesia.pdf Kyrgyzstan: http://www.fao.org/ag/againfo/subjects/documents/ai/Avian_Flu_kr.pdf Lao: http://www.fao.org/ag/againfo/subjects/documents/ai/AIGuideParavets_lao_.pdf Russian: http://www.fao.org/ag/againfo/subjects/documents/ai/AI-Manual-russian.pdf Spanish: http://www.fao.org/ag/againfo/subjects/documents/ai/AI-Manual-spanish.pdf Vietnamese: http://www.fao.org/ag/againfo/subjects/documents/ai/AIManual_VN2005(vn).pdf	Poultry sector & veterinary professionals	General
48 Prevention and Control of Avian Flu in Small-scale Poultry: A guide for veterinary paraprofessionals in Vietnam English: http://www.fao.org/ag/againfo/subjects/documents/ai/AIManual_VN2005(en).pdf	Poultry sector & veterinary professionals	General
49 Prevention and Control of Avian Flu in Small-scale Poultry: A guide for veterinary paraprofessionals in Cambodia English: http://www.fao.org/ag/againfo/subjects/documents/ai/AI-paravets-guide.pdf	Poultry sector & veterinary professionals	General

VACCINATION		
<p><i>PloS Medicine</i> (journal)</p> <p>50 A comparative analysis of influenza vaccination programs English: http://medicine.plosjournals.org/perlserv?request=get-document&doi=10.1371/journal.pmed.0030387</p>	Policy makers, poultry sector & veterinary professionals	Technical
<p>European Commission</p> <p>51 Vaccination of poultry against highly pathogenic avian influenza H5N1 (Diva strategy) English: http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/discussion_paper.pdf</p>	Policy makers, poultry sector & veterinary professionals	Technical
<p>European Food Safety Authority (EFSA)</p> <p>52 Opinion of the Scientific Panel on Animal Health and Welfare (AHAW) related with the vaccination against avian influenza of H5 and H7 subtypes in domestic poultry and captive birds English: http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1178621165004.htm</p> <p>53 Opinion of the Scientific Panel on AHAW on a request from the Commission related with the vaccination against AI of H5 and H7 subtypes as a preventive measure carried out in Member States in birds kept in zoos under Community approved programmes English: http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1178620772568.htm</p>	<p>Policy makers, poultry sector & veterinary professionals</p> <p>Policy makers, captive collection managers & veterinary professionals</p>	<p>General</p> <p>General</p>
<p>British and Irish Association of Zoos and Aquariums (BIAZA)</p> <p>54 Guidelines on vaccinating birds against avian influenza English: http://www.biaza.org.uk/resources/library/images/BIAZA_QA_Vaccination.pdf</p>	Captive collection managers and veterinary professionals	Technical
HEALTH & SAFETY		
<p>Centers for Disease Control and Prevention</p> <p>55 Interim guidance for protection of persons involved in U.S. avian influenza outbreak disease control and eradication activities English: http://www.cdc.gov/flu/avian/professional/protect-guid.htm Spanish: http://www.cdc.gov/flu/avian/es/protectionguid_es.htm (Guía provisional para la protección de personas que participen en actividades de control y erradicación de brotes de gripe aviar (o gripe del pollo) en EE.UU.)</p> <p>56 Interim recommendations for persons with possible exposure to avian influenza during outbreaks among poultry in the United States English: http://www.cdc.gov/flu/avian/professional/possible-exposure.htm</p>	<p>Poultry sector</p> <p>Public & poultry sector</p>	<p>General</p> <p>General</p>
<p>US Department of Labor Occupational Safety & Health Administration (OSHA)</p> <p>57 OSHA Guidance Update on Protecting Employees from Avian Flu (Avian Influenza) Viruses English: http://www.osha.gov/Publications/3323-10N-2006-English-07-17-2007.html Spanish: http://www.scribd.com/doc/357117/avian-flu-guidance-spanish?ga_related_doc=1 (Orientación actualizada de OSHA acerca de Cómo proteger a los empleados contra los virus de la gripe aviar (influenza aviar))</p>	Poultry sector	General

World Health Organization (WHO) 58 Protection of individuals with high poultry contact in areas affected by avian influenza H5N1: Consolidation of pre-existing guidance English: http://www.who.int/csr/disease/avian_influenza/guidelines/high_contact_protection/en/index.html	Animal handlers & poultry sector	General
Food and Agriculture Organization (FAO) 59 Avian Influenza and Human Health: Risk reduction measures in producing, marketing and living with animals in Asia English: http://www.fao.org/ag/againfo/subjects/documents/ai/concmalaysia.pdf	Policy makers & poultry sector	General
SURVEILLANCE AND EARLY WARNING SYSTEMS		
GENERAL		
Food and Agriculture Organization (FAO) 60 Guiding Principles for Highly Pathogenic Avian Influenza Surveillance and Diagnostic Networks in Asia English: http://www.fao.org/docs/eims/upload//210749/Gui_principlesHPAI_july04_en.pdf	Policy makers & poultry sector	Technical
European Commission 61 Guidelines for AI surveillance in wild birds and poultry (in 2007/268/EC: Commission Decision of 13 April 2007 on the implementation of surveillance programmes for avian influenza in poultry and wild birds to be carried out in the Member States) EU languages: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007D0268:EN:NOT	Policy makers, scientists and veterinary professionals	Technical
62 EU Animal Disease Notification System (ADNS) English: http://ec.europa.eu/food/animal/diseases/adns/index_en.htm	Scientists	Technical
World Organization for Animal Health (OIE) 63 OIE World Animal Health Situation - Information System and Database English: http://www.oie.int/eng/info/en_info.htm?e1d5	Policy makers, scientists & poultry sector	General
Global Avian Influenza Network for Surveillance (GAINS) 64 Website for the Wild Bird Global Avian Influenza Network for Surveillance (GAINS) English: http://www.gains.org/	Scientists & veterinary professionals	General
METHODOLOGY		
Food and Agriculture Organization (FAO) 65 Wild bird HPAI surveillance: sample collection from healthy, sick and dead birds (AGA Manual No. 4) English: http://www.fao.org/docs/eims/upload/218650/manual_wildbird_en.pdf French: http://www.fao.org/docrep/010/a0960f/a0960f00.htm Spanish: http://www.fao.org/docrep/010/a0960s/a0960s00.htm Chinese: http://www.fao.org/docrep/010/a0960c/a0960c00.htm Russian: http://www.fao.org/docrep/010/a0960r/a0960r00.htm	Scientists & veterinary professionals	Technical
66 Wild birds and avian influenza: an introduction to applied field research and disease sampling techniques (AGA Manual No. 5) English: http://www.fao.org/ag/againfo/resources/en/manuals/manual5.pdf	Scientists & veterinary professionals	Technical

Wetlands International 67 Emergency assistance for early detection and prevention of avian influenza: Terms of reference for participants in field sampling missions English: Wetlands International internal guidance – available on request	Scientists & veterinary professionals	General
Wildfowl & Wetlands Trust (WWT) 68 WWT Wildfowl Catch Manual English: WWT internal guidance – available on request.	Scientists & veterinary professionals	General
World Organization for Animal Health (OIE) 69 Terrestrial Animal Health Code English: http://www.oie.int/eng/Normes/mcode/en_sommaire.htm http://www.oie.int/eng/normes/mcode/en_chapitre_3.8.1.htm (Section 3.8.1: Guidelines for animal health surveillance) http://www.oie.int/eng/normes/mcode/en_chapitre_3.8.9.htm (Section 3.8.9: Guidelines for surveillance of avian influenza)	Poultry sector & veterinary professionals	General
PAST INITIATIVES		
Wetlands International/CIRAD/FAO 70 Wild birds and Avian Influenza in Africa: summary of surveillance and monitoring programmes English: http://wildbirds-ai.cirad.fr/index.php	Scientists & veterinary professionals	General
European Commission 71 Results of EU avian influenza surveillance in poultry and wild birds English: http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/eu_resp_surveillance_en.htm	Policy makers & scientists	Technical
HEALTH & SAFETY		
British Trust for Ornithology (BTO) 72 Disease from birds, with particular reference to avian influenza English: http://www.bto.org/ringing/diseases-from-birds.doc	Bird banders/ringers	General
Health & Safety Executive (United Kingdom) 73 Working with highly pathogenic avian influenza virus English: http://www.hse.gov.uk/biosafety/diseases/avianflu.htm	Scientists	General
US Fish & Wildlife Service 74 List of guidelines for hunters and bird handlers English: http://www.fws.gov/migratorybirds/issues/AvianFlu/WBAvianFlu.htm	Animal handlers & hunters	General
COMMUNICATION, EDUCATION AND PUBLIC AWARENESS (CEPA)		
GENERAL		
World Conservation Union (IUCN) 75 IUCN Species Survival Commission Media Guide English: http://www.iucn.org/themes/ssc/for_members/media_guide.htm	Those responsible for briefing the media, public, policy makers	General

Science and Development Network 76 Dealing with the media English: http://www.scidev.net/ms/sci_comm/index.cfm?pageid=191	Those responsible for briefing the media, public, policy makers	General
GREEN Communications 77 Green Guide to effective public relations English: http://www.greenblog.co.uk/files/guide-to-effective-pr.pdf	Those responsible for briefing the media, public, policy makers	General
Civicus 78 Civicus Toolkit on handling the media English: http://www.civicus.org/new/media/Handling the Media.pdf	Those responsible for briefing the media, public, policy makers	General
Scientific Task Force on Avian Influenza & Wild Birds 79 Avian influenza and wild birds information brochures (Avian Influenza & Wild Birds: What is their actual role in the spread of the virus?) English: http://www.aiweb.info/documents/AI_brochure_English.pdf French: http://www.aiweb.info/documents/AI_brochure_French.pdf Spanish: http://www.aiweb.info/documents/AI_brochure_Spanish.pdf Russian: http://www.aiweb.info/documents/AI_brochure_Russian.pdf Arabic: http://www.aiweb.info/documents/AI_brochure_Arabic.pdf Chinese: http://www.aiweb.info/documents/AI_brochure_Chinese.pdf	Those responsible for briefing the media, public, policy makers	General
Ramsar Convention on Wetlands 80 Handbook 4: Wetland CEPA English: http://www.ramsar.org/lib/lib_handbooks2006_e04.pdf French: http://www.ramsar.org/lib/lib_handbooks2006_f04.pdf (Manuel 4: CESP-Zones humide) Spanish: http://www.ramsar.org/lib/lib_handbooks2006_s04.pdf (Manual 4: CECOP sobre los humedales)	Site managers & those responsible for briefing the media, public, policy makers	General

2) Guidelines for reducing avian influenza risks at Ramsar sites and other wetlands of importance to waterbirds

2.1) Summary

25. These guidelines³ have been produced in response to a request from Ramsar Contracting Parties at COP9 for guidance on practical measures to reduce risks of highly pathogenic avian influenza (HPAI) for managers of wetland areas. They are intended to reduce the potential risk of outbreaks of the disease at wetlands of national and international importance for waterbirds by proposing a range of measures that can be taken before any outbreaks have occurred.
26. Most of these measures should be systematically planned on the basis of a risk assessment for the site, within the context of site management plans and outbreak response plans (see guidance in Section 1).
27. The guidelines draw to a large extent on existing material, and links to sources are provided throughout.
28. Section 2.3 on risk assessment follows the Ramsar Convention's Wetland Risk Assessment Framework (Ramsar Convention Secretariat 2007a). The application of this framework to assess the risks of HPAI occurrence at a site (i.e., a specific animal health problem) may have some shortcomings, but the general approach of problem identification, impact prediction, estimation of the extent of impacts, and overall assessment of the risk of adverse impacts, leading to risk management and reduction measures, monitoring and communication with all stakeholders, is recommended as good practice.
29. Section 2.4 on risk reduction (or management) measures describes how managers of an individual wetland or a system of wetlands and other protected areas establish systematic measures to reduce the overall risks of HPAI transmission, based on common principles. As the situation at each site will be different, specific risk reduction measures should be undertaken at each site so that local efforts can be focused on controlling the most significant risk factors. This section lists a range of measures that can be incorporated in site management plans to ensure a systematic and pre-emptive approach towards managing HPAI risks at sites.
30. Section 2.5 covers surveillance programmes, focusing on their application at sites. These are essential for better understanding the disease, monitoring its development, and

³ These guidelines were originally produced under the framework of the UNEP/GEF Siberian Crane Wetlands Project (SCWP), in response to international concern over the threat that HPAI H5N1 poses to waterbird populations, including globally threatened species such as the Siberian Crane *Grus leucogeranus*. This project aims to develop networks of well-managed wetland protected areas to support migratory waterbird populations in East and West/Central Asia in cooperation with other flyway conservation initiatives and to address specific threats at selected key sites. The original UNEP/GEF SCWP guidance was reviewed and subsequently revised by the STRP to provide guidance that is more broadly applicable to a range of wetlands, including Ramsar-listed Wetlands of International Importance, individual wetlands and wetland systems of importance to waterbirds, and to aquatic protected areas more generally.

contributing to early warning systems. They should incorporate the results of risk assessments that have identified those species likely to be at higher risk of carrying the HPAI H5N1 virus, as well as the best strategic design (including optimal selection of sampling sites) and methods of sampling these species. This requires action at many scales, including more effort at national and site levels to monitor the health of wild birds.

31. Section 2.6 deals with outbreak response planning – reducing the risks of significant impacts in the case of an HPAI outbreak, primarily through ensuring that procedures are in place for a rapid response. It lists specific questions for site managers to consider when preparing an outbreak response plan and a format for ornithological information to support response needs.
32. Although these guidelines are aimed at reducing the risks and impact of HPAI, they also provide a framework for managing other emerging or re-emerging diseases at wetlands, particularly infectious processes.

2.2) Introduction

33. The guidelines are intended to reduce the potential for outbreaks of HPAI H5N1 of Asian lineage at wetlands of importance for waterbirds through a range of measures that can be taken by site managers before any outbreaks have occurred. Most of these measures should be systematically planned on the basis of a risk assessment for the site, within the context of site management plans and outbreak response plans. A holistic and participatory approach to the risk assessment and plans is advocated here in order to improve their effectiveness.
34. The purpose of these guidelines is to provide the managers of wetlands with a series of relatively simple procedures and actions that will effectively reduce the risks of avian influenza virus transmission among domestic birds, wild birds, and people.
35. The guidelines have been kept concise and relatively simple in order to facilitate their use in the widely varied circumstances of wetland areas worldwide. More detailed information can be obtained through the guidance directory in Section 1.3. Contact details of international organizations concerned with avian influenza and wild birds can be obtained from the Scientific Task Force on Avian Influenza and Wild Birds' AIWEb website (<http://www.aiweb.info>).
36. The outbreak and spread of the HPAI H5N1 in recent years has led to widespread concern about the potential impacts on human health (especially the risk of a global influenza pandemic), the poultry industry, and the conservation of wild birds. These guidelines focus on the last aspect and are based on the available literature on HPAI H5N1 and the recommendations of international conservation conventions, FAO, OIE, and WHO, as well as selected national sources. The Scientific Task Force on Avian Influenza and Wild Birds in particular has coordinated international scientific advice on the conservation impact of avian influenza.
37. While there are numerous sources of information and advice on the HPAI H5N1, few of these relate to the management of natural areas for wild birds. Recent work for the European Union (Wetlands International & EURING 2006; Veen *et al.* 2007) identified species that might pose a higher potential risk of spreading HPAI H5N1 along their

migration routes to the EU. Analyses of migration routes of these so-called 'higher risk' species (on the basis of ringing recoveries) identified wetland sites where such species concentrate. While this approach has not yet been applied to other regions, it is of particular relevance to these guidelines.

38. When planning control measures at individual wetland sites, it is essential that managers should obtain information on the respective national policies, legislative and administrative arrangements, and action plans and contingency plans through the related authorities for human health, animal health, and the environment in their countries.
39. Throughout these guidelines the term 'poultry' is defined, following OIE, as 'domestic birds bred for meat, eggs, feathers, etc., including chickens, turkeys, ducks, geese, quail, etc.'.

Avian influenza and wild birds

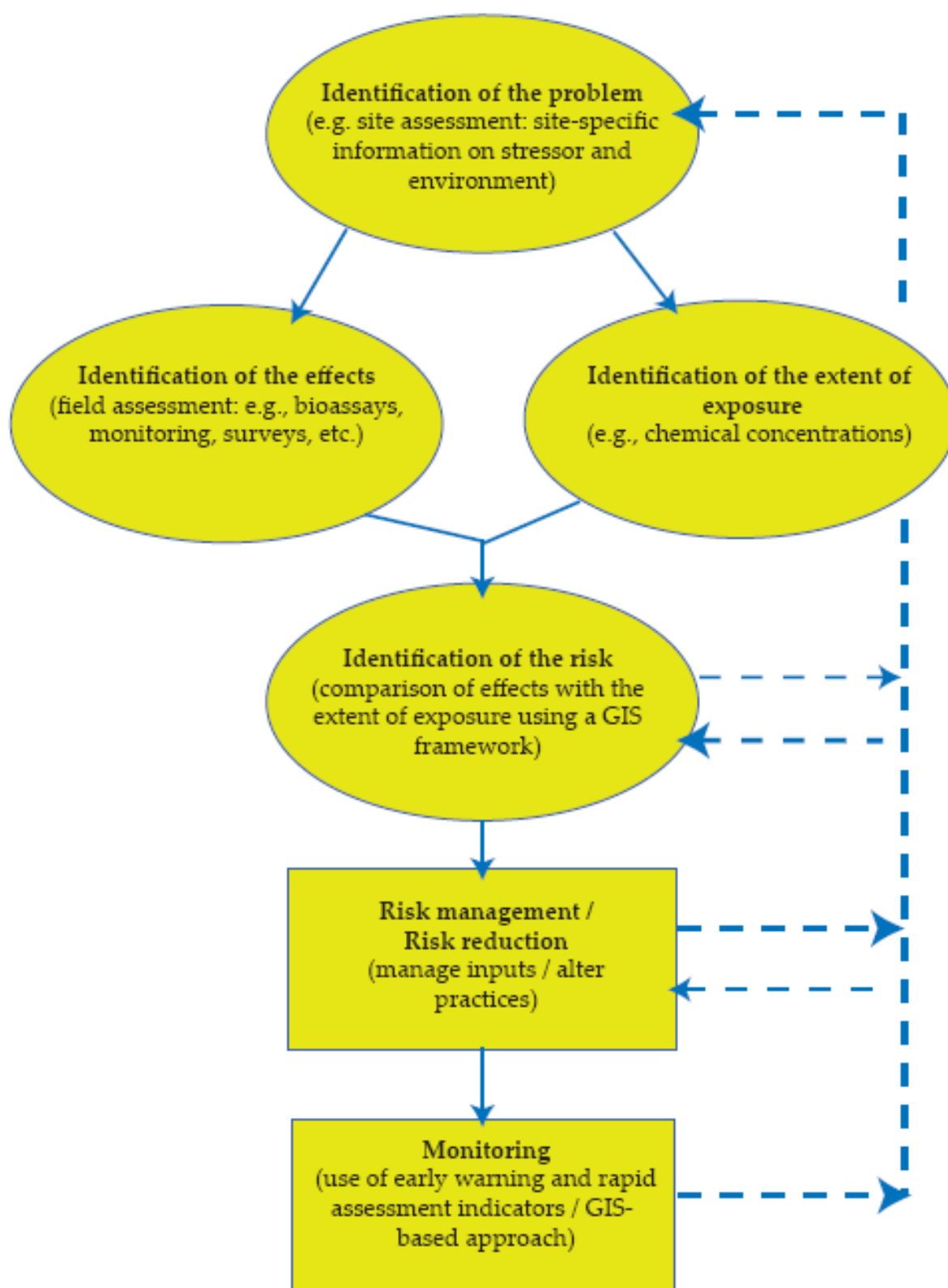
40. Wild birds, especially waterfowl and waders/shorebirds, are the natural reservoir of low pathogenic avian influenza (LPAI) viruses. These hosts and their viruses have become well-adapted to each other over time and infection does not usually cause overt disease in wild birds, although recent studies indicate that some behavioural changes may occur in response to infection (van Gils *et al.* 2007). These low pathogenic viruses replicate mainly in the intestinal tract of aquatic birds and are usually transmitted in the faeces. Thus, transmission in aquatic birds is by the faecal-oral route, i.e., wetland habitats provide the natural source of infection for other individuals.
41. The HPAI H5N1 virus infecting poultry, other domestic animals, wildlife, and humans almost certainly originated from the mutation of a LPAI virus on poultry farms and/or markets in east Asia. The virus has spread rapidly within and between farms, taking advantage of local practices in the feeding, housing, slaughtering, and trade of domestic ducks, chickens and geese. Poor hygiene, overstocking, and mixing of different domestic animals greatly increases the risk of spreading the infection. As a result the virus is now considered to be endemic in poultry of east and southeast Asia (Scientific Task Force on Avian Influenza and Wild Birds 2006).
42. Close contact between wild birds and poultry can lead to cross-infection, from poultry to wild birds and from wild birds to poultry. This has caused mortality in many species of wild birds including swans, geese, ducks, cormorants, grebes, gulls, herons, egrets, storks, and raptors, with most reports coming from Europe and Asia.
43. It is clear that legal and illegal trade in domestic poultry has been a crucial factor in the spread of infection both locally and over long, even cross-continental distances, although its relative significance seems to have varied at different times and in different places (Gauthier-Clerc *et al.* 2007; Kilpatrick *et al.* 2006). However, analysis of genetic sequences and other largely indirect evidence suggest that wild migratory birds are also likely to have contributed to further spread (see Chen *et al.* 2006; Kilpatrick *et al.* 2006; Hesterberg *et al.* 2007). The relative importance of different modes of viral spread, however, is unclear in the present state of knowledge.
44. Further background information is provided in Appendix 1.

2.3) Risk assessment

Introduction

45. The rapid emergence of HPAI H5N1, its high level of pathogenicity for poultry and some wild bird species, and its transmission to humans in close contact with poultry have together resulted in a major global response.
46. However, many aspects which may be important in the spread of this subtype of avian influenza virus are poorly understood, including its epidemiology in wild birds and other wildlife, its persistence in the environment, the exact migratory routes used by many bird species, the trade routes (both legal and illegal) used for poultry and poultry products, and the extent of its spread by both the legal and illegal trade in wild birds. At the site level, often little quantitative information is available on the assemblage of bird species present in any particular month of the year, their use of neighbouring areas, and the dynamics of local wetland ecosystems as well as of local poultry enterprises.
47. UNEP (2006) recommends that all countries should undertake risk assessments which should be transparent, structured, and science-based and make use of all available knowledge. In the face of all this uncertainty, the development of accurate risk assessments for both countries and individual wetland sites is problematic. This reflects the need to give priority to applied research, monitoring, and surveillance so that risk assessments and related management actions can be more targeted and accurate. UNEP (2006) provides recommendations on data, information and research needs, emphasizing the importance of enhanced field surveillance efforts.
48. However, it is important to make efforts using the best available information to reduce risks at Ramsar sites and other wetlands, starting with a site risk assessment.
49. The Ramsar Convention's Wetland Risk Assessment Framework (Ramsar Convention Secretariat 2007a) provides a mechanism for predicting and assessing change in the ecological character of wetlands, and it promotes the usefulness of early warning systems. This framework is outlined in Figure 1 and explained further in Ramsar's *Handbook on Inventory, Assessment and Monitoring* (Ramsar Convention Secretariat 2007a). The application of this framework to assess the risks of HPAI occurrence at a site may have some shortcomings, as Ramsar's Wetland Risk Assessment Framework was not designed with a specific animal health problem in mind. However, the general approach of problem identification, impact prediction, estimation of the extent of impacts, and overall assessment of the risk of adverse impacts, leading to risk management and reduction measures, monitoring and communication with all stakeholders, can still be recommended as good practice.

Figure 1. Model for wetland risk assessment (Ramsar Convention Secretariat 2007a)



Step 1 - Problem identification

50. This step involves recognizing the nature of HPAI H5N1 pathogenicity, means of transmission, etc. While much about the virus and epidemiology of the disease remains unknown, some key points are summarized below (see Appendix 1 for more details):
- i) HPAI H5N1 has infected a wide range of birds and some domestic and wild mammal species.
 - ii) The virus has shown high virulence in most poultry, and infected birds have usually died quickly; there is some evidence that some experimentally infected waterbirds can survive while shedding virus (e.g., ducks, geese, swans and gulls: Chen *et al.* 2006; Hulse-Post *et al.* 2005; Brown *et al.* 2006; Brown *et al.* 2008);
 - iii) Cross-infection can occur between domestic / captive birds and wild birds (in both directions), although actual transmission mechanisms are largely undocumented.
 - iv) Some species are thought to be at a higher risk of infection than others due to their behavioural and ecological characteristics (Wetlands International & EURING 2006; Veen *et al.* 2007).
 - v) Although information is still lacking, there is likely to be great variability in the survival of virus in the environment, especially in faecal and other organic material, with temperature, pH, salinity and UV radiation all affecting viral viability.
51. It is therefore important to gather information on ecological aspects of, and human activities within, a site to ensure that the problems can be subsequently both quantified and qualified.

Step 2 – Identification of the adverse effects***Timing of possible outbreaks***

52. The potential adverse effects will depend largely on which bird species are present at the site at different times of the year (residents, breeding visitors, non-breeding visitors, passage migrants, and nomadic or irruptive species). The seasonal timing of an outbreak will significantly affect the risks to bird populations owing to the varying presence of different species. Similarly, there may be other relatively predictable times of increased risk due to people and poultry activities, for example, during times of poultry movements, times when people or vehicular access to the site is greater, or times when there is application of fertiliser which may contain potentially infected poultry manure.

Bird distribution on site

53. Bird species occupy different parts of the site according to habitat preferences and daily behavioural patterns (feeding, roosting, bathing/drinking). Most bird species are more sedentary during the breeding and moulting season, remaining within breeding territories or on moult sites.
54. Some species will be present in dense flocks, some in loose dispersed flocks, and others as small groups or individuals. Most species will mix with other species at a site during the course of their stay.

55. Some bird and mammal species will remain far from human habitation, while others are attracted as it offers benefits such as food sources, shelter, nesting and safety from predators. These species, such as sparrows, starlings, crows, pigeons, rats and mice have the potential to carry disease between industrial or domestic poultry and wild birds, and thus they are known as “bridge species” (see Highly Pathogenic Avian Influenza Infection Route Elucidation Team 2004; Veen *et al.* 2007).

Presence of species of high conservation importance

56. The presence of globally threatened species (more than 1% of a biogeographic waterbird population or more than 20,000 waterbirds) is among the criteria which determine the international importance of a wetland for waterbirds. Important Bird Area criteria include the presence of restricted range and endemic species. Consideration of species of high conservation importance should be a priority during risk assessments, with the aim of reducing the level of risks to such species.
57. It should be noted that HPAI H5N1 has also infected several mammal species, with scavengers and predators of dead birds likely to be most at risk (see Appendix 1).

Step 3 – Identification of the likely extent of the problem

58. Prediction of the extent of HPAI outbreaks at a site is difficult, in view of the scarcity of information about outbreaks in wild birds. Points for site managers to consider are:
 - If the outbreak occurs in poultry, the biosecurity of the facility, early diagnosis of the disease, and speed of response in controlling the outbreak and preventing its further spread are all of critical importance.
 - If poultry and their wastes are kept in biosecure facilities away from the wetlands, the risks of cross-infection to wild birds should be much reduced.
 - The virus can survive in water and spread through wetlands. Waste from poultry facilities should not be allowed to enter wetlands, and for the same reason water supplies for poultry facilities should come from clean sources.
 - Outbreaks in wild birds appear to have been largely self-limiting – e.g., Jungle Crows *Corvus macrorhynchos* in Japan in 2004 (see Highly Pathogenic Avian Influenza Infection Route Elucidation Team 2004; Sabirovic 2006) – but recorded mortality has been high in some situations, e.g., at Qinghai Lake, China, in May 2005.
 - Some species appear to be more vulnerable to infection, such as swans, ducks and grebes.
 - Wild birds often move outside the wetland’s boundaries to other areas in the surrounding landscape. For instance, ducks, geese, swans and cranes may feed on agricultural fields and use the wetland for roosting. Fish-eating birds like cormorants may commute between wetlands, rivers, fishponds. and coastal areas. In such cases, wider assessments of the risk of cross-infection and spread are thus needed.

Step 4 – Identification of the risk

59. This involves integrating the results from the assessment of likely effects (Step 2) with those from the assessment of the likely extent of the problem (Step 3). A range of techniques exist for estimating risks, often depending on the type and quality of likely effects and their extent. Mapping of the assessments with GIS can be used to link the effects to impacts (e.g., poultry facilities on or near the site, other human activities, distribution of key species at the site across different seasons, seasonal changes in water levels leading to concentrations of wild bird species or wild and domestic birds, important roost sites (either temporary or permanent), wetland margins and crop patterns in adjacent landscapes).
60. This may indicate that the risks caused by an outbreak are higher during the peak migration and non-breeding period for some sites – or the opposite for other sites which have, for example, breeding waterbird populations in summer and are frozen during the winter.
61. Also, the risks posed by infection at sites containing high concentrations of birds (e.g., dense flocks of swans, geese, ducks and cranes) may be relatively high if there are significant infection routes (perhaps bridge species, presence of captive birds, poultry, or feeding stations).

2.4) Risk reduction measures

Principles

62. Wetland site managers can implement a series of measures that should effectively reduce the risks of HPAI transmission between domestic birds, wild birds, and people at their sites. As the situation at each site will be different, risk reduction measures should be undertaken at the scale of individual sites so that local efforts can be focused on controlling the most significant risk factors.
63. However, managers of individual sites and wetland systems can also put in place systematic measures which should reduce the overall risks of HPAI transmission across all sites. The general principles of these measures are to:
 - i) physically separate wild birds and domestic/captive birds (including poultry), their food and water sources, and their waste where this is feasible;
 - ii) improve biosecurity arrangements for domestic/captive birds;
 - iii) control environmental transmission routes for the virus on the site and, where appropriate, when leaving the site, e.g., via wild, captive or domestic birds and fomites (inanimate contaminated objects such as footwear or vehicle wheels);
 - iv) improve surveillance and reporting of the health of domestic/captive birds and wild birds;
 - v) improve the knowledge base on the use of the site by wild birds and potential bridge species; and
 - vi) be fully prepared with a response plan in the event of an outbreak (see Section 2.6).
64. There is wide international consensus that attempting to control HPAI through responses such as culling or disturbing wild birds, or destroying wetland habitats, is not feasible and should not be attempted, not least since it may exacerbate the problem by causing further dispersion of infected birds. Resolution IX.23 of the Ramsar Convention on Wetlands states that the “destruction or substantive modification of wetland habitats with the

objective of reducing contact between domesticated and wild birds does not amount to wise use as urged by Article 3.1 of the Convention, and also may exacerbate the problem by causing further dispersion of infected birds”. These conclusions were also highlighted by the Convention on Migratory Species (CMS) Resolution 8.27 and the African-Eurasian Waterbird Agreement (AEWA) Resolution 3.18.

Management planning

65. Wetlands, particularly Ramsar sites, are most effectively managed through site management plans (Ramsar Convention Secretariat 2007b; Chatterjee *et al.* 2008). Wetland management plans provide a systematic approach to the maintenance of conservation values, sustainable use of natural resources, and other land uses including research, education, and economic activities. Management plans provide a basis for controlling land uses and other activities within the relevant wetland areas when supported by legislation and regulations, and when there is a strong relationship between the management authorities and local stakeholders (e.g., through participatory management approaches and environmental education programmes). Management plans still provide a systematic means of implementing policies and initiatives if these enabling conditions are less than ideal.
66. Local measures related to reducing HPAI risks will usually be related to **site management objectives** concerning the following subjects:
 - A. conservation of waterbird populations;
 - B. conservation of threatened or endemic bird species;
 - C. captive breeding/reintroduction of wild bird species on site;
 - D. agricultural practices within, adjacent to, and upstream of the site;
 - E. sustainable use of natural resources (including hunting);
 - F. human access to different parts of the site;
 - G. communication, education and public awareness programmes; and
 - H. stakeholder participation and inter-agency communications.

A. Conservation of waterbird populations

67. One of the main concerns for reserve management will be to maintain the value of the site for waterbird populations, although the details will vary by site, e.g., breeding, staging, and/or over-wintering birds. Reserve management needs to have reliable information on the distribution of these birds across the site and surrounding areas in different seasons, supported by an ongoing monitoring programme.
68. In many cases the parts of the sites used by these birds will be distant from human activities due to factors such as habitat distribution, protection, regimes and disturbance. Situations can occur, however, when wild birds will inevitably come into close proximity with people and their activities:
 - i) small or linear sites surrounded by dense human populations (e.g., coastlines and rivers near cities, lakes near urban centres);
 - ii) small sites located in intensive agricultural landscapes or densely populated rural areas;
 - iii) sites where feeding of wild birds occurs, either by site managers or the public;

- iv) sites where domestic/captive birds are present on the wetlands or around their margins, or on water courses that drain into them;
 - v) sites where wild birds feed on agricultural land inside or around a protected area; or
 - vi) large sites that include human settlements and are used for natural resource exploitation (fishing, hunting, collection of other wetland products, grazing, etc.).
69. In general, best practice measures should be put in place to minimize contact between wild bird populations and domestic/captive birds (including poultry) and their waste. Some of these measures are outlined in Section 2.4.
70. In situations of heightened risk, further measures should be taken to minimize contact between wild bird populations and domestic/captive birds (including poultry), as well as people, although this may be difficult to achieve in some situations. Some practical steps that can be taken are:
- i) to zone land uses to separate human activities;
 - ii) to restrict human and vehicular access to those parts of the site where contact with wild bird populations is minimal, in the case of virus circulation at the site or in its surroundings, in order to reduce risk of onward spread of infection and minimise human health risks. This can be done through management zones, controls on vehicle access, fencing, etc. (see Section 1.3 for examples);
 - iii) to further constrain movements of free-flying or feral birds;
 - iv) to prohibit use of live decoy birds for hunting/trapping, releases of birds for hunting activities, and “merit releases” of captive birds (the traditional custom of releasing caged birds at certain times of the year as part of religious practices, especially in Asian countries);
 - v) to prohibit public feeding and hunting of wild birds in the case of HPAI outbreaks;
 - vi) to consider alternatives to the feeding of wild birds by reserve managers in order to avoid over-concentration of wild birds and related disease transmission risks; and
 - vii) to promote public education to raise awareness of HPAI, the risks it poses, and some simple precautions and response actions.
71. Regulations may be required to ensure enforcement of the above measures.

B. Conservation of threatened or endemic bird species

72. For threatened or endemic species, generally the same measures as for other waterbird populations should be undertaken, although any restrictions on access and activities would be for those parts of the site used by the threatened species. Effective conservation measures will require detailed information on the distribution of these species at the site (including those areas used for feeding, bathing, roosting, and nesting, and seasonal changes in these), supported by monitoring programmes.

C. Captive breeding/re-introduction of wild bird species on site

73. According to D. Armstrong, “Disease is increasingly recognized as a significant risk factor in conservation programs involving animal movements such as reintroduction or translocation. Disease risk poses threats not only to the species on which programs are focused but also to other species that share the habitat. The concern over disease processes and their impact extends across diverse areas of interest including the fields of

conservation biology, wild and zoo conservation management and veterinary medicine as well as to agricultural medicine and human medical fields. However disease risk has proven to be complex and difficult to assess and quantify in the context of a conservation program. The growing recognition that disease issues can profoundly affect the viability of populations and consequently the success or failure of conservation programs has led to diverse efforts by individuals and groups to develop some rational means to:

- i) assess the risks that disease poses to these programs;
 - ii) develop well reasoned understandings of the factors and issues involved; and
 - iii) make reasonable decisions based on these assessments.” (Armstrong *et al.* 2003).
74. Some wetland protected areas maintain collections of captive wild birds, for public education and display, research, captive breeding and release programmes to bolster wild populations of rare and endangered species. In general, such collections of captive birds should not be allowed to mix with wild birds – they should be kept in aviaries and not allowed to roam freely around the site. Preventing wild birds such as sparrows, starlings, pigeons, crows and gulls from entering enclosures is difficult unless they are completely enclosed with roof-netting and sheltered feeders are provided. See Section 1 for examples of guidelines.
 75. In addition, in order to reduce virus transmission, water and waste from captive bird collections should not be allowed to enter natural wetlands. This will be difficult to achieve in some sites with established collections without the construction of water management structures or water treatment facilities.
 76. Birds to be released from the captive breeding facility as part of reintroduction programmes should undergo thorough pre-release health screening as recommended by IUCN’s Reintroduction Specialist Group (IUCN 1998).
 77. There are many existing guidelines on good health care and biosecurity for poultry and captive birds, e.g., reducing risks from personnel movements, bird movements, and contaminated food and water – see Section 1 for examples, including FAO guidelines on avian influenza and keeping small-scale poultry (in different languages).
 78. Captive bird populations should be kept under surveillance for HPAI and other infectious diseases, sick birds should be quickly quarantined, and causes of death should be investigated in a timely manner .
 79. It is worth emphasizing that under unusual circumstances such as crowding, HPAI H5N1 could be devastating. The crowding of birds can be regarded as a pervasive threat, with HPAI H5N1 as just one example among many infectious diseases that could lead to significant mortality.
 80. In view of the significant risks posed by a potential outbreak of HPAI H5N1, collections of high conservation value species should develop and test contingency plans (using similar principles to those within these guidelines). These should include having good biosecurity arrangements in place, and managers should consider dispersion to separate cage facilities or sites to reduce risks. Where appropriate, consideration should be given to vaccination of captive birds with the aim of reducing mortality and potential viral shedding.

81. Wildlife rehabilitation facilities should also be reviewed for biosecurity and preferably kept separate from captive bird collections to reduce risks of introducing disease.

D. Agricultural practices within, adjacent to, and upstream of, the site

82. There are a number of agricultural practices which have the potential to increase the risks of HPAI infection on site, among which are:
 - i) intensive poultry farming (chickens, turkeys, quail, ducks and geese);
 - ii) domestic poultry rearing (generally small scale for subsistence) and rearing exotic birds (pigeons, pheasants, ornamental waterbirds, etc.);
 - iii) draining of waste water and poultry wastes into drains that are connected to wetlands;
 - iv) spreading organic manure from poultry farms as fertilizer on farmland; and
 - v) using fish food that includes poultry manure as an ingredient for aquaculture.
83. In general, intensive poultry rearing is not a suitable activity for a wetland that is important for waterbirds, and this should be reflected in the management plan for the site and the management regime for the wetland. This may become a cause of conflict where intensive farms already exist, and often wetlands are considered suitable environments for free-range duck farming. In such cases, the options include:
 - i) improving the biosecurity of the farm as far as possible so that there is no connection with wild birds or the wetland system;
 - ii) relocating the farm to another place with no connection to the wetland system; or
 - iii) closing the farm down and compensating the owners.
84. Which approach is appropriate will need to be determined locally.
85. Small-scale poultry rearing is harder to control (see Section 1.3), but in general birds should be kept indoors or in an enclosure and off the wetland system. If the risk is considered to be high, the activity could be banned in certain management zones within a wetland protected area.
86. Manure from intensive poultry farms is commonly used as a fertilizer on agricultural land. It is recommended that this practice should be banned completely within wetlands in order to reduce disease risks. The option of controlled usage in specified areas (e.g., away from wetlands) can be considered, but attention should be paid to spillage along access routes, drainage off fields into the wetlands, and use of fertilized fields by wild birds. In these situations, a pre-treatment for poultry manure through heat or sun-drying that inactivates viruses is recommended.
87. Any fish food used on-site for aquaculture should not include poultry manure or other poultry byproducts as an ingredient. Alternative foods are available.

E. Sustainable use of natural resources (including hunting)

88. Public access to parts of the wetland site can provide the benefit of improved reporting of unusual occurrences of sick or dead birds, especially if public education is conducted.

89. In the event of a reported HPAI outbreak at or near a site, it is recommended that management authorities contact hunting representatives and immediately stop hunting and trapping of wild birds at the site until further notice. Continued shooting may cause infected birds to disperse as a result of disturbance. Additionally, hunters are at increased risk of infection from handling killed birds and therefore should be warned (see health and safety section below).
90. The use of live decoy birds should be prohibited at high risk sites. European Union Member States, Decision 2005/734/EC elaborates on conditions where the use of live decoys may be allowed, including individual numbered bands on decoy birds and biosecurity measures for their upkeep (European Commission 2005). This guidance may be useful outside the EU as well.

F. Health and safety aspects

91. The main risks involved through the use of natural resources relate to bringing people into close contact with wild waterbird populations, placing people theoretically at risk of HPAI infection from wild birds. Where an assessment of the risk suggests that virus is not circulating in poultry or wild birds in the geographical area concerned, then no specific control measures are considered necessary. It is worth noting that previous live wild bird surveillance suggests that prevalence is low even where there have been active outbreaks of HPAI H5N1 in poultry.
92. General advice should be provided to the public not to handle sick wild birds or those found dead and to report any unusual incidents to a specified authority immediately. An emphasis should be placed on good hygiene practices such as washing hands after handling any birds, and not eating, drinking or smoking until hands have been washed. More detailed guidance is available from a number of sources listed in Section 1.3.
93. Hunters (including waterbird trappers) and bird ringers/banders are at a slightly higher risk because they handle freshly killed or live wild birds. Guidelines for hunters and bird ringers/banders are available on a number of websites (Section 1.3). Guidance generally encourages good hygiene practices such as washing hands after handling killed birds; de-feathering in well-ventilated areas; not eating, drinking or smoking until hands have been washed; and ensuring that shot birds are cooked properly.

G. Human access to different parts of the site

94. As noted above, public access to parts of the site can provide the benefit of improved reporting of unusual occurrences of sick or dead birds, especially if public education is conducted.
95. At times of low risk, i.e., when there have not been reports of HPAI in the region, there is no reason to impose additional controls on human access. At times of increased risk, e.g., when HPAI has been reported in the region, restrictions should then be considered. Management zoning for wetland protected areas should seek to create zones where important feeding and roosting concentrations of migratory waterbirds, breeding colonies, and rare and endangered species are not disturbed by human presence. Regular human disturbance effectively reduces the extent of suitable habitat and increases the stress on individual birds through reduced feeding opportunities and increased energy expenditure.

and may lead to increased disease susceptibility. Certain activities such as hunting, jet-skis, and speedboats create more disturbance than, for example, walking or cycling.

96. For health and safety advice for the general public, researchers, hunters, ringers/banders and others, see above or Section 1.3.

H. Communication, education and public awareness programmes

97. Public education is an important proactive measure that site managers can take in order to ensure that local stakeholders are informed with sound, balanced factual information about HPAI, the risks it poses, and the measures that they can take to protect themselves. It should also indicate how they can contribute towards reducing HPAI risks at the site and provide clear information about the communication lines in case of an outbreak.
98. It is suggested that the main target groups for HPAI awareness programmes should be members of any existing site management committee (such as local government agencies, community leaders, hunting and trapping associations, NGOs), local residents and users of the wetlands, and schools. Local public health and veterinary services should always be involved.
99. Communication needs to be tailored for the local situation and kept simple (see Alders & Bagnol 2007 and other guidance sources in Section 1).
100. Simple information leaflets or posters in local languages are among the most effective ways of reaching a wide range of people around the site.
101. Reporting of dead or sick birds by the public and others should be encouraged as part of surveillance programmes (see Section 2.5), with procedures for simple reporting systems communicated widely.

I. Stakeholder participation and inter-agency communications

102. Wetland site managers need to appreciate the wide range of agencies that may be involved in an HPAI outbreak response, from human and animal health professionals to local government, law enforcement professionals, and environmental authorities. Indeed, one of the major challenges posed by HPAI is the need for efficient inter-agency coordination among these stakeholders. The formation of national committees including all relevant organizations has been found valuable by several Contracting Parties and is recommended good practice (see also Sections 1 and 4). This needs to include coordination at a local level as well.
103. These coordination mechanisms should be agreed and set out in an outbreak response plan (see Section 2.6). The outbreak response plan should be shared with all key stakeholders so that it can be followed correctly. All contingency and communications plans need to be formulated, and relationships developed, in 'peacetime', i.e., prior to increased risk of disease. The running of scenario-based exercises will help to ensure that plans are fit for purpose.
104. Site management plans provide a practical framework for establishing measures to minimize HPAI risks on a site specific basis. These should be discussed and agreed with

stakeholders so that they can be implemented efficiently, with local cooperation and support. It is recommended that public education measures be undertaken first, so that the stakeholders understand the risks involved and how they can contribute towards the collective security of the site.

2.5 Wild bird surveillance

105. Comprehensive surveillance programmes are essential for better understanding the disease, monitoring its development, and contributing to early warning systems. They should incorporate the results of risk assessments that have identified those species likely to be at higher risk of carrying HPAI H5N1, as well as the best strategic design (including optimal timing of surveillance and selection of sampling sites) and methods of sampling these species. This requires action at many levels, including more effort at national and site levels to monitor the health of wild birds. Interest groups, such as hunters and birdwatchers, can play a vital role in the monitoring and reporting of dead birds or unusual mortality, provided their members are trained to minimise risks of self-infection and spread of the disease. In addition to bird trappers supplying samples for active live bird surveillance, hunters can also be useful for supplying samples from birds killed as part of normal hunting activities.
106. Significant efforts have already been made to try to understand the role of wild birds as vectors of HPAI H5N1, as well as the actual and potential impact of the virus on wild populations of conservation concern. Many countries have initiated or reinforced surveillance programmes aimed at determining the presence and extent of the virus in wild bird populations.
107. In 2005, a Global Avian Influenza Network for Wild Bird Surveillance (GAINS) was established in order to build capacity for field operations for collection of samples from wild birds, improve the understanding of virus strains and transmission of influenza viruses in wild birds, and disseminate information to all levels of governments, international organizations, the private sector, and the general public.
108. Surveillance should:
 - i) be undertaken with clearly set objectives;
 - ii) be conducted with standardised protocols in line with national and international programme requirements, including appropriate consideration for health and safety and legal and ethical aspects and in cooperation with relevant local and national authorities;
 - iii) strive always to identify birds to species level and report these data (see guidance in Section 3), where possible including broader contextual epidemiological data (e.g., age, sex, and proportion of population affected);
 - iv) consider monitoring methods that are both active (sampling live or shot/killed birds, or active targeted dead bird surveillance) and passive (wider sampling of birds found dead);
 - v) establish sampling methods that follow recognized standard protocols (e.g., major FAO guidance documents listed in Section 1.3);
 - vi) involve, as appropriate, public reporting of target species' mortality and morbidity. Contact numbers and procedures for reporting dead and sick birds should be widely publicised;

- vii) ensure high quality data with appropriate validation procedures;
- viii) ensure that results are reported in a timely fashion to ensure their maximum utility, including use of initiatives such as GAINS; and
- ix) be coordinated at a subnational, national and international level.

2.6 Outbreak response planning

109. The final and crucial step concerns reducing the risks of significant impacts in the case of an HPAI outbreak, primarily through ensuring that procedures are in place for a rapid response. Outbreaks of HPAI H5N1 among wild birds typically occur unexpectedly, confronting site managers with an emergency situation that demands immediate action. Managers, together with local and national authorities, will have to take decisions about restricting human use of the site, monitoring bird mortality, and possibly sampling to assess presence and extent of infection.
110. It is important to note that national veterinary authorities are responsible for responses to HPAI H5N1 cases in wild birds. The Chief Veterinary Officers of the 170 member countries of OIE have obligations to report to OIE all cases of HPAI in wild birds and any control measures undertaken. Communication to the public also falls both within their competence, as well as that of respective public health authorities, and this must be handled with care. **Site managers should always ensure full cooperation with relevant authorities and should inform themselves of national and other policies before outbreaks occur.**
111. Specific questions for site managers to consider when preparing an outbreak response plan include:
 - What are the existing national and/or subnational regulations, plans or guidelines for HPAI outbreaks?
 - Who are the responsible human health, animal health, and environmental protection authorities? Contingency plans should provide contact details (such as mobile phone numbers) so that rapid contact can be made with key individuals.
 - What equipment needs to be kept on site to respond to an HPAI outbreak? Personal protective equipment, cleansing and disinfection equipment, and storage facilities for samples are amongst items to be considered.
 - If dead or sick birds are found, what procedures should be followed in order to confirm the cause of death?
 - Who needs to be informed at a local level? Contact details should be gathered in advance.
 - At what stage should control measures be put in place?
 - How will the public be informed and when? Is there a standard message that can be prepared in advance and used in the event of an outbreak?
 - How will the media be dealt with? Is there a standard message that can be prepared in advance and used in the event of an outbreak?
 - What controls on access to the site are required? How will these be implemented? Are cleansing and disinfection facilities available for decontaminating vehicles, etc.?
 - How can the local spread of the disease be quickly contained?

- What measures are needed to protect reserve staff and their families, or others, living on site?
 - Who are the local ornithological and related experts who can assist rapid response measures in the case of an outbreak? Contact details should be gathered in advance.
 - Where can the necessary information on bird distribution, movements and other related information, such as existing HPAI surveillance data, be accessed?
112. As for formation of stakeholder groups and communication strategies, full outbreak response plans need to be formulated in ‘peacetime’, i.e., before risk of HPAI outbreaks. Moreover, these plans need to be tested by scenario-based exercises. Such exercises involving all stakeholders will improve preparedness by both fine-tuning plans and providing staff training.
113. Any outbreak of HPAI H5N1 in a wetland site in domestic/captive or wild birds will also lead to a series of questions, which necessitate quick answers. Such questions include:
- How many birds are affected and which species are involved? What proportion of the population does this constitute?
 - Are there ‘higher risk’ species⁴ present and in what numbers?
 - Are there concentrations of roosting/nesting birds that use the site?
 - Is there a special risk for transmission of the virus to and from poultry in the neighbourhood and, if so, which species can be expected to be involved?
 - Are there endangered species present which might need special attention and/or protection?
 - Are there any neighbouring sites to which the virus might spread because the sites are commonly used by the same birds?
 - What is the position of the site in the flyways of migratory waterbirds and can any prediction be made with respect to spread of the disease at a larger geographical scale?
 - What is the timing of migration for higher risk species occurring at the site?
114. In order to find answers to these questions, it is necessary to locate quickly and analyse ornithological data that might be managed by different organizations and/or individual ornithologists.
115. A draft Rapid Assessment Format for ornithological data in case of an outbreak of HPAI H5N1 is given by Wetlands International & EURING (2006). Its purpose is to give guidance to site owners and site managers to help them prepare for an outbreak of HPAI H5N1 in their wetland area. Since wetland sites vary greatly with respect to size, habitat characteristics, avifauna, human use, and other aspects, the format provided is of a very general nature. Its main purpose is to guide and stimulate site managers to seriously consider possible future events, to prepare for an outbreak of HPAI H5N1, and to develop a strategy in anticipation of the possible spread of the disease to their site.
116. The draft Rapid Assessment Format was tested at four sites in Europe and west Africa. The format lists the following site-related information and attributes which are considered to be fundamental in preparing for an HPAI H5N1 outbreak:

⁴ To date, only identified within Europe (Wetlands International & EURING 2006; Veen *et al.* 2007).

- 1) General information on the site (location, size, ownership);
- 2) Short description of the general and ecological characteristics of the site (accessibility, habitat characteristics, human use);
- 3) Occurrence of vulnerable bird species (status, numbers and seasonal presence of higher risk species, species with a high “contact risk with poultry”, and endangered species);
- 4) Places with high concentrations of vulnerable bird species within the site;
- 5) Local movements of vulnerable bird species to neighbouring sites;
- 6) Position of site in the flyway and consequences of bird movements for further spread of HPAI H5N1 virus;
- 7) Human use of the site and any disturbance effects;
- 8) Existence of poultry farms within a radius of 10 km of the site (although it should be noted that many species of birds have far greater daily ranges than this);
- 9) Measures to be considered in case of an outbreak; and
- 10) Data sources.

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3) Recommended ornithological information to be collected during surveillance programmes or field assessment of wild bird mortality events, especially at wetlands

3.1 Recommended information to be collected

117. All birds from which samples are taken should be identified to species. Where clearly distinguishable subspecies or discrete populations exist, as for some geese, this information should also be collected and reported⁵. Age⁶ and sex should be recorded wherever possible.
118. Close collaboration with ornithologists in the capture and sampling of live birds not only facilitates identification of birds but also gives the opportunity to collect additional information on the sampled live birds (such as weight, age, sex and condition), which are important to developing a better understanding of viral ecology and epidemiology. Standard protocols exist for the collection of such data through national ringing schemes (details of which are available for Europe, for example, via EURING (www.EURING.org)). Recording individual ring numbers in the reporting spreadsheet provides a means of accessing these data for future analysis.
119. To provide an audit of identification, it is highly desirable that a clear digital photograph is taken of each sampled bird (especially those found dead and/or not identified by ornithologists) and stored at least until confirmation of laboratory tests. In order to facilitate identification of bird species (which can sometime vary in quite minor plumage details, especially at certain times of the year), photographs should be taken according to the guidance given in Section 3.2 below. In the event of positive results, further examination of such photos can provide additional information on the age and sex of the bird, in addition to proving the identity of the species beyond doubt and thus allowing the case to be correctly put into context. To facilitate this, each individual bird should be given a code that is used on the cloacal and oro-pharyngeal swabs taken, and this code should be on a piece of card that is visible in each photograph taken.
120. Especially related to sampling in the vicinity of outbreaks, it is desirable to collect a range of contextual information so as to better understand the viral epidemiology of H5N1 HPAI in wild bird populations. Such information should include:
 - i) date of sampling, clear locational and descriptive data about the catching site, ideally GPS coordinates, including habitat description (e.g., lake, river, village pond, fish farm, etc.) and distance to human settlement, agricultural land, and poultry farms; it may also be useful to include details about the season and relate this information to the natural behaviour/cycle of the affected birds, e.g., moulting, pre-migration, during migration, etc.;

⁵ Wetlands International's publication *Waterbird Population Estimates* [Wetlands International 2006. *Waterbird Population Estimates - Fourth Edition*. Wetlands International, Wageningen, The Netherlands. 239 pp.] should be used as a source of information on the taxonomy and populations of waterbirds.

⁶ Waterbirds are aged mainly by the size and shape of their wing feathers (mainly on greater covert and tertial shape - www.bto.org/ringing/ringinfo/resources/topography.pdf) and their tail feathers (juveniles having notched tail feathers).

- ii) record of the numbers of each species of other live birds in the sampling area that were not sampled;
- iii) if available, records of bird movements (arrivals/departures) that occurred at the sampling site prior to the sampling;
- iv) assessment of the numbers of each species of live bird in the sampling area that were not sampled but that were showing signs of ill health; and
- v) given that birds of some species (such as Mallards *Anas platyrhynchos*) can occur either as wild birds that are able to move between sites or occur in a feral state, habituated to foods provided by humans, distinguishing between these categories would be useful. Sometimes the presence of unusual plumage patterns, indicating domestication, is useful in this respect.

3.2 Guidance on taking photographs of dead birds for identification purposes

121. The following simple guidance will assist non-specialists in taking photographs, especially of dead birds, that will allow subsequent identification to species. Different bird species are identified by differing characteristics, so it is difficult to provide universal guidance applicable in all situations. However, the following is a minimum standard that should be followed.
122. All wild birds collected for analysis for HPAI should have digital photographs taken as soon as possible after collection. The bird should fully fill the photograph and wherever possible include a ruler or other scale measure.
123. Each photograph should be taken at the highest resolution possible and if the camera has a 'date stamp' feature then this should be enabled so that the image is saved with a time reference – this may help verify the sequence of images taken at a site on a day. Images should be downloaded to a computer as soon as possible and information about location and date added to the file properties.
124. Photographs should be taken of:
 - the whole bird, dorsal side, with one wing stretched out and tail spread and visible;
 - the head in profile clearly showing the beak;
 - close-up photos of the tips of wing feathers, as these can often determine whether the bird is an adult or a juvenile (bird in its first year); and
 - ideally photographs of both dorsal and ventral views of the bird, as photos of the upper and under surfaces of the wing and spread tail will facilitate aging and sexing of birds (e.g., Northern Pintail *Anas acuta*);
125. Any ventral photographs should show the legs and feet (since leg colour is often an important species diagnostic). If any rings (metal or plastic) are present on the legs, these should be photographed *in situ* as well as recording ring details. Any conspicuous markings/patterns should also be photographed.
126. At certain times of the year, such as late summer (July - August in the northern hemisphere) many waterbirds, especially ducks and geese, undergo moult and can be especially difficult to identify by non-specialists. At such times clear photographs are especially important to aid identification of (duck) carcasses. The patch of colour on the

open wing (called the “speculum”) is often especially useful. The identification of young gulls at any time of the year is also difficult and typically they will also need to be photographed and identified by specialists.

127. Photographs should be retained, linked to an individual specimen, at least until laboratory tests are returned as negative for avian influenza. A unique code or reference number that is the same as the code or reference number of any samples taken from the birds should be visible in each photograph so as to link samples and photographs.
128. Photographs can be used immediately if identification of the species of bird is in any doubt, and for subsequent checking of the identification if necessary.

4) Ornithological expert panels

129. Several Contracting Parties have found it valuable to establish advisory panels involving best available ornithological expertise as a means of responding to the call in Resolution IX.23 to integrate ornithological expertise within government disease response processes. Such panels can provide specialist advice to veterinarians, epidemiologists, and others in response to outbreaks. The following guidance is based on these experiences.
130. Whether a separate panel is established or alternatively that ornithological expertise is integrated into other governmental processes instead will depend on the nature of existing organizational structures. This should be determined nationally. However, ideally any Ornithological Expert Panel (OEP) should be part of the epidemiological team that has the responsibility to investigate HPAI outbreaks, as such integration greatly assists in the identification of achievable scientific objectives.
131. Tables 1 and 2 above list further sources of information and guidance as to how expert specialist advice can be integrated within government responses.

4.1 Composition

132. Ornithological Expert Panels should comprise best available ornithological expertise drawn from both governmental and non-governmental sectors, including ornithological experts from research institutes or universities as appropriate. Staff from national bird ringing centres and national or other relevant waterbird monitoring schemes, where these exist, should be involved in order to facilitate rapid analysis of data and information drawn from relevant databases and other information sources

4.2 Establishment

133. OEPs or other advisory bodies should be established in advance of disease outbreaks as part of forward national contingency planning. There is value to all involved in explicitly establishing the formal relationship between the OEP (or similar) within other government disease response processes and structures.

4.3 Scale and federal states

134. The scale at which advice is sought will depend on how government is structured. If animal disease responses are coordinated within federal states at subnational scales, then typically specialist ornithological advice should be available to decision-makers at that scale.

4.4 Mode of working

135. In order to facilitate the rapid convening of advisory expertise, contingency planning should include means of bringing together relevant experts at short notice in order to provide advice to decision-makers immediately after confirmation of infection outbreaks. Where possible, the experts should be made aware and kept up to date on the epidemiological features of any outbreak involving domestic poultry and the progress of the epidemiological investigations. It should be anticipated that experts will be scattered

and may not be able to assemble physically, thus necessitating the use of teleconferencing or other similar arrangements, which should be planned for.

4.5 Emergency ornithological field assessments

136. In order to assist epidemiological investigation, and to help better to reduce risk of the spread of disease, contingency planning should address the need for emergency field assessments to establish the nature of, and collect information on, populations of wild birds near an outbreak site. These field assessments are usually driven by outbreak specific objectives, but they can include local wild bird movements and the degree of access to domestic poultry. Ornithological advice on additional and specific surveillance is frequently sought following these assessments. One possible format for such evaluations is provided by Wetlands International (2006).
137. Field assessments should be complemented by desk-based rapid ornithological data assessments that seek to interrogate available data sources and thus to inform risk assessments. Even if available data on birds near outbreaks may be limited, they will always assist decision-making to systematically collate relevant information.

4.6 International networking

138. It is very valuable to be able to share risk assessments and ornithological data and evaluations between neighbouring countries or within wider geographic regions. To this end, national OEPs should collaborate together at regional scales to develop collective international assessments and understanding.

4.7 Lessons learnt

139. Following the activation of the OEP in the event of an outbreak, it is essential afterwards to then undertake a formal 'lessons learnt' review to identify any problems or areas of operation where there may be scope for improvement of activity. The outcome of such a review should then be implemented by modifying contingency arrangements (and/or formal Terms of Reference).

4.8 References

Wetlands International 2006. *Urgent preliminary assessment of ornithological data relevant to the spread of Avian Influenza in Europe*. Wetlands International report to DG-Environment, European Commission. 230 pp. Available from http://ec.europa.eu/environment/nature/conservation/wildbirds/birdflue/docs/rep_spread_avian_influenza_report.pdf.

Appendices

Appendix 1. Scientific summary of highly pathogenic avian influenza H5N1: wildlife and conservation considerations

Definition of avian influenza

1. Avian influenza is a highly contagious disease caused by influenza A viruses, affecting many species of birds. Avian influenza is classified according to disease severity into two recognized forms: low pathogenic avian influenza (LPAI) and highly pathogenic avian influenza (HPAI). LPAI viruses are generally of low virulence, while HPAI viruses are highly virulent in most poultry species, resulting in nearly 100% mortality in infected domestic flocks (Center for Infectious Disease Research & Policy 2007). The natural reservoir of LPAI viruses is in wild waterbirds – most commonly in ducks, geese, swans, waders/shorebirds and gulls (Hinshaw & Webster 1982; Webster *et al.* 1992; Stallknecht & Brown 2007).
2. To date, influenza A viruses representing 16 haemagglutinin (HA) and nine neuraminidase (NA) subtypes have been described in wild birds and poultry throughout the world (Rohm *et al.* 1996; Fouchier *et al.* 2005). Viruses belonging to the antigenic subtypes H5 and H7, in contrast to viruses possessing other HA subtypes, may become highly pathogenic after having been transmitted in low pathogenic form from wild birds to poultry and subsequently circulating in poultry populations (Senne *et al.* 1996).
3. Notifiable avian influenza is defined by the World Organization for Animal Health (OIE) as “an infection of poultry caused by any influenza A virus of the H5 or H7 subtypes or by any avian influenza virus with an intravenous pathogenicity index (IVPI) greater than 1.2 (or as an alternative at least 75% mortality)”, according to the OIE’s Terrestrial Animal Health Code (OIE 2007).

Genesis of highly pathogenic avian influenza viruses

4. In wild waterbirds, LPAI viruses are a natural part of the ecosystem. They have been isolated from over 90 species of wild bird (Stallknecht & Shane 1988, Olsen *et al.* 2006; Lee 2008) and are thought to have existed alongside wild birds for millennia in balanced systems. In their natural hosts, avian influenza viruses infect the gastrointestinal tract and are shed through the cloaca; they generally do not cause disease although some behavioural anomalies have been reported, such as reduced migratory and foraging performance in Bewick’s Swans *Cygnus columbianus bewickii* (van Gils *et al.* 2007). Instead, the viruses remain in evolutionary stasis as indicated by low genetic mutation rates (Gorman *et al.* 1992; Taubenberger *et al.* 2005).
5. When LPAI viruses are transmitted to vulnerable poultry species, only mild symptoms such as a transient decline in egg production or reduction in weight gain (Capua & Mutinelli 2001) are induced. However, where a dense poultry environment supports several cycles of infection, the viruses may mutate, adapting to their new hosts, and for the H5 and H7 subtypes these mutations can lead to the generation of a highly pathogenic form. Thus, HPAI viruses are essentially products of intensively farmed poultry, and their incidence has increased dramatically with the greatly enhanced volume of poultry production around the

world (GRAIN 2006; Greger 2006). In the first few years of the 21st century the incidence of HPAI outbreaks has already exceeded the total number of outbreaks recorded for the entire 20th century (Greger 2006). In general, they should be viewed as something artificial, made possible by intensive poultry production techniques.

6. After an HPAI virus has arisen in poultry, it has the potential both to re-infect wild birds and to cause disease in various mammalian taxa. If influenza A viruses adapt inside these new hosts to become highly transmissible, there could be devastating consequences, such as the human influenza pandemics of the 20th century (Kilbourne 2006). The conditions necessary for cross-infection are provided by agricultural practices that bring together humans, poultry and other species in high densities in areas where there is also the potential for viral transmission from infected poultry, poultry products and waste to wild birds, humans and other mammals in shared wetlands and in 'wet' (i.e., live animal) markets (Shortridge 1977; Shortridge *et al.* 1977).

Highly pathogenic avian influenza H5N1 of Asian lineage (HPAI H5N1)

7. HPAI H5N1 of Asian lineage has infected domestic, captive and wild birds in more than 60 countries in Asia, Europe and Africa (OIE 2008). By November 2005, i.e., before widespread occurrence in western Eurasia and Africa, over 200 million domestic birds had died from the disease or been slaughtered in attempts to control its spread; the economies of the worst affected countries in southeast Asia have suffered greatly, with lost revenue estimated at over \$10 billion (Diouf 2005), and there have been serious human health consequences. By October 2008, the World Health Organization had confirmed more than 380 human cases, over 60% of those fatal (World Health Organization 2008).
8. Sporadic deaths in wild birds have been reported since 2002 and the first outbreak involving a large number of wild birds was reported in May 2005, in Qinghai province, China (Chen *et al.* 2005; Liu *et al.* 2005). Between 2002 and the present, the virus has infected a wide range of wild bird species (Olsen *et al.* 2006; USGS National Wildlife Health Center 2008; Lee 2008), but which species are important in H5N1 HPAI movement and whether the virus will become endemic and prevalent in wild bird populations is still unknown (Brown *et al.* 2006).
9. The virus has also infected a limited number of domestic, captive and wild mammals, including captive Tigers *Panthera tigris* and Leopards *Panthera pardus* and domestic pigs in southeast Asia, as well as domestic cats and a wild Stone Marten *Martes foina* in Germany. These cases were the result of 'spillover' infection from birds. There is no known reservoir of HPAI H5N1 virus in mammals, and there remains no sound evidence that the virus can be readily transmitted from mammal to mammal.

Emergence of HPAI H5N1 in poultry in southeast Asia (1996–2005)

10. HPAI H5N1 first received widespread recognition following a 1997 outbreak in poultry in Hong Kong, PR China with subsequent spread of the virus to humans. During that outbreak, 18 human cases were recognized and six patients died. The outbreak ended when all domestic chickens held by wholesale facilities and vendors in Hong Kong were slaughtered (Snacken 1999). A precursor to the 1997 H5N1 strain was identified in Guangdong, China, where it caused deaths in domestic geese in 1996 (Webster *et al.* 2006).

11. Between 1997 and 2002, different reassortments (known as genotypes) of the virus emerged in domestic goose and duck populations, which contained the same H5 HA gene but had different internal genes (Guan *et al.* 2002; Webster *et al.* 2006).
12. In 2002, a single genotype emerged in Hong Kong, PR China and killed captive and wild waterbirds in nature parks there. This genotype spread to humans in Hong Kong in February 2002 (infecting two, killing one) and was the precursor to the Z genotype that later became dominant (Sturm-Ramirez *et al.* 2004; Ellis *et al.* 2004).
13. Between 2003 and 2005, the Z genotype spread in an unprecedented fashion across southeast Asia, affecting domestic poultry in Vietnam, Thailand, Indonesia, Cambodia, Laos, the Republic of Korea, Japan, China and Malaysia. Later analysis showed that the H5N1 viruses that caused outbreaks in Japan and the Republic of Korea were genetically different from those in other countries (the V genotype) (Mase *et al.* 2005; Li *et al.* 2004; Webster *et al.* 2006).
14. In April 2005, the first major outbreak in wild birds was reported. Some 6,345 wild birds were reported dead at Qinghai Lake in central China. Species affected included Great Black-headed Gull *Larus ichthyaetus*, Bar-headed Goose *Anser indicus*, Brown-headed Gull *Larus brunnicephalus*, Great Cormorant *Phalacrocorax carbo* and Ruddy Shelduck *Tadorna ferruginea* (Chen *et al.* 2005; Liu *et al.* 2005).

Geographical spread of HPAI H5N1 out of southeast Asia (2005 – 2006)

15. In July 2005, Russia reported its first outbreaks; domestic flocks were affected in six regions of western Siberia and dead wild birds were reported in the vicinities of some of these outbreaks. Kazakhstan reported its first outbreak in August 2005 in domestic birds. In the same month, 89 wild birds described as migratory species were reported infected at two lakes in Mongolia.
16. Europe reported its first outbreaks in October 2005 when infection was detected in domestic birds in Romania and Turkey. In the same month, Romania reported sporadic cases in wild birds as did Croatia and European parts of Russia. In November, the virus spread to domestic birds in the Ukraine, and the Middle East reported its first case: a captive flamingo in Kuwait. During December, two outbreaks were reported in European Russia in wild swans (species unreported) in regions near the Caspian Sea.
17. In the first half of 2006, the spread of HPAI H5N1 continued across Europe (Sabirovic *et al.* 2006; Hesterberg *et al.* 2007; Hesterberg *et al.* in press) and the Middle East and into Africa. Between January and May, infection was reported in 24 European countries with the majority of cases occurring in February and March in wild birds. During the same period, outbreaks were reported across central Asia and the Middle East, affecting domestic birds in Azerbaijan, India, Bangladesh, Pakistan, Iran and Iraq, with Azerbaijan also reporting infected wild birds. The first reported outbreak in Africa occurred in January in poultry in Nigeria, and by the end of April, eight other African nations had reported outbreaks: Burkina Faso, Cameroon, Djibouti, Egypt, Ghana, the Ivory Coast, Niger and Sudan (OIE 2008).
18. By May 2006, reports of outbreaks in Europe, the Middle East and Africa had for the most part decreased in frequency. Small numbers of cases of infection were reported in

Hungary, Spain and the Ukraine in June, Pakistan and Russia in July, and one case was identified in a captive swan in Germany in August. Egypt was exceptional, continuously reporting outbreaks throughout 2006. It is also considered likely that outbreaks continued in poultry in Nigeria (UN System Influenza Coordinator & World Bank 2007).

19. Throughout the time HPAI H5N1 was spreading across central Asia, Europe, the Middle East and Africa, it maintained a stronghold in poultry in southeast Asia. In 2006, outbreaks were reported in Cambodia, PR China including Hong Kong, Indonesia, the Republic of Korea, Laos, Malaysia, Myanmar, Thailand and Vietnam (OIE 2008).

Period following the geographic spread westward (2007 – October 2008)

20. Compared with 54 countries reporting 1,470 outbreaks to the OIE in 2006, 30 countries reported 638 outbreaks in 2007 (OIE 2008). In 2007, six European countries (Poland, Hungary, Germany, the United Kingdom, Romania and the Czech Republic) reported sporadic and relatively isolated outbreaks in poultry that were quickly controlled. Outbreaks in domestic birds were also reported in European parts of Russia and in Turkey. Infected wild birds were reported in Germany, France, the United Kingdom and the Czech Republic, and birds at a rehabilitation centre were affected in Poland. In the Middle East and central Asia, poultry outbreaks occurred throughout 2007. Some 350 outbreaks were reported in Egypt and Bangladesh alone. Poultry (and in some cases captive birds) were also affected in India, Kuwait, Saudi Arabia, Pakistan, Afghanistan and Israel with most outbreaks occurring between February and April, and again between October and December. In Africa, HPAI H5N1 was reported in domestic birds in Togo, Ghana and Benin and is considered to have become endemic in Nigeria (OIE 2008; UN System Influenza Coordinator & World Bank 2007). Again, as in 2006, poultry outbreaks continued across southeast Asia. Sporadic cases in wild birds were reported in Japan and Hong Kong, PR China. By the end of 2007, the virus was considered to be endemic in poultry in Egypt, Indonesia and Nigeria, and possibly endemic in Bangladesh and China (UN System Influenza Coordinator & World Bank 2007).
21. Until the end of October 2008, no new countries had reported outbreaks. Outbreaks in domestic birds were reported in Bangladesh, China, Egypt, India, Indonesia, Nigeria, Pakistan, the Republic of Korea, Russia, Turkey and Vietnam between January and July, with outbreaks in Bangladesh, Germany, Laos, Togo and Vietnam in September and October. Infected wild birds were reported in four countries: Mute Swans *Cygnus olor* and a Canada Goose *Branta canadensis* in the United Kingdom in January and February; sick and dead swans in three areas of Japan in April and May; one apparently asymptomatic Pochard *Aythya ferina* in Switzerland in March; and one dead House Crow *Corvus splendens* in Hong Kong, PR China in October. Bangladesh reported its first human case of H5N1 infection in March. China, Egypt, Indonesia and Vietnam also reported human cases in 2008.

Significant outbreaks of HPAI H5N1 in wild birds

22. Prior to HPAI H5N1, reports of HPAI in wild birds were very rare. The broad geographical scale and extent of the disease in wild birds is both extraordinary and unprecedented. The following table summarises the known significant outbreaks of HPAI H5N1 in wild birds.

Table 3. Significant known outbreaks of highly pathogenic avian influenza H5N1 in wild birds*

Year	Month(s)	Location(s)	Description of affected birds
2005	April	Qinghai Lake in central China	6345 waterbirds, the majority of which were Great Black-headed Gulls <i>Larus ichthyaetus</i> , Bar-headed Geese <i>Anser indicus</i> and Brown-headed Gulls <i>Larus brunnicephalus</i>
	August	Lake Erhel & Lake Khunt in Mongolia	89 waterbirds including ducks, geese and swans
	October – November	Romania & Croatia	Over 180 waterbirds, mainly swans
2006	January	Coastal area in the vicinity of Baku, Azerbaijan	Unspecified number of birds reported to the OIE as “various migratory birds”
	January – May	23 countries in Europe including Turkey and European Russia	Most cases occurred in ducks, geese and swans but a wide variety of species was infected including other waterbirds and raptors
	February	Rasht, Iran	153 wild swans
	May	Multiple locations in Qinghai province, China	Over 900, mainly waterbirds, and mostly Bar-headed Geese <i>Anser indicus</i>
	May	Naqu, Tibet	Over 2,300 birds – species composition unclear but 300 infected Bar-headed Geese <i>Anser indicus</i> were reported
	June	Lake Khunt in Mongolia	Twelve waterbirds including swans, geese and gulls
2007	June	Germany, France and the Czech Republic	Over 290, mainly waterbirds, found mostly in Germany

* Data sources include OIE disease information reports and the German Friedrich-Loeffler Institute epidemiological bulletins – dates, locations and numbers may differ slightly in other sources.

23. Numerous species of wild birds, especially waterbirds, are susceptible to infection by the HPAI H5N1 virus. Close contact between poultry and wild birds can lead to cross-infection, from poultry to wild birds and from wild birds to poultry. Additionally, species that live in and around poultry farms and human habitations may serve as “bridge species” that could potentially transmit the virus between poultry and wild birds either by direct contact between wild birds and poultry kept outside or by indirect contact with contaminated materials. While there is no sound evidence that wild birds have carried the virus long distances on migration (Feare & Yasué 2006), analysis of genetic sequences and other largely indirect evidence suggests that wild birds are likely to have contributed to the spread (Chen *et al.* 2006; Keawcharoen *et al.* 2008; Kilpatrick *et al.* 2006; Hesterberg *et al.* 2007; Weber & Stilianakis 2007). The relative importance of different modes of infection transfer, however, is unclear in the present state of knowledge.

24. Poor planning in response to development pressures has led to the increasing loss or degradation of wild ecosystems, which are the natural habitats for wild birds. This has resulted in closer contact between wild populations, domesticated birds such as chickens, ducks, geese, and other domestic fowl, and humans and has thus provided greater opportunities for the spread of HPAI H5N1 between wild and domestic birds, and thence to humans. The interplay between agriculture, animal (domestic and wild) health, human health, ecosystem health, and socio-cultural factors has been important in the emergence and spread of the virus.

Avian influenza and wetlands

25. Given the ecology of the natural hosts of LPAI viruses, it is unsurprising that wetlands play a major role in the natural epidemiology of avian influenza. As with many other viruses, avian influenza virions survive longer in colder water (Lu *et al.* 2003; Stallknecht *et al.* 1990), and the virus is strongly suggested to survive over winter in frozen lakes in Arctic and sub-Arctic breeding areas. Thus, as well as the waterbird hosts, these wetlands are probably permanent reservoirs of LPAI virus (Rogers *et al.* 2004; Smith *et al.* 2004), (re-)infecting waterbirds arriving from southerly areas to breed (shown in Siberia by Okazaki *et al.* 2000 and Alaska by Ito *et al.* 1995). Indeed, in some wetlands used as staging grounds by large numbers of migratory ducks, avian influenza viral particles can be readily isolated from lake water (Hinshaw *et al.* 1980).
26. An agricultural practice that provides ideal conditions for cross-infection and thus genetic change is used on some fish-farms in Asia: battery cages of poultry are placed directly over troughs in pig-pens, which in turn are positioned over fish farms. The poultry waste feeds the pigs, the pig waste is either eaten by the fish or acts as a fertiliser for aquatic fish food, and the pond water is sometimes recycled as drinking water for the pigs and poultry (Greger 2006). These kinds of agricultural practices afford avian influenza viruses, which are spread via the faecal-oral route, a perfect opportunity to cycle through a mammalian species, accumulating the mutations necessary to adapt to mammalian hosts. Thus, as the use of such practices increases, so does the likelihood that new influenza strains infectious to and transmissible between humans will emerge (Culliton 1990; Greger 2006).
27. As well as providing conditions for virus mutation and generation, agricultural practices, particularly those used on wetlands, can enhance the ability of a virus to spread. The role of Asian domestic ducks in the epidemiology of HPAI H5N1 has been closely researched and found to be central not only to the genesis of the virus (Hulse-Post *et al.* 2005; Sims 2007), but also to its spread and the maintenance of infection in several Asian countries (Shortridge & Melville 2006). Typically this has involved flocks of domestic ducks used for 'cleaning' rice paddies of waste grain and various pests, during which they can potentially have contact with wild ducks using the same wetlands. Detailed research (Gilbert *et al.* 2006; Songserm *et al.* 2006) in Thailand has demonstrated a strong association between the HPAI H5N1 virus and abundance of free-grazing ducks. Gilbert *et al.* (2006) concluded that in Thailand "wetlands used for double-crop rice production, where free-grazing duck feed year round in rice paddies, appear to be a critical factor in HPAI persistence and spread".

Wildlife conservation implications

28. Prior to HPAI H5N1, reports of HPAI in wild birds were very rare. The broad geographical scale and extent of the disease in wild birds is both extraordinary and unprecedented, and the conservation impacts of HPAI H5N1 have been significant.
29. It is estimated that between 5-10% of the world population of Bar-headed Goose *Anser indicus* died at Lake Qinghai, China, in spring 2005 (Chen *et al.* 2005; Liu *et al.* 2005). At least two globally threatened species have been affected: Black-necked Crane *Grus nigricollis* in China and Red-breasted Goose *Branta ruficollis* in Greece. Approximately 90% of the world population of Red-breasted Goose is confined to just five roost sites in Romania and Bulgaria, countries that have both reported outbreaks, as also have Russia and Ukraine where they also over-winter (BirdLife International 2007).
30. However, the total number of wild birds known to have been affected has been small in contrast to the number of domestic birds affected, and many more wild birds die of more common avian diseases each year. Perhaps a greater threat than direct mortality has been the development of public fear about waterbirds resulting in misguided attempts to control the disease by disturbing or destroying wild birds and their habitats. Such responses are often encouraged by exaggerated or misleading messages in the media.
31. Currently, wildlife health problems are being created or exacerbated by unsustainable activities such as habitat loss or degradation, which facilitates closer contact between domestic and wild animals. Many advocate that to reduce risk of avian influenza and other bird diseases, there is a need to move to markedly more sustainable systems of agriculture with significantly lower intensity systems of poultry production. These need to be more biosecure, separated from wild waterbirds and their natural wetland habitats, resulting in far fewer opportunities for viral cross-infection and thus pathogenetic amplification (Greger 2006). There are major animal and human health consequences (in terms of the impact on economies, food security, and potential implications of a human influenza pandemic) of not strategically addressing these issues. However, to deliver such an objective in a world with an ever-growing human population, and with issues of food-security in many developing countries, will be a major policy challenge.

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Appendix 2. Scientific Task Force on Avian Influenza and Wild Birds

1. The **Scientific Task Force on Avian Influenza and Wild Birds** was established in 2005 by the UNEP Convention on Migratory Species (CMS), in close cooperation with the Agreement on the Conservation of African Eurasian Migratory Waterbirds (AEWA). It comprises 14 members and observers, including UN bodies, multilateral environmental agreements (including the Ramsar Convention), and specialist intergovernmental and non-governmental organizations. Since August 2007 the CMS Secretariat and FAO have provided joint coordination for the Task Force.
2. The Task Force aims to obtain the best scientific advice on the conservation impact of the spread of HPAI H5N1, including assessing the potential role of migratory birds as vectors of the virus. It has issued advice on the root causes of the spread of this disease and has promoted the development of international 'early warning' systems. The Task Force promotes objective information on the role of wild birds as vectors of HPAI H5N1 and tries to avoid overreaction by decision/policy makers that could be detrimental to the conservation of waterbird species and their habitats. The members of the Task Force work through teleconferences, e-mail contact, and meetings.
3. The last Task Force meeting, an international workshop on 'Practical Lessons Learned' (Aviemore, Scotland, June 2007), concluded that future outbreaks need to be tackled quickly, involving wild bird experts as well as veterinarians and other specialists. The meeting considered that whilst wild birds are affected by the virus, domestic birds, especially the poultry industry and trade, hold the key to limiting future international spread. Furthermore, there is the continuing need to further develop national interministerial capacities within governments, and interdisciplinary collaborations elsewhere, to respond to the challenges posed by HPAI H5N1.
4. The Task Force also operates a unique web-based platform on Avian Influenza, Wildlife and the Environment (www.aiweb.info), through which information exchange and expert communication on current and emerging topics relating to HPAI H5N1, migratory birds, and the environment is facilitated further.

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Appendix 3. Terminology⁷

Care must be taken to avoid confusion when describing and discussing avian influenza. The terms: avian influenza, avian influenza virus, human influenza, highly pathogenic avian influenza, pandemic influenza, and H5N1 cannot be used interchangeably. The following table lists commonly used avian influenza terms and provides definitions and usage guidelines.

Table 4. Definitions and usage guidelines for a selection of terms commonly used when discussing avian influenza

Term	Acronym	Definition and usage
Avian flu*		Used colloquially and by the media, and often used wrongly, to refer to HPAI in poultry and/or humans – because its use can cause great confusion, it is better to avoid it, even when referring to poultry or other species of birds.
Avian influenza*	AI	A disease of birds caused by an influenza A virus – it is not a virus. Only use the term “avian influenza” to refer to the disease in poultry or other bird species – and remember that “avian influenza” can refer to either low pathogenic or highly pathogenic forms of the disease (LPAI or HPAI). Infection does not necessarily produce clinical disease.
Avian influenza virus	AIV	The aetiological (causative) agent of avian influenza.
Bird flu*		See Avian flu.
Enzootic/endemic		Prevalent among or present constantly in a population in a specific geographic area.
Genotype		Specific genetic composition of a virus – each subtype of AIV will have multiple genotypes. Genotyping AIVs aids epidemiological investigations.
Hemagglutinin	HA	Surface antigen on the influenza virus. Together with the neuraminidase (NA) antigen it defines the antigenic phenotype of the virus, which in turn classifies influenza A viruses into subtypes.
Highly pathogenic avian influenza	HPAI	A severe disease in poultry and some other birds; has been associated with some H5 and H7 viruses, though not all H5 and H7 viruses are highly pathogenic.
Low pathogenic avian influenza	LPAI	See avian influenza.

⁷ Source: Lubroth, J. & Roeder, P. 2007. *FAO AIDE NEWS. Situation Update* 45: 4-5. Emergency Center for Transboundary Animal Diseases, FAO.

Term	Acronym	Definition and usage
Neuraminidase	NA	Surface antigen on the influenza virus. Together with the hemagglutinin (HA) antigen, it defines the antigenic phenotype of the virus, which in turn classifies influenza A viruses into subtypes.
Pathogenic		Causing disease or capable of doing so.
Poultry		Term referring to domestic birds bred for meat, eggs, feathers, etc., including chickens, turkeys, ducks, geese, quail, etc.
Prevalence		Proportion of individuals within a given population with disease at a given time.
Subtype		A classification of influenza A virus based on the antigenic phenotype, which is determined by the HA and NA antigens present on the virus. Subtype examples include H5N1, H5N2, H7N3, H13N9.
Virulence		Ability of an infectious organism to produce disease (similar to pathogenicity but more a factor of the virus than of the host response).
Waterbird		Species of birds that are ecologically dependent on wetlands for at least part of their annual cycle including, e.g., wildfowl, waders, gulls, herons, grebes, auks, etc.

* **Never** use the terms “bird flu”, “avian flu” or “avian influenza” to refer to human disease, even when it is a question of influenza in humans caused by infection from HPAI – the correct term to use, even though it is lengthy, is “influenza in humans caused by a virus of avian origin”.



10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)

“Healthy wetlands, healthy people”

Changwon, Republic of Korea,
28 October-4 November 2008

Resolution X.22

**Promoting international cooperation for the conservation of
waterbird flyways**

1. RECALLING that the conservation of waterbirds has been and remains an important driver for wetland conservation worldwide, especially through the designation of Ramsar sites as a means of establishing linked networks of protected wetlands, and that since its inception the Convention has actively promoted such activities through decisions such as Recommendations 6.4 and 7.3, Resolutions V.9, VI.4, VII.3, VIII.37 and VIII.38, as well as through the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Resolution VII.11);
2. NOTING the priorities for waterbird conservation highlighted in 2004 at the “Waterbirds around the World” international conference (Annex I to this Resolution);
3. RECOGNISING the Arctic as the source of most of the world’s known flyways, NOTING that Arctic wetlands are especially vulnerable to climate change (Resolution X.24), and AWARE of the recent development of international cooperation between Arctic countries;
4. ALSO RECALLING the previous relevant decisions of the Convention on Migratory Species (CMS) and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA);
5. AWARE that international cooperative efforts to conserve flyways of migratory waterbirds have also been promoted by many other international bodies and initiatives such as CMS, AEWA, the East Asian - Australasian Flyway Partnership, the North American Waterfowl Management Plan, the Western Hemisphere Migratory Species Initiative, the Western Hemisphere Shorebird Reserve Network (WHSRN), the West/Central Asian Site Network for the Siberian Crane and other waterbirds (WCASN), the European Union’s Natura 2000 site network, individual flyway management plans for threatened species, and CMS’s recent Action Plan for the Central Asian Flyway; and that close technical cooperation among these bodies, the Ramsar Convention, and its International Organization Partners has been crucial to success;
6. CONSIDERING that flyway conservation should combine species- and ecosystem-based approaches and be coordinated throughout migratory ranges, and CONSCIOUS of the urgent need to further strengthen international cooperation and partnerships among

governments, intergovernmental and nongovernment organizations, local communities, and the private sector;

7. ALARMED at the continuing decline in abundance of many waterbirds throughout the world, resulting not only from unsustainable exploitation, but especially from the loss and degradation of wetland habitats (in particular through both small-scale and larger-scale land claims and other land use changes of intertidal wetlands), and AWARE that anthropogenic impacts on habitats, including climate change, are increasingly concentrating the distribution of birds into fewer and smaller areas, thus increasing their vulnerability to diseases and inadvertently contributing to the spread of disease such as Highly Pathogenic Avian Influenza (HPAI) (as outlined in Resolution X.21), which also has impacts on humans and domestic agriculture, as well as the loss of, and increased competition in, reduced feeding, roosting and breeding areas;
8. RECALLING the target set in 2002 by the World Summit on Sustainable Development (WSSD) for a significant reduction in the current rate of loss of biological diversity by 2010, and AWARE that waterbird status can provide a wider indicator of the status of wetland biodiversity, not least because migratory waterbirds depend on the maintenance of the ecological character of multiple wetlands in many countries;
9. AWARE that waterbirds using the East Asian-Australasian Flyway are the most poorly known of all flyway populations, that the greatest number of globally threatened waterbird species occur there, and that that flyway extends across the most densely populated part of the world, where there are extreme pressures not only on unprotected wetlands but also on protected sites, and NOTING the crucial challenges in ensuring effective wise use of key sites and sustainable consumptive uses of waterbirds;
10. NOTING that a small number of sites are of critical importance to long-distance migrant shorebirds and that human activities at these sites can result in dramatic declines in shorebird populations;
11. NOTING IN PARTICULAR the intense pressure on intertidal wetlands in the East Asia-Australasian flyway, which not only provide critical waterbird habitat, but through multiple ecosystem services such as fisheries also support very large numbers of people and their communities and outcomes of the pre-COP10 International Symposium on East Asian Coastal Wetlands, Changwon, October 2008 (Annex II to this Resolution);
12. CONSCIOUS of the poor population status of waterbirds that are either non-migratory, occur on islands, or are intracontinental or southern hemisphere migrants;
13. RECALLING that in Resolution VII.21 on *Enhancing the conservation and wise use of intertidal wetlands* (2002), the Contracting Parties resolved “to review and modify existing policies that adversely affect intertidal wetlands, to seek to introduce measures for the long-term conservation of these areas” and “to identify and designate as Wetlands of International Importance a greater number and area of intertidal wetlands, especially tidal flats, giving priority to those sites which are important to indigenous people and local communities, and those holding globally threatened wetland species“;
14. NOTING the WSSD Type II Flyway Partnership in the East Asian – Australasian Flyway as a Ramsar Regional Initiative and CONGRATULATING Flyway Partners on their

cooperative efforts to date in support of the conservation of migratory birds and the sustainable use of their habitats; and FURTHER CONGRATULATING Australia, China, and the Republic of Korea on the recent signing of their respective bilateral migratory bird agreements (Republic of Korea – China and Republic of Korea – Australia);

15. WELCOMING the recent development of flyway-scale collaboration between North, Central and South America and Caribbean nations, based on the Western Hemisphere Migratory Species Initiative and a Waterbird Conservation Plan for the Americas;
16. NOTING that in African-Eurasian flyways, generally good knowledge of waterbird distribution, abundance, and habitat needs is not always effectively transferred into necessary national and local actions by stakeholders, such that many conservation efforts have been ineffective at maintaining or restoring a favourable status of populations, including those of globally threatened species;
17. WELCOMING the multi-partner Wings Over Wetlands GEF project in Africa and western Eurasia, in particular its demonstration projects, its capacity-building activities, and its innovative Critical Site Network Tool for disseminating key data and information on wetlands and waterbirds to support conservation actions by site managers, stakeholders, and other decision-makers; and
18. STRESSING the urgent need to integrate waterbird conservation fully as part of sustainable development, to the greater benefit of local communities and other stakeholders dependent on wetlands as well as for the conservation of wetland biodiversity;

THE CONFERENCE OF THE CONTRACTING PARTIES

19. STRONGLY ENCOURAGES Contracting Parties and other governments actively to support and participate in relevant international plans and programmes for the conservation of shared migratory waterbirds and their habitats, including *inter alia* the East Asian - Australasian Flyway Partnership, AEWA, WHSRN, WCASN, and the Central Asian Action Plan for Migratory Waterbirds and their Habitats;
20. ENCOURAGES those Contracting Parties whose territory lies in regions covered by *inter alia* the East Asian-Australasian Flyway Partnership, AEWA, WHSRN and WCASN, and which are yet to join these agreements or initiatives, to do so;
21. URGES Parties to identify and designate as Ramsar sites all internationally important wetlands for waterbirds on migratory flyways that meet the Criteria in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Resolution VII.11, as amended), in line with the long-term targets established for these Criteria;
22. WELCOMES the statement by the Republic of Korea to the 35th meeting of Ramsar's Standing Committee that intertidal mudflats should be preserved and that no large-scale reclamation projects are now being approved in the Republic of Korea, and ENCOURAGES all Contracting Parties in their efforts to protect such habitats in future and to monitor them and mitigate any past development impacts on or losses to them;

23. URGES Contracting Parties, other governments and relevant organizations urgently to enhance their individual and collective efforts to address the root causes of the continuing decline in waterbird status, especially in the light of implications for the achievement of WSSD's 2010 target on wetland biodiversity;
24. URGES the governing bodies of flyway initiatives to take steps to share knowledge and expertise on best practices in the development and implementation of flyway-scale waterbird conservation policies and practices, including successful means of disseminating critical supporting data and information to stakeholders and others, and ENCOURAGES the Secretariats of Ramsar, CMS, AEWA and the biodiversity programme of the Arctic Council to work together with their governance and scientific subsidiary bodies and other interested organizations to establish a mechanism for such sharing of knowledge and experience;
25. REQUESTS Wetlands International to draw upon status information from *Waterbird Population Estimates* to report periodically on the state of the world's waterbirds to the Contracting Parties of Ramsar, CMS, AEWA and CBD, and URGES Contracting Parties and others both to contribute the necessary financial support to enable the production of such international assessments and to support the coordinated International Waterbird Census (IWC), which contributes to these population estimates and assessments and the provision of much other relevant knowledge; and
26. INVITES the Convention's International Organization Partners, particularly BirdLife International and Wetlands International, to provide consultative and other technical services to Contracting Parties in addressing the decline of waterbirds through facilitating and assisting collaborative participation of Contracting Parties, non-contracting parties, and the private sector in the implementation of flyway initiatives at national level, supporting the updating of national wetland inventories and monitoring of sites for waterbirds (see Resolution X.15).

Annex I



The Edinburgh Declaration

An international conference on waterbirds, their conservation and sustainable use was held in Edinburgh, Scotland, from 3-8 April 2004, and was attended by 456 participants from 90 countries.

Conscious that waterbird flyways are biological systems of migration paths that directly link sites and ecosystems in different countries and continents;

Recalling that the conservation and wise use of waterbirds is a shared responsibility of nations and peoples and a common concern of humankind;

Recalling also the long history of international cooperation for waterbird conservation developed over a hundred years with treaties such as that concerned with migratory birds in 1916 between USA and UK (on behalf of Canada), and that over 40 years ago, the first European Meeting on Wildfowl Conservation held in St. Andrews, Scotland in 1963, started a process leading to the establishment of the Convention on wetlands especially as waterfowl habitat in Ramsar, Iran, in 1971;

Noting that major international conferences in Noordwijk aan Zee, The Netherlands (1966), Leningrad, USSR (1968), Ramsar, Iran (1971), Astrakhan, USSR (1989), St. Petersburg Beach, Florida, USA (1992), Kushiro, Japan and Strasbourg, France (1994), have further developed international technical exchanges on waterbird conservation;

Aware of the development of further intergovernmental cooperation through the establishment and implementation of further treaties, agreements, strategies and programmes; and of the development of considerable nongovernmental national and international cooperation in waterbird conservation and monitoring;

Conscious that at the World Summit on Sustainable Development, Johannesburg, South Africa, in 2002, world leaders expressed their desire to achieve “a significant reduction in the current rate of loss of biological diversity” by 2010, and that in February 2004 this target was further developed by the Seventh Conference of the Parties to the Biodiversity Convention, and **aware that** achieving this target will require significant investments and highly focused and coordinated conservation activity on all continents, and **recognising that** communication, education and public awareness and capacity building will play a key role in achieving this target;

Further conscious of the urgent need to strengthen international cooperation and partnerships between governments, intergovernmental and nongovernment organizations, local communities and the private sector;

Alarmed at the perilous state of many populations of waterbirds, in both terrestrial and marine ecosystems, and at the continued decline in quality and extent of the world's wetlands;

Noting the conclusions and priorities for further action identified by the many technical workshops and presentations made at this conference, and recorded subsequently in this Declaration.

Welcoming the joint initiative of Wetlands International, and government authorities in the United Kingdom and The Netherlands, with the support also of Australia, Denmark, USA, Japan, Germany, Sweden, Ireland, Belgium, Switzerland, UNEP/CMS, UNEP/AEWA, FACE, and CIC and with the input of many other organizations and individuals, in convening the conference *Waterbirds Around the World* in Edinburgh so as to review the current status of the world's waterbirds;

The Conference Participants, assembled together in Edinburgh —

Consider that although significant progress has been made to conserve waterbirds and their wetland habitats leading to some major successes, overall there remain important challenges, which, together with uncertainties about implications of future changes, requires further efforts and focused actions;

Reaffirm that, in the words of the Ramsar Convention, “waterbirds, in their seasonal migrations may transcend frontiers and so should be regarded as an international resource“ and “that the conservation of wetlands and their flora and fauna can be ensured by combining farsighted national policies with coordinated international action“ and accordingly **urge that** efforts between countries to conserve waterbird populations and their wetland habitats are extended, not only for the values that waterbirds have in sustaining human populations, but also for their own sakes;

Consider that flyway conservation should combine species- and ecosystem-based approaches, internationally coordinated throughout migratory ranges;

Acknowledge that the conservation and sustainable use of waterbirds and wetland resources require coordinated action by public and private sectors, dependent local communities and other stakeholders;

Call in particular for urgent action to:

- Halt and reverse wetland loss and degradation;
- Complete national and international wetland inventories, and promote the conservation of wetlands of importance to waterbirds in the context of surrounding areas, especially through the participation of local communities;
- Extend and strengthen international networks of key sites for waterbirds along all flyways;
- Establish and extend formal agreements and other cooperation arrangements between countries to conserve species, where possible within the frameworks provided by the Conventions on Migratory Species, Biological Diversity and Wetlands;

- Fund and implement recovery plans for all globally threatened waterbird species;
- Halt and reverse recently revealed declines of long-distance migrant shorebirds through sustainable management by governments and others of human activities at sites of unique importance to them;
- Restore albatross and petrel populations to favourable conservation status through urgent and internationally coordinated conservation actions, especially through the framework provided by the Agreement on the Conservation of Albatrosses and Petrels;
- Substantially reduce pollution in the marine environment and establish sustainable harvesting of marine resources;
- Underpin future conservation decisions with high-quality scientific advice drawn from coordinated, and adequately funded, research and monitoring programmes notably the International Waterbird Census, and to this end, urge governments and other partners to work together collaboratively and supportively;
- Develop policy-relevant indicators of the status of the world's wetlands, especially in the context of the 2010 target, using waterbird and other data generated from robust and sustainable monitoring schemes;
- Invest in communication, education and public awareness activities as a key element of waterbird and wetlands conservation;
- Assess disease risk, and establish monitoring programmes in relation to migratory waterbird movements, the trade of wild birds, and implications for human health.

Urge that particular priority be given to capacity building for flyway conservation in countries and territories with limited institutions and resources, given that the wise use of waterbirds and wetlands is important for sustainable development and poverty alleviation;

Strongly encourage countries to ratify and implement relevant conventions, agreements and treaties so as to encourage further international cooperation, and to make use of available resources including the Global Environment Facility in order to finance action required under this Declaration;

Consider that, with the long history of cooperative international assessments, waterbirds provide excellent indicators by which to evaluate progress towards achievement of the 2010 target established by world leaders in 2002, and to this end **Call on** the Conventions on Migratory Species, Biological Diversity and Wetlands, and other international agreements to work together and with other partners on such assessments, and in particular with Wetlands International to further develop the analytical content, of the triennial publication *Waterbird Population Estimates* and its use;

Stress the need for wide international dissemination of this Declaration and the technical outcomes of this Conference [All papers published and available at www.jncc.gov.uk/worldwaterbirds]; and

Agree to meet again as a conference in ten years' time to review progress.

In support of the recommendations above, the Conference concluded the following:

- For the Flyways of the Americas, collaboration between North, Central and South America and Caribbean nations is developing, based on conclusions of the conference of nations to consider the status of migratory birds held during the VIIIth Neotropical Congress in Chile, and in the recent completion of a Waterbird Conservation Plan for the Americas. Despite more than a century of conservation efforts in North America and emergence of a shared vision for biologically-based, landscape orientated partnerships, it is clear that international cooperation amongst Pan-American countries sharing migratory birds should increase.
- In African-Eurasian Flyways, the generally good knowledge of waterbirds is not being effectively transferred into necessary national and local actions. Nor have conservation efforts led to maintaining or restoring the health of many waterbird populations, including globally threatened species. There are urgent needs to integrate waterbird conservation as part of sustainable development, to the greater benefit of local communities and other stakeholders dependent on wetlands as well as benefiting biodiversity. The African-Eurasian Waterbird Agreement (UNEP/AEWA) provides a good basis to achieve this.
- Intra-African Flyways are extremely poorly known and would benefit from greater attention.
- Many of the waterbirds of the Central Asian Flyway appear to be declining, although information on status and trends is generally poor. In most countries there has been little previous investment in conservation and low involvement of local stakeholders in the sustainable management of wetlands. An international framework for the development of conservation initiatives for migratory waterbirds in Central Asia is urgently required to promote cooperative action. Better information is needed to identify priority conservation issues and responses.
- The waterbirds of Asian-Australasian Flyways are the most poorly known, and the greatest number of globally threatened waterbirds occur here. This flyway extends across the most densely populated part of the world, where there are extreme pressures not only on unprotected wetlands but also on protected sites. Effective protection of wetlands of major importance is a critical need, as in other regions of the world. There are huge, and crucial, challenges in ensuring effective wise use of key sites, as well as ensuring that consumptive uses of waterbirds are sustainable.
- Conservation of pelagic waterbirds in the open oceans gives a range of unique challenges. The entry into force of the Agreement on the Conservation of Albatrosses and Petrels is a most welcome development, and its full implementation is an urgent need. Addressing issues of seabird bycatch, especially by illegal and unregulated fisheries remains a critical need to reverse the poor conservation status of many species, as is the general need to achieve sustainable marine fisheries.
- Most of the world's known flyways originate in the Arctic. The recent development of international cooperation between arctic countries is welcome, as is the recognition of the crucial need to involve local communities and their traditional

local knowledge in waterbird management. Austro-tropical Flyways also require research.

- Climate changes are already affecting waterbirds. The consequences of climate change for waterbirds will be multiple, and will greatly exacerbate current negative impacts such as habitat loss and degradation. There is a need for wide-scale planning, at landscape and flyway scales, to reduce or mitigate the impacts on waterbird populations and their habitats. Research that explores a range of potential future scenarios will be required to underpin this planning and will need data from long-term monitoring and surveillance.
- The conservation status of non-migrant waterbird populations around the world in many cases is poorer than that of migrants, and these waterbirds generally have less focused international attention than migrants. Addressing conservation requirements of non-migrant waterbirds should also be given national and international priority.
- On a densely populated planet it is crucial that waterbird conservationists focus on their relationships with communities and governments as the means both of reversing the causes of poor conservation status, and of resolving conflicts with protected species. Adequately funded programmes of communication, education and public awareness need to be the core of all waterbird conservation initiatives.
- Science has identified the critical importance of a small number of key sites to long-distance migrant shorebirds and that human activities at some of these are responsible for recent dramatic declines in certain shorebird populations.
- Recent research has highlighted the genetic and demographic risks incurred by species that have small populations. These have implications for the design of species recovery programmes.
- The frequency and magnitude of disease losses among waterbirds (from emerging or re-emerging disease agents) have increased to the extent that they demand attention. These diseases not only affect waterbirds but have impacts on humans. Solutions require a multidisciplinary approach.
- An integrated approach to the monitoring of waterbirds gives cost-effective identification of the reasons for waterbird population changes. There are good examples of the collection of demographic information and its integration with census data. Further such national and especially international schemes should be strongly encouraged and funded.
- Systematic analyses for atlases confirm the value of ringing studies in assessing the conservation status of breeding, wintering and stop-over sites within flyways. To this end, there should be integration of data from conventional ringing and colour-marking, telemetry, stable isotope analyses and genetic markers.

Annex II

Importance of conserving intertidal wetlands in the Yellow Sea Ecoregion

Conclusions from the international symposium on East Asian Coastal Wetlands, Changwon, Republic of Korea, 27th October 2008

The international symposium on East Asian coastal wetlands was held on 27th October in Changwon, Republic of Korea, as an Associated Event of the 10th Conference of Parties to the Ramsar Convention. The symposium was organized by the Getbol ('tidal flats') Forum, Republic of Korea, in collaboration with BirdLife International, the Common Wadden Sea Secretariat, the UNDP/GEF Yellow Sea Large Marine Ecosystem (YSLME) Project, and the Tidal Flat Research Center of the National Fisheries Research and Development Institute. Wetlands International and WWF also provided considerable support through their presentations on coastal wetlands and the flyway. The symposium was hosted by the Ministry of Land, Transport and Maritime Affairs, and the Province of Gyeongsangnam-do, Republic of Korea. Participants from East and Southeast Asia, Australasia and Europe attended the symposium.

The following were the main conclusions from the symposium based on a consideration of scientific and wise-use principles:

1. The intertidal wetlands and associated habitats of the Yellow Sea Ecoregion are of global importance for biodiversity conservation, with outstanding economic, cultural and landscape values. The intertidal mudflats are amongst the largest worldwide, and the Yellow Sea ranks alongside other great wetlands such as the Wadden Sea in Europe and Sundarbans in South Asia.
2. The Yellow Sea has outstanding socio-economic values. Tens of thousands of artisanal fishers depend on the area, catching fish, and collecting shellfish, sea-cucumber and other marine resources (e.g., sea grass for housing). The region is a vital spawning ground and nursery for fish and other commercially exploited species. These wetlands also provide other crucial but often ignored services for coastal populations such as acting as a barrier preventing erosion, flooding and salt-water intrusion. They also act as a carbon sink and hence are important in climate change regulation, and they are vital in absorbing nutrients and sediments that would otherwise end up in the open sea.
3. A good indication of healthy wetlands is a high diversity of waterbirds since different species feed on different parts of the food chain. The Yellow Sea is a critical region for migratory shorebirds, providing an irreplaceable stop-over and re-fuelling hub for birds on migration between their breeding grounds in Siberia and wintering grounds in Southeast Asia and Australasia. Millions of shorebirds use the area in spring and autumn. The nature of the flyway causes the birds to fly thousands of kilometres, making the need to stop-over at the Yellow Sea a matter of life and death. These migratory shorebirds link countries and peoples along the flyway, and their conservation is a matter of international importance and concern.

4. The Yellow Sea is facing a multitude of threats, from pollution, siltation, and particularly past and ongoing large-scale conversion of tidal flats for agriculture and urban and industrial development. Socio-economic and ornithological studies have demonstrated the significant negative impacts of wetland conversion in the Yellow Sea on local livelihoods and migratory shorebird populations.
5. Although progress has been made in designating some critical intertidal areas as nature reserves, this falls well short of the 10% target agreed upon at the Convention on Biological Diversity and only a few areas have been designated as Ramsar sites. Moreover, enforcement of regulations within these critical areas remains a focus issue.
6. Conservation of the Yellow Sea intertidal wetlands and associated habitats should be advanced at an ecosystem scale through integrated coastal zone management and international cooperation. Conservation measures should include the designation of the highest priority sites as Marine Protected Areas, and/or their listing as Ramsar sites in recognition of their outstanding international importance. The contribution of wetlands towards a healthy society should be acknowledged. The meeting welcomed the statement by the Republic of Korea to the 35th meeting of Ramsar's Standing Committee that intertidal mudflats should be preserved and that no large-scale reclamation projects are now being approved, and recommended that any conversion of intertidal wetlands be scientifically evaluated and strictly controlled. Wherever possible, intertidal wetlands should be restored. Public consultation over any planning that may impact on intertidal wetlands or provide opportunities for restoration is essential. These measures are in line with commitments made in the Ramsar Resolution on tidal wetlands (Resolution VII.21).
7. The East Asian - Australasian Flyway Partnership is a regional initiative of the Ramsar Convention, and the UNDP/GEF YSLME and WWF/KORDI Yellow Sea Ecoregion Support projects provide an excellent foundation for conservation and collaboration together with local NGOs and organizations. Cooperation and exchange of experience between wetland managers in the Yellow Sea and Wadden Sea should also be developed. Experience from the Wadden Sea has demonstrated the need for a scientific justification and a shared vision amongst stakeholders on a transboundary and ecosystem scale. It has also demonstrated how quickly conservation and wise use can become mainstream thinking and practice and a basis for cooperation amongst government and civil society.
8. The 10th Conference of Parties to the Ramsar Convention, being held at Changwon, Republic of Korea, 28th October to 4th November 2008, provides an excellent opportunity to highlight the problems and opportunities in the Yellow Sea Ecoregion, and a platform for future conservation and international cooperation.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.23

Wetlands and human health and well-being

1. RECALLING that in Resolutions IX.14 and IX.23 (2005) and COP10 Resolutions X.21 and X.28, the Contracting Parties affirmed the relevance of wetlands and the Ramsar Convention to issues of poverty reduction and to disease, specifically Highly Pathogenic Avian Influenza (HPAI), and that the theme for the 10th meeting of the Conference of the Contracting Parties is “Healthy Wetlands, Healthy People”;
2. RECOGNIZING that the concepts both of sustainable livelihoods and of human well-being include *inter alia* human health dimensions;
3. AWARE of the findings of the Millennium Ecosystem Assessment’s health synthesis, wetlands and water synthesis, and other reports; the IWMI-led *Comprehensive Assessment of Water for Agriculture* and its report to Ramsar that is being published as a Ramsar Technical Report; the second World Water Development Report; and the 4th Global Environmental Outlook concerning water, wetland ecosystems, human health, and livelihoods;
4. ALSO AWARE that the 1986 Ottawa Charter for Health Promotion recognizes as pre-requisites for health *inter alia* food, a stable ecosystem, and sustainable resources; that the 2006 Bangkok Charter for Health Promotion in a Globalised World identified five major strategies for promoting health – building healthy public policy, creating supportive environments, strengthening community participation, developing personal skills, and reorienting health services – and that the United Nations Human Rights Framework recognized a right at least to sufficient water to sustain human life;
5. RECOGNIZING the relevance of the work of the World Health Organisation (WHO) on human health and ecosystems to the implementation of the Ramsar Convention on Wetlands at local, national and international levels;
6. NOTING the conclusions of the Symposium on “Healthy Wetlands, Healthy People” hosted by Wetlands International and the People’s Government of Shaoxing City, China, on 8 November 2007, to the effect that “an increased understanding of the functioning of wetland systems has led to the realisation that good wetland management benefits both wetland ecosystem health and human health” and that “immediate multi-sectoral action is essential in order to minimise risks and maximise the benefits to human health and well-being of good wetland management”;

7. WELCOMING the Cooperation on Health and Biodiversity (COHAB) Initiative and its attention to human health and ecosystems issues, including on wetlands;
8. NOTING that much of the available information on the trends in interactions between human health and wetlands is derived from analyses of health and water inter-relationships, rather than on those between the wetland ecosystems themselves and human health, in particular the nature of ecological character and ecosystem services and the inter-relationships between ecosystem services, human well-being, and human health;
9. RECOGNIZING that in places wetlands provide habitat for vectors that can contribute significantly to the disease burden of local communities (e.g., malaria and schistosomiasis), that methods of environmental control (e.g., water management) can in some circumstances be the most appropriate approach to mitigation, and that development of human settlements and other developments in such areas need to be approached in a precautionary manner;
10. ALSO RECOGNIZING that there are a number of emerging and re-emerging infectious diseases that can create human health problems associated with wetlands and water, and TAKING NOTE of the guidance on wetlands and HPAI in COP10 Resolution X.21;
11. RECOGNIZING that the changing climate is expected to continue to increase the risk to human health of matters associated with wetland ecosystems, including changing distributions of vectors and pathogens and changes in water availability and increased variability and severity of weather events;
12. AWARE that potentially conflicting responses may arise to wetland wise use and to disease and human health risk management, and CONCERNED that there is often little communication between the wetland and health sectors at local and national levels, despite matters of common interest in the management of wetland health and human health issues;
13. AWARE that for many human communities, hunger, malnutrition, and a lack of access to clean water are among the root causes of poor health and that health and well-being are in turn closely linked to people's livelihoods and to the basis for reducing poverty and vulnerability to poverty;
14. ALSO AWARE that poor health can have a severe impact on the capacity of communities to maintain systems of sustainable resource management and wise use of wetlands;
15. FURTHER AWARE that unsustainable wetland use may both increase the occurrence of many diseases and introduce others, while conversely, the sustainable management of wetlands, especially in a context of water supply and sanitation, can contribute to the reduction and eradication of water-related disease and to maintaining the health of people in general;
16. FURTHER AWARE that the high nutritional value of wetland food products contributes significantly to the human body's resistance and immunity to disease, and that many indigenous wetland plants and animals have significant medicinal values and are often the only source of medicine available to indigenous people and local communities;

17. FURTHER AWARE that in many societies the role of women in relation to family health issues, food preparation, and water collection, and thereby their potential exposure to diseases and contaminants in water and wetlands, gives them a particular role in relation to health in the community, and that they may also be at a higher risk of ill health due to their particular vulnerability, for example, during pregnancy;
18. CONCERNED that wetland ecosystems continue to be degraded; that when they are disrupted by human activities, particularly by those activities that reduce water availability and water quality, their capacity to deliver ecosystem services is diminished; and that this has direct and indirect effects on human health, including through loss of food production, loss of livelihoods, the emergence of infectious diseases and disease epidemics, and the resurgence and spread of water-related diseases; and
19. THANKING the Scientific and Technical Review Panel for its preparation of its report “Healthy wetlands, healthy people - a review of wetlands and human health interactions” and for the provision of the draft executive summary of this report to this meeting (COP10 DOC. 28), and ALSO THANKING the World Health Organisation for its contributions to that report and the government of Sweden for its financial support to the STRP for its preparation;

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20. CALLS UPON Contracting Parties and all those responsible for wetland management to take action to improve the health and well-being of people in harmony with wetland conservation objectives, in particular by identifying and implementing actions that benefit both wetland ecosystems and human health concurrently or, in case of any perceived conflict between these objectives, by applying as appropriate the guidance on wise use adopted under the Convention;
21. FURTHER CALLS UPON all those responsible for wetland management to address the causes of declining human health linked with wetlands by maintaining or enhancing existing ecosystem services that can contribute to the prevention of such declines, and to ensure that any disease eradication measures in or around wetlands are undertaken in ways that do not unnecessarily jeopardise the maintenance of the ecological character of the wetlands and their ecosystem services, for example by reducing and more precisely targeting the use of pesticides;
22. URGES Contracting Parties to encourage all concerned to strengthen collaboration and seek new and effective partnerships between the sectors concerned with wetland conservation, water, health, food security and poverty reduction within and between governments, non-government organizations, and the private sector;
23. ALSO URGES Contracting Parties and development sectors, including mining, other extractive industries, infrastructure development, water and sanitation, energy, agriculture, transport and others, to take all possible steps to avoid direct or indirect effects of their activities on wetlands that would impact negatively on those ecosystem services of wetlands that support human health and well-being;
24. FURTHER URGES Parties to make the interrelationship between wetland ecosystems and human health a key component of national and international policies, plans and

strategies, including by definition of specific wetland targets and indicators that link sustainable wetland management to the World Summit on Sustainable Development (WSSD, Johannesburg, 2002) targets for water, energy, health, agriculture and biodiversity (“WEHAB”) and to the international development goals in the UN Millennium Declaration, including the goals related to reducing poverty and hunger, reducing child mortality, improving maternal health and combating HIV/AIDS, malaria and other diseases;

25. ENCOURAGES those concerned with wetland conservation and management to encourage new and ongoing research regarding the links between wetlands and human health and to bring information on the scientifically proven contributions that naturally-functioning wetland ecosystems make to good health and well-being to the attention of national ministries and agencies responsible for health, sanitation, and water supply;
26. URGES Contracting Parties, the human health sector, and all relevant stakeholders to collaborate in assessing the consequences of wetland management measures linked with human health, and *vice versa* the consequences for the ecological character of wetlands of current practices and developments which seek to maintain or improve human health, including the identification of appropriate trade-offs in decision-making;
27. URGES Contracting Parties to ensure that decision-making on co-managing wetlands and human health issues takes into account current understanding of climate change-induced increases in health and disease risk and strives to maintain the capacity of wetlands to adapt to climate change and continue to provide their ecosystem services.
28. ALSO URGES the wetland authorities in Contracting Parties, working with their health sector counterparts and others, to be vigilant for the emergence or re-emergence of wetland-linked diseases, to act preventively and proactively in relation to such diseases, and, where instances of such diseases are identified, to develop scientifically-based responses taking into account current best practices;
29. ENCOURAGES all concerned to dedicate resources to building capacity for more integrated approaches to wetland and water management and health, including the application of local and traditional knowledge;
30. REQUESTS the Ramsar Secretariat to work with the World Health Organisation to make available the findings of the STRP’s report on “Healthy Wetlands, Healthy People” to the relevant parts of the human health community, and to discuss with the WHO ways and means of strengthening collaboration with the Ramsar Convention, including on technical issues of common interest;
31. INSTRUCTS the STRP, as a high priority, to further investigate the links between wetlands and human health, in particular by:
 - i) developing from the STRP’s report and other relevant sources further products for the human health sector concerning human health and wetlands;
 - ii) further assessing the interactions between wetland ecosystems and their services and human health and well-being, including issues related to impacts on relevant

ecosystem services from pollution, degradation, and loss of wetlands, as well as the role of wetlands in relation to waterborne diseases and disease vectors;

- iii) developing interpretations and conceptual thinking in a Ramsar context of the applicability or otherwise of “health” to wetland ecosystems, the relationship of wetland ecosystem health to the concepts of ecological character and ecosystem services, and the implications for implementing and monitoring wise use and ecological character objectives under the Convention, taking into account both socioeconomic and ecological considerations;
 - iv) identifying gaps in knowledge and information on wetlands and human health for different regions, and identifying ways and means of filling such gaps;
 - v) identifying opportunities to promote the importance of Ramsar sites that are significant for human health; and
 - vi) preparing guidance for wetland managers and the human health sector on processes for identifying appropriate responses to the co-management of wetlands and human health issues, including trade-offs as well as the application of health impact assessment approaches, increased transparency of information, representation and participation of marginalized stakeholders, and engagement with the core business of other sectors such as water management;
32. INVITES the World Health Organisation, the COHAB Initiative, and other relevant bodies concerned with human health and ecosystems to contribute to the STRP’s work on these matters; and
33. FURTHER INVITES governments, non-governmental organizations, research institutions and others to make available, in appropriate forms including to the Secretariat and the STRP, the results of research and demonstration projects on good practice in integrated approaches to wetland ecosystem conservation and wise use and human health, with a view to demonstrating the practical value of such good practices for those directly involved with wetland management.



10th Meeting of the Conference of the Parties to the Convention on Wetlands (Ramsar, Iran, 1971)

“Healthy wetlands, healthy people”

Changwon, Republic of Korea,
28 October-4 November 2008

Resolution X.24

Climate change and wetlands

1. RECOGNIZING that wetlands deliver a wide range of ecosystem services that contribute to human well-being, and that in some wetland types this may include services relating to climate change mitigation and/or adaptation;
2. RECALLING that the text of the Convention acknowledges that the global hydrological cycle is fundamental to the maintenance of the ecological character of wetlands and stresses the “fundamental ecological functions of wetlands as regulators of water regimes”, and ALSO RECALLING that Resolution VI.23 emphasizes the “inextricable link between water resources and wetlands” and Resolution VIII.1 highlights the importance of water allocations for wetlands in maintaining wetland ecological character;
3. RECOGNIZING that almost all of the world’s consumption of freshwater is drawn either directly or indirectly from wetlands, and ALSO RECOGNIZING the importance of wetland ecosystems in protecting freshwater supplies, as expressed in Resolution IX.1 Annex C, *An Integrated Framework for Ramsar’s water-related guidance* (2005);
4. RECALLING Resolution VIII.3 on *Climate change and wetlands: impacts, adaptation and mitigation* (2002), which *inter alia* recognized the potentially serious implications of climate change for ensuring the continued conservation and wise use of wetlands and called upon Contracting Parties to manage their wetlands in such a way as to increase their resilience to climate change and extreme climatic events and to ensure that in their climate change responses such as revegetation, forest management, afforestation and reforestation, such implementation does not lead to serious damage to the ecological character of wetlands;
5. ALSO RECALLING that in its Third Assessment Report (TAR), the IPCC concluded that some wetlands, including reefs, atolls, mangroves, and those in prairies, tropical and boreal forests, and arctic (including permafrost) and alpine ecosystems, are considered to be amongst those natural systems especially vulnerable to climate change because of their limited adaptive capacity and that they may therefore undergo significant and irreversible damage;
6. NOTING WITH CONCERN that the Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report indicates that warming of the earth’s climate system is unequivocal, that most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas (GHG) concentrations, and that observational evidence from all

continents shows that many natural systems, including wetlands, are being affected by regional climate changes;

7. AWARE from the findings of the IPCC Fourth Assessment Report that:

- “With regard to changes in snow, ice and frozen ground (including permafrost), there is high confidence that natural systems are affected. Examples are:
 - enlargement and increased numbers of glacial lakes;
 - increasing ground instability in permafrost regions, and rock avalanches in mountain regions;
 - changes in some Arctic and Antarctic ecosystems, including those in sea-ice biomes, and also predators high in the food chain.”
- “Based on growing evidence, there is high confidence that the following effects on hydrological systems are occurring:
 - increased runoff and earlier spring peak discharge in many glacier- and snow-fed rivers;
 - warming of lakes and rivers in many regions, with effects on thermal structure and water quality.”
- “There is very high confidence, based on more evidence from a wider range of species, that recent warming is strongly affecting terrestrial biological systems, including such changes as:
 - earlier timing of spring events, such as leaf-unfolding, bird migration and egg-laying;
 - poleward and upward shifts in ranges in plant and animal species.”
- “Based on satellite observations since the early 1980s, there is high confidence that there has been a trend in many regions towards earlier ‘greening’ of vegetation in the spring linked to longer thermal growing seasons due to recent warming.”
- “There is high confidence, based on substantial new evidence, that observed changes in marine and freshwater biological systems are associated with rising water temperatures, as well as related changes in ice cover, salinity, oxygen levels and circulation. These include:
 - shifts in ranges and changes in algal, plankton and fish abundance in high-latitude oceans;
 - increases in algal and zooplankton abundance in high-latitude and high-altitude lakes;
 - range changes and earlier migrations of fish in rivers.”
- “Sea-level rise and human development are together contributing to losses of coastal wetlands and mangroves and increasing damage from coastal flooding in many areas.”

- “Increases in sea surface temperature of about 1-3°C are projected to result in more frequent coral bleaching events and widespread mortality, unless there is thermal adaptation or acclimatisation by corals.”
 - “Coastal wetlands including salt marshes and mangroves are projected to be negatively affected by sea-level rise especially where they are constrained on their landward side, or starved of sediment”.
 - “By mid-century, annual average river runoff and water availability are projected to increase by 10-40% at high latitudes and in some wet tropical areas, and decrease by 10-30% over some dry regions at mid-latitudes and in the dry tropics, some of which are presently water-stressed areas. In some places and in particular seasons, changes differ from these annual figures.”
 - “Drought-affected areas will likely increase in extent. Heavy precipitation events, which are very likely to increase in frequency, will augment flood risk.”
 - “In the course of the century, water supplies stored in glaciers and snow cover are projected to decline, reducing water availability in regions supplied by meltwater from major mountain ranges, where more than one-sixth of the world population currently lives.”
8. ALSO AWARE of the increasing evidence that some types of wetlands play important roles as carbon stores, but CONCERNED that this is not yet fully recognized by international and national climate change response strategies, processes, and mechanisms;
 9. RECOGNIZING the significant progress made since Ramsar COP8 (2002) with respect to peatland inventory and awareness of the carbon storage function of wetlands such as peatlands;
 10. NOTING that the global *Assessment on Peatlands, Biodiversity and Climate Change* (prepared under the coordination of Wetlands International and the Global Environment Centre with support from UNEP-GEF, Canada, Netherlands and others) analysed much information on the importance of peatlands for biodiversity and mitigation of, and adaptation to, climate change and confirmed that peatlands are the most important carbon store in the terrestrial biosphere, storing twice as much carbon as the forest biomass of the world, and that degradation of peatlands has been contributing annual emissions equivalent to 10% of global fossil fuel emissions; and that CBD COP 9 encouraged Parties and other governments to strengthen collaboration with the Ramsar Convention on Wetlands and promote the participation of interested organizations in the implementation of the *Guidelines for Global Action on Peatlands* and other actions, such as the ones listed in the global *Assessment of Peatlands, Biodiversity and Climate Change*, that could contribute to the conservation and sustainable use of peatlands and encouraged the implementation of the actions included in the Assessment;
 11. NOTING WITH CONCERN the Key Messages of the Millennium Ecosystem Assessment (MA) *Wetlands and Water Synthesis Report* that the degradation and loss of wetlands is more rapid than that of other ecosystems, that global climate change is likely to exacerbate the loss and degradation of many wetlands, that the adverse effects of global

climate change will lead to a reduction in the services provided by wetlands, and that the projected continued loss and degradation of wetlands will reduce the capacity of wetlands to mitigate impacts;

12. RECOGNIZING that the conservation and wise use of wetlands enable organisms to adapt to climate change by providing connectivity, corridors and flyways along which they can move;
13. AWARE from the findings of the Millennium Ecosystem Assessment (MA), the 4th Global Environment Outlook (GEO-4), the World Water Development Report (WWDR 2006), and *A Comprehensive Assessment of Water Management in Agriculture* (CA) that a major driver of the continuing degradation and loss of wetland ecosystems and their services is the increasing abstraction of water especially for agriculture, that many surface and groundwater-dependent wetland systems and their catchments are already water-stressed, and that demand for water, particularly for irrigated agriculture as well as other uses, is projected to continue to increase;
14. NOTING that many climate change mitigation and adaptation policies include measures such as increasing energy supplies from hydropower and biofuels and more water storages and inter-basin water transfers, and STRESSING the benefits of implementing Ramsar's water-related guidance (Resolution IX.1 Annex C and Resolution X.19) so as to ensure where possible that such climate policies promote positive and minimise negative impacts on the ecological character of wetlands;
15. AWARE that the United Nations Food and Agriculture Organization (FAO):
 - i) has established climate change as a Priority Area for Interdisciplinary Action, in order to assist countries in developing cross-sectoral policies to address the negative impacts of climate variability and change on agriculture;
 - ii) has organized the "High-Level Conference on World Food Security: The Challenges of Climate Change and Bioenergy" at FAO Headquarters in June 2008;
 - iii) as Chair of UN-Water and in close collaboration with the Libyan Arab Jamahiriya, the African Union, the African Ministers' Council on Water (AMCOW), the African Development Bank, and the Economic Commission for Africa, is organizing a High-level Conference on "Water for Agriculture and Energy in Africa: The Challenges of Climate Change" to be held in Sirte, Libyan Arab Jamahiriya, from the 15th to 17th December 2008; and
 - iv) within the framework of these and other ongoing initiatives of the FAO, including those with the United Nations Development Programme and the United Nations Environment Programme, reiterates the importance of addressing the topic "climate change and wetlands" and its willingness to strengthen cooperation with the Ramsar Convention on this matter;
16. NOTING that wetlands can also reduce adverse effects of climate change, such as food shortages, by providing vital biodiversity resources, but CONCERNED that the continued degradation and loss of both coastal and inland wetlands is reducing the capacity of wetlands to deliver such resources;
17. THANKING the government of Canada for supporting the CBD / Ramsar STRP workshop on "Wetlands, Water, Biodiversity and Climate Change" (Gland, March 2007),

and NOTING the preliminary findings and recommendations in the Executive Summary of the report of that workshop.

18. RECOGNIZING that the wise use and restoration of wetlands contributes to building the resilience of human populations to climate change impacts and can attenuate natural disasters expected with climate change, such as the use of restored floodplain wetlands to reduce risks from flooding;
19. REAFFIRMING that integrative policies and planning measures need to be encouraged in order to address the influence of global climate change on the interdependencies between wetlands, water management, agriculture, energy production, poverty reduction and human health;
20. RECOGNIZING that the use of renewable energies is essential to face the challenges posed by climate change, and ACKNOWLEDGING the need to develop these energies in a way that promotes positive and minimises negative impacts on wetlands and their capacity to store carbon;
21. RECALLING the invitation of the Joint Liaison Group (JLG) between the United Nations Framework Convention on Climate Change (UNFCCC), the UN Convention to Combat Desertification (UNCCD), and the Convention on Biological Diversity (CBD), to the Secretariat of the Ramsar Convention to share information and to participate in the meetings of the JLG as appropriate; and RECOGNIZING that this forum, together with the Biodiversity Liaison Group (BLG) of the secretariats of the biodiversity-related Conventions and the Treaty on Plant Genetic Resources for Food and Agriculture and other fora, provides important opportunities to progress matters of common interest, including those concerning climate change;
22. WELCOMING the fact that the 9th Conference of the Contracting Parties to the Convention on Biological Diversity (CBD) in Decision IX/16 invited the Conference of the Parties to the Ramsar Convention, at its 10th meeting, to consider appropriate action in relation to wetlands, water, biodiversity and climate change in view of the importance of this subject for the conservation and sustainable use of biodiversity and human welfare, in line with the lead implementation role of the Ramsar Convention for CBD for wetlands and the terms of the fourth CBD/Ramsar Joint Work Plan; invited the Ramsar STRP to further assess the contribution of biodiversity to climate change mitigation and adaptation in peatlands and other wetlands; recognized the importance of the conservation and sustainable use of the biodiversity of wetlands and in particular peatlands in addressing climate change; and invited the Intergovernmental Panel on Climate Change to participate in the Convention on Biological Diversity and Ramsar processes of preparing future technical studies on climate change and biodiversity, particularly on wetlands;
23. NOTING that the Convention on Biological Diversity (CBD) at its 9th meeting established an Ad-Hoc Technical Expert Group on Climate Change and Biodiversity to provide scientific and technical advice and assessment on the integration of the conservation and sustainable use of biodiversity into climate change mitigation and adaptation activities;
24. RECALLING that Objective 4.1 of the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* is “to use Ramsar sites as baseline

and reference areas for national, supranational/regional, and international environmental monitoring to detect trends in the loss of biological diversity, climate change, and the processes of desertification”, but CONCERNED that mechanisms may not be in place for reporting such trend assessments, and ALSO CONCERNED that adequate national wetland inventory and assessment information at regional and global scales is not available to support and interpret such trend assessments;

25. NOTING the Scientific and Technical Review Panel’s (STRP) renewed attention to wetlands and climate change issues during the 2006-2008 triennium, including: on developing simple methods for assessing the vulnerability of different wetland types to climate-driven changes in water regimes; on the role of and opportunities for wetland restoration as a tool for climate responses; on the role and importance of different wetland types in the global carbon cycle; on assessing vulnerability of wetlands to hydro-ecological impacts, wetland restoration and climate change; and on recent key messages and recommendations concerning wetlands, water and climate change from relevant intergovernmental and international processes and initiatives, and THANKING the STRP for making this work available to Contracting Parties and others through Ramsar Technical Reports and other documents; and
26. RECOGNIZING that the low levels of understanding and appreciation of wetlands in climate change discussions represent a serious and real threat to wetland ecosystems and a missed opportunity for wetlands to contribute to addressing the impacts of climate change;

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27. AFFIRMS that this Resolution wholly updates and supersedes Resolution VIII.3 on *Climate change and wetlands: impacts, adaptation and mitigation*;
28. URGES Contracting Parties to manage wetlands wisely to reduce the multiple pressures they face and thereby increase their resilience to climate change and to take advantage of the significant opportunities to use wetlands wisely as a response option to reduce the impacts of climate change;
29. ALSO URGES Contracting Parties to ensure that the necessary safeguards and mechanisms are in place to maintain the ecological character of wetlands, particularly with respect to water allocations for wetland ecosystems, in the face of climate driven changes and predicted changes in water distribution and availability due to the direct impacts of, and societal responses to, climate change;
30. ENCOURAGES Contracting Parties to promote the restoration of river, lake and aquifer basins and their wetlands as an important aspect of policy related to climate change;
31. URGES Contracting Parties and other governments, where appropriate, to include in national climate change strategies the protection of mountain wetlands, to reduce the impacts of extremes in precipitation, attenuate the impacts of melting and disappearing glaciers and the reduction of water storage in mountain areas, and the restoration and management of degraded lowland and coastal wetlands, resulting in the attenuation of large storms and sea-level rise;

32. ALSO URGES relevant Contracting Parties to take urgent action, as far as possible and within national capacity, to reduce the degradation, promote restoration, improve management practices of peatlands and other wetland types that are significant GHG sinks, and to encourage expansion of demonstration sites on peatland restoration and wise use management in relation to climate change mitigation and adaptation activities;
33. INSTRUCTS the Ramsar Secretariat, the STRP, and the Coordinating Committee for Global Action on Peatlands (CCGAP) to strengthen synergies between the Ramsar Convention, CBD, UNFCCC and UNCCD with respect to peatland and other wetland conservation and wise use, including for reducing vulnerability and increasing resilience to climate change, whilst recognizing the distinct mandates and independent legal status of each convention and the need to avoid duplication and promote cost savings;
34. INVITES the Global Environment Centre, Wetlands International, and other interested partners to translate into other languages, further disseminate, and undertake follow-up activities to the global *Assessment on Peatlands, Biodiversity and Climate Change*;
35. CALLS ON Ramsar Administrative Authorities to provide expert guidance and support where appropriate to their respective UNFCCC focal point, within the context of UNFCCC Decision 1/CP.13, on the joint policies and measures that are aimed to reduce anthropogenic greenhouse gas emissions from wetlands such as peatlands, where practical;
36. ENCOURAGES Contracting Parties to promote integrated coordination in developing and implementing national policies related to water management, agriculture, energy production, poverty reduction, and human health, in order to ensure that sectoral objectives are mutually supportive in addressing the likely negative impacts of climate change and that such objectives are consistent with the need to protect the ecological character of wetlands and maintain wetland services, as is described in the reports of the IPCC and the MA;
37. REAFFIRMS the need for Contracting Parties to make every effort, when implementing the UNFCCC and, as appropriate, its Kyoto Protocol, to consider the maintenance of the ecological character of wetlands in national climate change mitigation and adaptation policies;
38. ENCOURAGES Contracting Parties to utilize peatlands to showcase the Communication, Education, Participation and Awareness activities for implementation of the Convention in the context of efforts to reduce greenhouse gas emissions and mitigate and adapt to the impacts of climate change;
39. ALSO ENCOURAGES Contracting Parties, the private sector and other stakeholders, respecting national legislation, to pay attention to the potential of incentive measures and funding mechanisms under climate change adaptation and mitigation activities to support the sustainable use and restoration of wetlands as well as to support local livelihoods and contribute to poverty eradication, including exploration of the concept of payments for ecosystem services (PES), consistent and in harmony with the Convention, the internationally agreed development goals and other relevant obligations, in the context of the services provided by wetlands;

40. INVITES the Executive Secretary of the CBD to include relevant considerations and activities in relation to wetlands, water, biodiversity and climate change as a high priority in the Joint Work Plan (2002-2010) between the CBD and the Ramsar Convention, including drawing upon the expertise available through the STRP in the Ad Hoc Technical Expert Group on Biodiversity and Climate Change established in CBD Decision IX/16, para. 12 (b), and INSTRUCTS the STRP to contribute to these processes subject to available resources;
41. URGES Contracting Parties to develop and implement policies that promote opportunities to take advantage of the regulatory services already provided by wetlands to the global climate system, while at the same time contributing to improving human livelihoods and meeting biodiversity goals, and to communicate progress, successes and best practices to the Convention;
42. ENCOURAGES Contracting Parties and other organizations to undertake, where possible, studies of the role of wetlands in carbon storage and sequestration, in adaptation to climate change, including for flood mitigation and water supply, and in mitigating the impacts of sea level rise, and to make their findings available to the Convention, the UNFCCC and other relevant processes;
43. INSTRUCTS the STRP, in its more comprehensive examination of climate change and wetland issues, to review emerging information on the ways in which, *inter alia*, changes in wetland thermal and chemical regimes, hydro-patterns, and increases in water storage and conveyance infrastructure, including impoundments, potentially alter the pathways by which non-native species invade wetlands, and influence their spread, persistence and ecological impacts on native species, and to liaise with the Arctic Council on an assessment of the vulnerability of Arctic wetlands to climate change and the development of guidelines for wise use while taking account of the ongoing Arctic Biodiversity Assessment; and ENCOURAGES Contracting Parties, other governments, and relevant organizations to undertake, where possible, studies of the complex and interactive effects of climate change and invasive species in wetlands, and to undertake an investigation of potential adaptive strategies for Arctic wetlands, seeking cooperation with the Arctic Council;
44. URGES Contracting Parties and others to make full use of the existing Ramsar guidance on the wise use of wetlands (the Wise Use Handbooks), much of which is applicable to many of the threats and impacts on wetlands arising from climate change, in developing their policy and management responses relating to climate change;
45. REQUESTS the Ramsar Secretariat, the STRP, and CCGAP to work together with relevant international conventions and agencies, including the CBD, UNCCD, UNEP, UNDP, FAO and the World Bank, and especially UNFCCC and IPCC, while RECOGNIZING the distinct mandates and independent legal status of each convention and the need to avoid duplication and promote cost savings, to investigate the potential contribution of wetland ecosystems to climate change mitigation and adaptation, in particular for reducing vulnerability and increasing resilience to climate change;
46. ALSO REQUESTS the Ramsar Secretariat and the STRP to use appropriate mechanisms to work with the UNFCCC and other relevant bodies, recognizing the distinct mandates and independent legal status of each convention and the need to avoid duplication and

promote cost savings, to develop guidance for the development of climate change mitigation and adaptation programmes that recognize the critical role of wetlands in relation to water and food security as well as human health; and URGES Contracting Parties and other governments, and INVITES the secretariats and scientific and technical subsidiary bodies of environment conventions, to improve integration on biodiversity and climate change at the international level through capacity building, resource mobilisation and implementation of collaborative work programmes, including under the aegis of established mechanisms including the Joint Liaison Group of the Rio conventions and the Biodiversity Liaison Group;

47. INSTRUCTS the STRP to bring climate change issues with relevance to wetlands to the attention of the Chairs of the Scientific Advisory Bodies of the Biodiversity-related Conventions (CSAB) at the next available opportunity, and where appropriate to utilize this forum to encourage enhanced scientific collaboration on such issues; and, recognizing the distinct mandates and independent legal status of each convention and the need to avoid duplication and promote cost savings, to review the roles of different wetland types in the carbon cycle;
48. INSTRUCTS the STRP to continue its work on climate change as a high priority and, in conjunction with the Ramsar Secretariat, to collaborate with relevant international conventions and agencies, including UNFCCC, CBD, UNCCD, IPCC, UNEP, UNDP, FAO and World Bank, in the development of a multi-institutional coordinated programme of work to investigate the potential contribution of wetland ecosystems to climate change mitigation and adaptation, in particular for reducing vulnerability and increasing resilience to climate change, and in addition to:
 - i) establish ways and means of collaborating with the UNFCCC and other relevant bodies to develop guidance for the development of mutually supportive adaptation and mitigation programmes that recognize the critical role of wetlands in relation to water and food security as well as human health;
 - ii) bring scientific issues and information on wetlands and climate change to the attention of the Chairs of the Scientific Advisory Bodies of the Biodiversity-related Conventions (CSAB) at the next available opportunity, and use this forum to encourage enhanced scientific collaboration on issues related to wetlands and climate change;
 - iii) establish ways of collaborating with the IPCC on scientific issues specifically related to wetlands and climate change, and contribute to its future work in order to raise the awareness of the climate change community of the importance of wetlands, including through the preparation and publication of relevant scientific reports on wetlands and climate change;
49. URGES STRP National Focal Points to engage in and contribute to this work in order to bring in national and regional issues and expertise from their in-country networks of wetland scientists and other experts; and
50. INVITES the Ramsar Administrative Authorities to bring this Resolution to the attention of national focal points of other multilateral environment agreements (MEAs), and

ENCOURAGES Contracting Parties to promote collaborative work between the national focal points of MEAs in support of its implementation.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.25

Wetlands and “biofuels”

1. ACKNOWLEDGING that the 9th meeting of the Conference of the Parties to the Convention on Biological Diversity (2008) addressed the issue of biofuels in Decision IX/1, para 31, on agricultural biodiversity, and in Decision IX/2 on agricultural biodiversity and biofuels;
2. RECOGNIZING the potential contribution of the sustainable production and use of biofuels for the promotion of sustainable development and the achievement of Millennium Development Goals, but aware of the potential negative environmental and socio-economic impacts from unsustainable production and use of biofuels;
3. RECOGNIZING that attempting to increase energy security and economic development as well as reduce greenhouse gas (GHG) emissions is an urgent global priority;
4. AWARE of the increasing global attention to the use of low-emission and renewable sources of energy, including *inter alia* biofuel production;
5. ALSO AWARE that biofuel can be manufactured from many different food and non-food sources, such as sugar cane, corn, beets, wheat and sorghum (grown for conversion to bioethanol) and rapeseed, sunflower, soya, oil palm, coconut and jatropha (grown for conversion to biodiesel), each with different potential impacts on wetlands, including differences between genotypes of the same crop type;
6. RECOGNIZING that the potential positive and negative impacts of the production and use of biofuels on the conservation and sustainable use of wetlands depend, *inter alia*, on the feedstocks used, the mode and place of production, the agricultural practices involved and the relevant policies in place;
7. FURTHER AWARE that many parts of the world are now water-stressed and that this demand for water is projected to grow, and RECOGNIZING that 70% of globally abstracted water is already being used for irrigated agriculture, and although not all biofuel crop systems require irrigation, expansion of irrigated agriculture including for biofuel production could increase the threats to water resources and wetlands and biodiversity, including threats to wetlands through their conversion and adverse affects on water quality;

8. RECOGNIZING that biofuel crops vary with regard to their water demands, and that some can be grown on degraded lands and can in some cases assist in the rehabilitation of wetlands, with associated benefits for human populations;
9. AWARE of the work of the UN Food and Agriculture Organisation (FAO), the International Water Management Institute (IWMI), Wetlands International (WI), and the World Wide Fund for Nature (WWF), among others, on water, wetlands and agriculture in the context of biofuels;
10. TAKING NOTE of the Final Declaration of the “High-Level Conference on World Food Security: the Challenges of Climate Change and Bioenergy” hosted by the FAO in Rome in June 2008, which stresses, *inter alia*, that it is vital to combine medium- and long-term measures to address the challenges and opportunities posed by biofuels and to foster a coherent, effective and results-oriented international dialogue on biofuels;
11. EXPRESSING CONCERN that with global demand for food and fuel production projected to increase substantially, potential competing demands upon agricultural land for food and biofuel production may lead to pressure for the conversion of wetlands and other threatened ecosystems, including sites previously the subject of restoration programs;
12. ALSO EXPRESSING CONCERN that conversion of wetlands risks releasing high levels of GHGs from the carbon they store, as recognized by Resolution X.24 on *Climate change and wetlands*, and that this is already causing major releases of greenhouse gases from some wetlands; and
13. FURTHER CONCERNED that decisions concerning further conversion of wetlands driven by biofuel production may not necessarily take into account the full range of ecosystem services provided by wetlands, such as carbon storage, flood protection, production of food and fibres, and groundwater recharge;

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14. RECOGNIZES that biofuel production and use should be sustainable in relation to wetlands;
15. CALLS UPON Contracting Parties, consistent with any applicable national legislation, to assess the potential impacts, benefits and risks, including drainage, of proposed biofuel crop production schemes affecting Ramsar sites and other wetlands, particularly the implications for surface and groundwater resources; to apply environmental impact assessment (EIA) and strategic environmental assessment (SEA), as appropriate and in line with Resolution VII.16 and Resolution X.17; and to seek to avoid negative impacts, and where such avoidance is not feasible, to apply as far as possible appropriate mitigation and/or compensation/offset actions, for example through wetland restoration;
16. URGES Contracting Parties to consider formulating appropriate land use policies for the sustainable production of biofuels, recognizing the need for accelerated implementation of policies that promote the positive and minimize the negative impacts of production and use of biofuel feedstocks on wetlands;

17. ENCOURAGES Contracting Parties to consider the cultivation of biomass on rewetted peatlands (paludiculture) and to promote sustainable forest and agricultural practices that will mitigate any adverse impacts of biofuel production;
18. URGES Contracting Parties to promote sustainable production and use of biofuels through strengthened development cooperation, the transfer of technologies, and information exchange;
19. STRONGLY URGES Contracting Parties to strive to ensure that any policies for biofuel crop production should consider the full range and value of ecosystem services and livelihoods provided by wetlands and the biodiversity they support, and to consider the trade-offs between these services alongside cost benefit analysis and make use of, as appropriate, the application of the precautionary approach as defined in Principle 15 of the 1992 Rio Declaration on Environment and Development;
20. INSTRUCTS the Scientific & Technical Review Panel (STRP) to:
 - i) review the global distribution of biofuel production in relation to impacts on wetlands;
 - ii) review and collate existing best management practice guidance and social and environmental sustainability appraisals for growing biofuel feedstocks in relation to wetlands, and where appropriate develop such guidance and appraisals in collaboration with other relevant international organizations;
 - iii) consider further discussion between the Contracting Parties on addressing sustainable biofuel issues in relation to wetlands;
 - iv) advise the Standing Committee of its conclusions; and
 - v) work with relevant international bodies dealing with biofuels;
21. ENCOURAGES Contracting Parties to conduct deeper study and analyses to assess the potential impacts, benefits and risks of proposed biofuel crop production schemes affecting Ramsar sites and other wetlands;
22. INVITES the FAO, the IOPs and other interested organizations to contribute to this work and to assist in liaison and communication of the findings to relevant platforms and fora; and
23. INVITES the Executive Secretary of the CBD to include relevant considerations and activities in relation to wetlands, biodiversity and biofuels in the joint work plan between the CBD and Ramsar Conventions, including drawing upon the expertise available through the STRP in the regional workshops convened on the sustainable production and use of biofuels (CBD decision IX/2, para. 12), and INSTRUCTS the STRP to contribute to these processes subject to available resources.



10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)

“Healthy wetlands, healthy people”

Changwon, Republic of Korea,
28 October-4 November 2008

Resolution X.26

Wetlands and extractive industries

1. CONSCIOUS of the need, in implementing policies for the wise use of all wetlands, including those in the Ramsar List, and in a context of objectives for sustainable development, to avoid, minimize or mitigate the negative impacts of economic development on the ecological character of wetlands;
2. RECOGNIZING the increasing global demand for resources, including *inter alia* non-renewable resources such as oil and gas, precious and base minerals, coal, sand and gravel, industrial minerals and peat, and some renewable resources such as salt and soda ash, and NOTING the resulting increase in industrial activities related to exploration for, and extraction of, these resources including through artisanal, small-scale and large-scale projects;
3. AWARE of the potential for certain activities related to extractive industries, if not appropriately managed and regulated, to have direct and indirect negative impacts on the ecological character of wetlands, including Ramsar sites, and RECOGNIZING the particular vulnerability of wetlands to the impacts of extractive industries, given not only the role of wetlands as sources of key ecosystem services including water provision and storage, but also the potential for impacts to be transferred both upstream and downstream within a river basin;
4. RECALLING Resolution VIII.3 (2002), which noted that peatlands may undergo significant and irreversible damage due to climate change, and Resolution VIII.17, which further noted that widespread loss and damage of peatlands is continuing in many parts of the world;
5. RECALLING Resolution VII.16 *The Ramsar Convention and Impact Assessment: strategic, environmental and social* (1999), which calls upon Parties “to reinforce and strengthen their efforts to ensure that any project, plans, programmes and policies with the potential to alter the ecological character of wetlands in the Ramsar List, or impact negatively on other wetlands in their territories, are subjected to rigorous impact assessment procedures and to formalize such procedures under policy, legal, institutional and organizational arrangements”;
6. ALSO AWARE that recent global and regional initiatives, including those by the United Nations Environment Programme (UNEP) and IUCN, to improve corporate social responsibility and governance in the extractive industries sector offer opportunities to

strengthen the conservation and wise use of wetlands, while still realizing economic benefits from the development of extractive industries;

7. RECOGNIZING the value of Strategic Environmental Assessment (SEA) approaches in supporting decision-making that reflects the wise use of wetlands, in line with Resolution X.17 on *Environmental Impact Assessment and Strategic Environmental Assessment: updated scientific and technical guidance*, and NOTING that SEA approaches can be particularly helpful for planning and prioritization of wetland inventory and baseline information collection;
8. ALSO RECOGNIZING the importance of adequate wetland inventory and baseline information in supporting decision-making and permitting procedures related to extractive industries, and EMPHASIZING the importance of early notification of proposed exploration and extraction activities in providing sufficient time for collection of wetland inventory and baseline information in areas potentially affected by these proposed activities;
9. CONCERNED that private sector organizations are not always aware of the extent of their own dependence and impact on ecosystems, including wetlands, and that both ecosystem-related risks and opportunities are not always well recognized in private sector planning and execution of projects, and AWARE of the work of the World Resources Institute (WRI), the World Business Council for Sustainable Development (WBCSD), and the Meridian Institute, which have prepared a Corporate Ecosystem Services Review (ESR) framework for use by the private sector to help address such matters;
10. RECALLING Resolution VII.8 (1999), entitled *Guidelines for establishing and strengthening local communities' and indigenous people's participation in the management of wetlands* and Resolution VIII.36 (2002) on *Participatory Environmental Management (PEM) as a tool for management and wise use of wetlands*;
11. FURTHER RECOGNIZING the importance in decision-making of valuation of the full range of ecosystem services provided by wetlands, and RECALLING that guidance on valuation of wetland ecosystem services is provided in Ramsar Technical Report Number 3 (2006), and that this guidance should be applied in a manner consistent and in harmony with the Convention, internationally agreed development goals, and other relevant international obligations;
12. NOTING with appreciation the briefing paper on *Economic trends in the mining sector and the implications for protection and wise use of wetlands*, prepared through the STRP and considered by the Africa regional meeting of Ramsar Contracting Parties in Yaounde, Cameroon, in November 2007 (COP10 DOC. 24); and
13. ALSO NOTING with appreciation the offer of the Republic of Gabon to host a regional meeting related to extractive industries in or near wetlands;

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14. URGES Contracting Parties to emphasize the importance of Strategic Environmental Assessment, particularly in relation to the extractive industries sector, and to apply the SEA guidance adopted in COP10 Resolution X.17 on *Environmental Impact Assessment and Strategic Environmental Assessment: updated scientific and technical guidance*, adapting that guidance

as appropriate in order to address specific issues associated with direct and indirect impacts of extractive industries on wetlands and, in applying the guidance, to take account of traditional collective knowledge;

15. ENCOURAGES Contracting Parties also to apply the guidance on Environmental Impact Assessment adopted by the same Resolution, adapting the EIA guidance where appropriate in order to ensure that it adequately addresses direct and indirect impacts on wetlands of the exploration, development, operation, closure and post-closure phases of extractive industrial activities, and FURTHER ENCOURAGES Contracting Parties to ensure that in applying the EIA guidance and other necessary measures, they adequately address the impacts on wetlands of the full spectrum of activities associated with extractive industries;
16. ENCOURAGES Contracting Parties to consider valuation at an early stage in environmental impact assessments, using appropriate techniques, including those that Contracting Parties may have developed, and in a manner consistent and in harmony with the Convention, internationally agreed development goals, and other relevant international obligations, in order to ensure that the full range of ecosystem services is considered in cost-benefit analyses related to all relevant phases of extractive industrial activities, with particular attention to the potential costs associated with the post-closure phase of extractive industrial activities;
17. ENCOURAGES Contracting Parties to ensure that, in SEA and EIA studies related to extractive industries, potential upstream and downstream impacts in river basins are fully considered through ecosystem approaches (including *inter alia* that of the Convention on Biological Diversity), and in doing so to apply the guidance on River Basin Management as [adopted in Resolution X.19 on *Wetlands and river basin management: consolidated scientific and technical guidance*;
18. ALSO ENCOURAGES Contracting Parties to undertake appropriate CEPA activities in order to ensure that all relevant public and private sector bodies associated with extractive industries are aware of obligations under the Ramsar Convention regarding the wise use of wetlands and the maintenance of their ecological character;
19. URGES Contracting Parties to, where necessary, review and revise regulatory and permitting procedures related to extractive industrial activities, in order to ensure that impacts on wetland ecosystems and their ecosystem services are avoided, remedied or mitigated as far as possible, and that any unavoidable impacts are sufficiently compensated for in accordance with any applicable national legislation. These procedures should allow sufficient time for collection of wetland inventory and baseline information to support effective Environmental Impact Assessment, permitting and oversight of extractive industries, especially with respect to enforcement of compliance with the conditions of authorizations and licences, and particularly to ensure that local and indigenous communities have appropriate opportunities to participate in decision-making, applying as needed the guidance adopted in Resolution VII.7 *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* and Resolution VII.8 *Guidelines for establishing and strengthening local communities' and indigenous peoples' participation in the management of wetlands* (1999);

20. URGES Contracting Parties to apply, as appropriate, the guidance adopted through Resolution X.16 and included in COP10 DOC. 27 when extractive industrial activities may directly or indirectly impact Ramsar sites; to consider a precautionary approach when the SEA or EIA predicts any substantial or irreversible loss of wetland ecosystem services, and where appropriate, to consider compensation in accordance with national legislation and Resolution VII.24 *Compensation for lost wetland habitats and other functions* (1999) and Resolution VIII.20 *General guidance for interpreting “urgent national interest” under Article 2.5 of the Convention and considering compensation under Article 4”* (2002);
21. URGES Contracting Parties, in considering the environmental impacts of extractive industries on peatlands, to take appropriate measures/actions, including *inter alia* directing extractive activities to already drained peatlands, in order to reduce the environmental impacts of extractive activities on pristine peatlands, in recognition of the role of peatland conservation in reducing greenhouse gas emissions and maintaining ecosystem services, including water provision;
22. URGES Contracting Parties to ensure that existing or new extractive industrial development projects address the need, as far as possible, to avoid, remedy or mitigate the impacts of these projects, and to compensate, in accordance with any applicable national legislation, for the loss of livelihoods that may result directly or indirectly from the impacts of these projects on wetland biodiversity and ecosystem services, in a manner consistent and in harmony with the Convention, internationally agreed development goals, and other relevant international obligations;
23. ALSO URGES Contracting Parties to complete national wetland inventories and to collect baseline information in order to strengthen and support SEA and EIA processes, especially in those areas that are potentially the focus of exploration and development of new extractive industrial projects, to seek sufficient funding and other resources as needed for this purpose, and to seek ways to ensure early notification of potential new extractive industrial projects, especially those which could affect Ramsar sites;
24. FURTHER URGES Contracting Parties to ensure that the boundaries of all designated Ramsar sites within their territories are accurately delineated and mapped, and if necessary protected under national laws, and that this information is made freely available and easily accessible to all relevant regulatory agencies and ministries, private sector bodies with interests in existing or new extractive industrial development projects, civil society and stakeholders, including through provision of these boundaries in digital format to the Ramsar Secretariat and the Ramsar Sites Information Service;
25. ENCOURAGES Contracting Parties to engage with relevant private sector interests at international, national and local levels to establish and/or strengthen corporate social responsibility programmes related to extractive industries, paying particular attention to actions that avoid, remedy or mitigate the direct and indirect impacts of extractive industries on biodiversity and the indigenous peoples and other local communities associated with wetlands, and to ensure, sufficiently in advance, the participation of indigenous and other local communities, in accordance with applicable national legislation, in consultation related to extractive industrial activities in wetland ecosystems on which these communities depend for their livelihoods;

26. ENCOURAGES Contracting Parties to consider the creation of new wetlands or the improvement of existing wetlands in the post-closure phases of extractive industrial activities, through well-planned mining and quarrying activities and well-developed site restoration programmes;
27. ENCOURAGES Contracting Parties to identify capacity and expertise needed for addressing the specific issues and potential impacts of extractive industries on wetlands, particularly in relevant public sector institutions, and to implement, where necessary through partnerships with appropriate public, private and NGO sector groups or organizations, appropriate training and capacity building programmes to strengthen SEA, EIA, and regulatory oversight of extractive industrial activities;
28. FURTHER ENCOURAGES Ramsar Administrative Authorities and Focal Points to establish or strengthen regular cooperation with Focal Points of the Global Environment Facility, considering that many GEF projects are addressing issues associated with extractive industrial activities, and to develop efficient and lasting synergies at national and regional levels, addressing also the potential linkages with those programmes, projects or directives derived from the Convention on Biological Diversity, the Convention to Combat Desertification, and the UN Framework Convention on Climate Change; and
29. REQUESTS the STRP, working with UNEP, IUCN, and other relevant organizations, to review available technical guidance on assessing, avoiding, minimizing and mitigating the direct and indirect impacts of extractive industries on wetlands in the exploration, development, operation, closure and post-closure phases, taking into account the potential for adoption of new or emerging extraction technologies and paying particular attention to restoration options, and on the basis of this review, to make recommendations regarding the suitability of available technical guidance and the need, if any, for development of new technical guidance.



**10th Meeting of the Conference of the Parties to the
Convention on Wetlands (Ramsar, Iran, 1971)**

“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.27

Wetlands and urbanization

1. RECALLING the commitments made by Contracting Parties to achieving the wise use, as far as possible, of all wetlands in their territory and to maintaining the ecological character of designated Ramsar sites;
2. AWARE that since prehistoric times human settlements have been established near wetlands for reasons, *inter alia*, of trade and defence, that the world is becoming increasingly urbanized, and that over 50% of the global population now lives in urban environments;
3. NOTING that “urban wetlands” are those wetlands lying within the boundaries of cities, towns and other conurbations and that “peri-urban wetlands” are those wetlands located adjacent to an urban area between the suburbs and rural areas;
4. RECOGNIZING that wetlands in urban and peri-urban environments can deliver many important ecosystem services to people, such as wastewater treatment, and ALSO RECOGNIZING that urban green space is increasingly known to contribute to people’s physical and mental health and well-being, while ACKNOWLEDGING that urban wetlands can also be sources of diseases such as malaria;
5. FURTHER RECOGNIZING the important role that urban and peri-urban wetlands can play in communication, education, participation and awareness for urban communities about wetlands, as well as the value of establishing education and visitor centres in such places;
6. RECOGNIZING that urban and peri-urban wetlands perform important functions in the improvement of neighbouring community environments, and provide safety nets for the communities living in these areas, both through the buffering effect of wetlands in riverine and coastal areas and through the role of wetlands in reducing impacts associated with climate variability;
7. CONCERNED that many wetlands in urban and peri-urban environments are or are becoming degraded through encroachment of surrounding populations, pollution, poorly managed waste and infilling or other developments, and that these activities have diminished both the ecosystem services that urban wetlands can provide and the recognition of their value and importance by both decision-makers and urban communities;

8. ALSO CONCERNED that the spread of urbanization is leading to wetlands, including Ramsar sites, that were formerly in rural areas becoming increasingly urbanized, with consequent increased risk of their degradation through, for example, ecosystem fragmentation and exploitation;
9. RECOGNIZING the crucial role of capacity building in enabling local governments, including municipalities, to ensure the conservation and wise use of wetlands in urban and peri-urban areas under their jurisdiction;
10. AWARE that much of the increasing urbanization is occurring in coastal and downstream parts of river catchments and that the demand for water for human use in these areas is increasing, and CONCERNED that many river basins are already water-stressed because of the levels of upstream abstractions;
11. ALSO CONCERNED about the increasingly adverse impacts on wetlands of the consumption patterns of urban populations and the increasing demand from cities on the Earth's wetland ecosystems for water and other natural resources and services provided by wetlands; and
12. AWARE of the Curitiba Declaration on Cities and Biodiversity, adopted in 2007 by a meeting of mayors and other senior representatives of host cities of meetings of the Conference of the Parties of the Convention on Biological Diversity (CBD), host cities of UN chapters, and cities that have specific strategies with regard to biodiversity, through which commitments to integrate biodiversity concerns into urban planning have been reaffirmed; and ALSO AWARE of Decision IX/28 of CBD COP9 (2008) on "Promoting engagement of cities and local authorities";

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13. URGES all Contracting Parties to pay due attention to the importance of their wetlands in urban and peri-urban environments and to take appropriate measures to conserve and protect these wetlands, while giving due consideration to different national circumstances in each case;
14. ALSO URGES all Contracting Parties to review the state of their urban and peri-urban wetlands and, where needed, to put in place schemes for their restoration and rehabilitation so that they can deliver their full range of ecosystem services to people and biodiversity;
15. FURTHER URGES Contracting Parties to formulate and implement their land-use planning and management so as to minimize further future impacts on urban wetlands and on those currently in peri-urban or rural situations that are vulnerable to urban encroachment, and ENCOURAGES Contracting Parties to provide the most valuable urban or peri-urban wetlands with appropriate conservation measures, with the intention of allowing as many people as possible to have access to areas with preserved high nature values and providing good opportunities for awareness raising, within sustainable limits;

16. EMPHASIZES the value of Ramsar site designations in the vicinity of urban centres as a key contribution to safeguarding important ecosystems against inappropriate urban encroachment;
17. INVITES the International Organization Partners, particularly those with national or local representation, to take pro-active steps, as far as possible, to facilitate the mobilisation of funding for technical support and capacity building for local authorities, in order to assist local authorities to advance the sustainable management of urban wetlands, and FURTHER INVITES the International Organization Partners to seek out opportunities for the development of partnership programmes between local authorities of different countries for urban wetland conservation, either directly or through the respective Ramsar Administrative Authorities;
18. URGES Contracting Parties to reaffirm the role of CEPA as an effective mechanism for raising awareness and involving communities in the sustainable management and conservation of urban and peri-urban wetlands;
19. ENCOURAGES Contracting Parties and others to establish wetland education and visitor facilities on urban and peri-urban wetlands, and particularly Ramsar sites in such locations, as a means of increasing urban community public awareness under the Convention's CEPA Programme 2009-2015 and, in view of the recreational, spiritual, and aesthetic dimensions of wetlands, as a means of supporting the health and well-being of people by facilitating access to such wetlands;
20. REQUESTS Contracting Parties and others that have established such education and visitor facilities to report to the Secretariat on their experiences and achievements so that they can be shared with other Parties that are developing such facilities, including through the Wetland Link International (WLI) mechanism;
21. ENCOURAGES local governments and elected officials, including the mayors of cities, particularly those that have hosted meetings of the Conference of the Contracting Parties to the Ramsar Convention and that have urban and peri-urban wetlands, to connect with the CBD initiative on cities and biodiversity;
22. ENCOURAGES Contracting Parties to involve municipalities in their planning processes and operational actions on wetland conservation and wise use in order to seek contributions from municipalities, including their physical planning departments, a) to assess the direct and indirect environmental impacts of urban areas on wetlands and b) to preserve or increase ecological functionality of urban and peri-urban wetlands and protect them from the negative impacts of the increasing urban consumption of wetland products and ecosystem services;
23. ENCOURAGES Contracting Parties to give recognition to local governments that exhibit exemplary management interventions, including wise use in urban and peri-urban wetlands, and to document best practices for dissemination;
24. INVITES Contracting Parties to seek ways to encourage public-private collaboration for advancing sustainable management of urban wetlands, in line with the principles for partnerships between the Ramsar Convention and the business sector as set out in Resolution X.12;

25. INVITES the Ramsar Secretariat to explore ways and means of establishing collaborative links with the UN human settlements programme (UN-HABITAT) concerning the promotion of social and environmental sustainability of towns and cities in relation to wetlands and water;
26. REQUESTS Contracting Parties, through their appointed Scientific and Technical Review Panel (STRP) National Focal Points, to advise the STRP on issues concerning urban and peri-urban wetlands that would benefit from additional scientific and technical guidance; and
27. REQUESTS the STRP to prepare guidelines for managing urban and peri-urban wetlands, in accordance with an ecosystem approach, taking into account issues such as climate change, ecosystem services, food production, human health and livelihoods.



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Resolution X.28

Wetlands and poverty eradication

1. AWARE that Millennium Development Goal (MDG) 1 is to “eradicate extreme poverty and hunger” with a target of reducing by half the proportion of people who suffer from hunger by 2015 and ALSO AWARE that the implementation of the wise use provisions of the Ramsar Convention can contribute to poverty eradication and hence the achievement of this MDG and others, including MDG 7 on ensuring environmental sustainability;
2. RECOGNIZING the vital role that many wetlands and their ecosystem services play in supporting people’s food security, livelihoods and human well-being, including through *inter alia* provision of food, fiber and other products, water for sanitation, drinking, irrigation and other purposes, and other services such as flood and storm surge protection; but CONCERNED that the continuing loss and degradation of wetlands reported by the Millennium Ecosystem Assessment (MA) and other recent assessments is placing the continued provision of such services, and hence people’s health, livelihoods and well-being, at further risk;
3. ALSO RECOGNIZING the importance of understanding poverty eradication issues and opportunities in relation to addressing climate change mitigation and adaptation for wetlands, including through wetland restoration activities, as indicated in Resolutions VIII.3 (2002) and X.24 (2008) concerning climate change and wetlands;
4. RECALLING that in Resolution IX.14 (2005) on *Wetlands and poverty reduction* the Contracting Parties provided an overarching framework for Parties to address issues of poverty eradication in relation to wetland conservation and wise use, including through working in partnerships with UN agencies, the Ramsar International Organization Partners (IOPs), national and international NGOs, and others;
5. RECOGNIZING the contribution to poverty eradication issues in relation to wetlands of the work of the partnerships between the Convention’s IOPs and others, including *inter alia* Wetlands International’s Wetlands and Poverty Reduction Project (WPRP) and Green Coast Project, and the Wetlands and Livelihoods Working Group (WLWG), especially through capacity-building and awareness-raising with local communities;
6. NOTING that Resolution IX.14 did not identify all priority issues and responses relevant to poverty eradication in relation to wetlands, and that that Resolution, whilst providing a framework for action by Contracting Parties and others, did not provide guidance on ways

and means of implementing such actions, and did not indicate the appropriate spatial scale(s) for implementation of different actions; and

7. THANKING the governments of Ghana, Mali and Benin, as well as Wetlands International, for their support and work in developing this Resolution;

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8. ENCOURAGES Contracting Parties to identify ways and means of further implementing the framework for action on wetlands and poverty reduction adopted in Resolution IX.14, and particularly action to eradicate poverty amongst communities living in and around Ramsar sites, and to report on their successes, challenges, constraints and opportunities in achieving action on integrating wetland conservation and poverty eradication, including on the trade-offs that are often necessary in such implementation;
9. ALSO ENCOURAGES Contracting Parties, the IOPs, and others to provide to the Secretariat and the Scientific and Technical Review Panel (STRP) examples, particularly as documented case studies, that demonstrate that the wise use of wetland resources by local communities can provide a significant contribution to poverty eradication;
10. URGES Contracting Parties, in relation to the framework of actions set out in Resolution IX.14, also to:
 - i) continue to seek to integrate wetland wise use and management, including wetland restoration as appropriate, into all relevant national and regional policies, including in Poverty Reduction Strategies, National Climate Change Strategies (NAPAs), grant transferral programmes, and water and sanitation plans and strategies, taking into account the need to base such strategies on an understanding of specific wetlands' current and projected future productivity, particularly where such wetland services may change over time;
 - ii) recognize in their planning and land management policies and strategies the role of wetlands in sanitation and human health, particularly in relation to water-borne and water-related diseases, as well as the increased risks to human health caused by degraded wetlands, as described in Resolution X.23 on *Wetlands and human health*;
 - iii) respect and incorporate traditional knowledge and practices and local perspectives into national wetland management and sustainable livelihood initiatives, as appropriate, in order to ensure enhanced acceptance by local community groups;
 - iv) ensure that any early warning systems and contingency plans established to safeguard people against natural disasters such as cyclones, storm surges, droughts, floods, and tsunamis, include the use of wetland management and, as appropriate, restoration measures to protect against impacts of climate change, sea level rise, and saline intrusion, in implementation of Resolution VIII.35 (2002) on *The impact of natural disasters, particularly drought, on wetland ecosystems*;
 - v) collaborate with relevant institutions in developing suitable ecotourism activities in wetlands in general, and especially in designated Ramsar sites, in order to provide

opportunities to reduce poverty, whilst also taking into consideration the possible negative impacts of such tourism on wetland integrity and on local cultures;

- vi) collate knowledge on best practices and promote its transfer for the wise use, extraction, processing and marketing of wetland products in order to reduce pressures on the natural resources in wetlands by adding value to enhance poverty eradication;
 - vii) establish financial incentives or investments such as micro-credit schemes including revolving funds and seed funding, especially in partnership with the private sector, that improve wetland management and contribute to tangible poverty eradication in the short and medium term, with the aim of promoting self-sufficiency and equitable benefit sharing in the long term;
 - viii) encourage the introduction of payments for ecosystem services as a means to raise funds for poverty eradication programmes, including through avoided deforestation and avoided wetland degradation, as well as through private sector partnerships for access and benefit sharing;
 - ix) consider wetland services as economic goods so that their use may be included in tax-based economic mechanisms such as user pays, and so that these contribute to national poverty eradication programmes and investment in sustainable wetland management;
 - x) recognize the importance of identifying existing marketing networks and ways to access these before introducing any new financial incentives or investments for income-generating activities that may contribute to poverty eradication in wetlands; and
 - xi) take measures to safeguard peoples' livelihoods derived from wetlands in areas where mining and other extractive industries are taking place, or are likely to take place, including in the decommissioning phases of the extractive activities, in relation to the implementation of Resolution X.26 on *Wetlands and extractive industries*;
11. REQUESTS the Scientific and Technical Review Panel working with the IOPs and other interested organizations and networks to review the framework for actions set out in Resolution IX.14 and the additional actions identified in the present Resolution, and on the basis of these to include in its future work plan the development of specific guidance for Contracting Parties to support the implementation of these Resolutions, which might include *inter alia*:
- i) development of an integrated framework for linking wetland conservation and wise use with poverty eradication, including the identification of the most appropriate scale at which each type of poverty eradication action should take place;
 - ii) identification and development of indicators relating wetland wise use with livelihoods and poverty eradication;
 - iii) development of a practical structured 'guide to the available guidelines and tools' for addressing poverty eradication in relation to wetlands; and

- iv) collation and review of examples of how wetland degradation affects people's livelihoods and how maintenance or restoration of the ecological character of wetlands can contribute to poverty alleviation, including from the case studies called for in paragraph 9 above; and
12. CALLS UPON development banks and other donors to support the implementation of this Resolution by Contracting Parties, including through supporting capacity-building for governments, establishing cross-sectoral approaches to addressing poverty eradication in wetlands, and encouraging climate-related investment programmes.



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Resolution X.29

**Clarifying the functions of agencies and related bodies
implementing the Convention at the national level**

1. RECALLING that each Contracting Party to the Ramsar Convention designates within its government an agency, referred to as the Administrative Authority, to take responsibility for national implementation of the Convention;
2. ALSO RECALLING Recommendation 5.7 (1993) which encourages the Contracting Parties to establish or recognize national committees, according to the specific needs of each Party, to support the implementation of the Convention at the national level;
3. FURTHER RECALLING Resolutions VII.4 (1999), VIII.5 (2002), IX.5 (2005) and X.11 (2008) which encourage synergies and cooperation with other relevant conventions, including the harmonization of information management infrastructure;
4. FURTHER RECALLING Recommendation 4.5 (1990) on the critical role of education and training in the mobilization of human resources for the conservation and sustainable use of wetlands;
5. WELCOMING the efforts of the Secretariat and the Ramsar Scientific and Technical Review Panel (STRP) to increase the engagement of STRP National Focal Points in the scientific and technical work of the Convention;
6. RECALLING the conclusions of the preparatory meeting for the African Region for the 10th meeting of the Conference of the Contracting Parties, which invited the Secretariat to clarify the terms of reference of relevant national implementing agencies and related bodies;
7. WELCOMING the production of a training tool for Ramsar National Focal Points and National Wetland Committees in francophone African countries through a project led by the Atelier Technique des Espaces Naturels (ATEN), funded by the French government and the Secretariat of the Ramsar Convention, and the subsequent provision of funding by Switzerland for its translation into English, and HOPEFUL that Contracting Parties or other donors will similarly offer to fund its translation into Spanish, in order to make it globally available in the Convention's three official languages;

8. RECOGNIZING the importance for the Convention of all efforts made by the Contracting Parties to coordinate the implementation of the Convention among relevant competent authorities and other bodies at the national level; and
9. DESIRING to clarify and harmonize the general functions of the main Ramsar national implementing agencies and related bodies with those responsible for implementing other relevant Multilateral Environmental Agreements, with a view to effective achievement of their respective objectives, as further stressed also in Resolution X.11;

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10. REAFFIRMS the principal role of each Contracting Party's designated Administrative Authority in ensuring the ongoing representation of that Party in the Convention and for the implementation of the Convention at national level;
11. DECIDES to change the wording "daily contact" in the designated Administrative Authority to "National Focal Point";
12. INVITES the Contracting Parties, as appropriate in light of their individual circumstances and capacities, to follow the elements provided in the annex to this Resolution, which present different possible areas of implementation of the Convention at the national level;
13. URGES Contracting Parties for whom implementation of the Convention occurs significantly through provincial, state or other subnational governments to establish or strengthen mechanisms for involving subnational agencies in the implementation of the Convention, for example through identification of focal points in such agencies and inclusion of such focal points on National Ramsar Committees and equivalent bodies;
14. RECOMMENDS that National Ramsar or National Wetland Committees should include, in addition to the considerations referred to in Recommendation 5.7 (1993), full participation by the nominated National Focal Points for Communication, Education, Participation and Awareness (CEPA) and the nominated National Focal Point for the STRP; and
15. ENCOURAGES the Secretariat in its efforts to develop the necessary tools for strengthening the capacities of the National Focal Points, CEPA National Focal Points, STRP National Focal Points, and National Ramsar/Wetland Committees, and WELCOMES the interest of relevant donors in supporting those efforts, especially in developing countries.

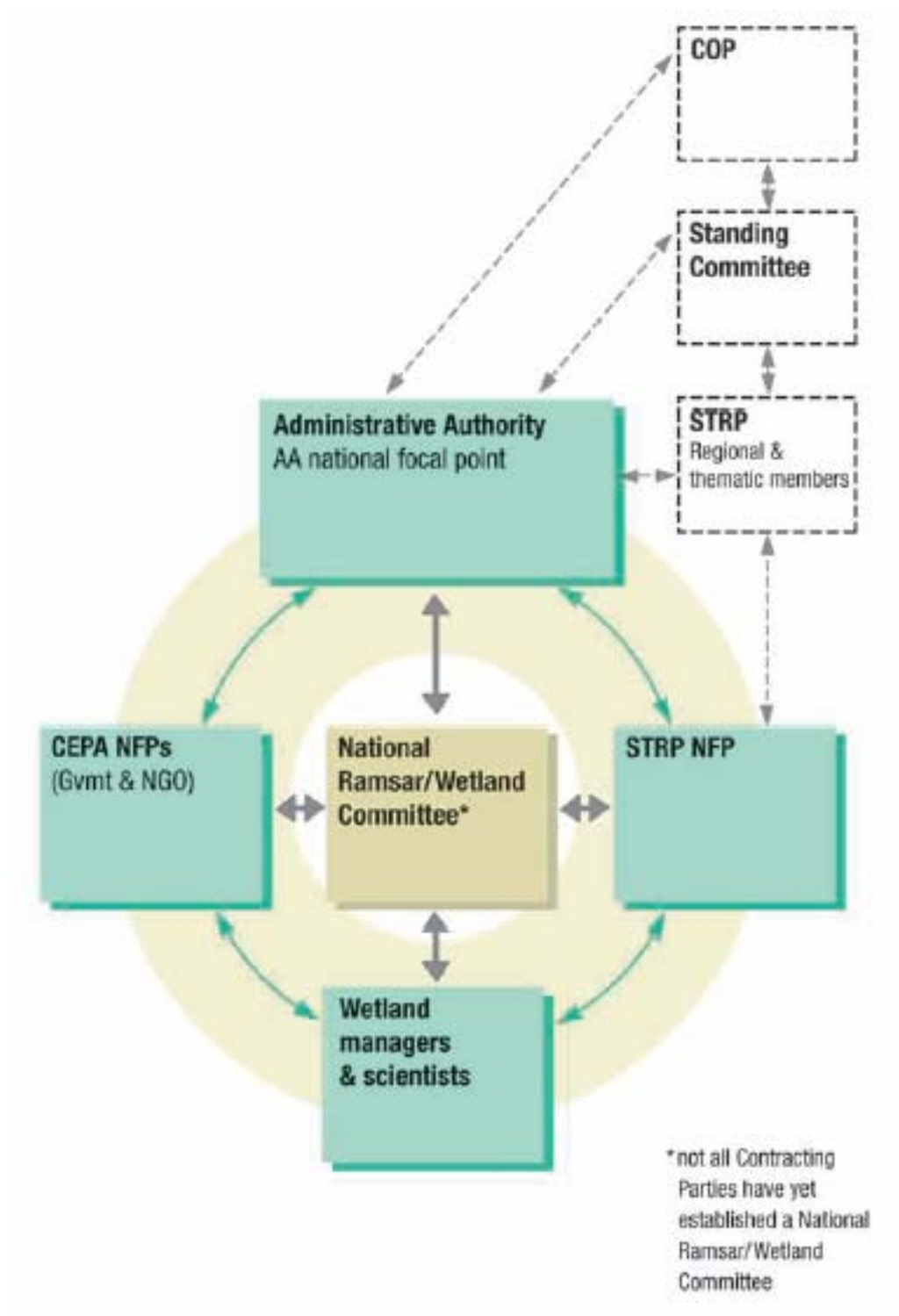
Annex

Summary of the general functions of national implementing agencies and related bodies

1. This Annex provides non-prescriptive descriptions of the general functions of key Ramsar Convention national implementing agencies and related bodies. As a minimum, each Contracting Party should appoint an Administrative Authority, a National Focal Point, and National Focal Points for the STRP and for CEPA. It is recommended that each Party should also consider the establishment of a National Ramsar/Wetland Committee.

Implementing agency / other relevant body	General functions	Key source documents
Administrative Authority	<p>The Administrative Authority (AA) is the government agency of each Contracting Party entrusted by the national government with the implementation of the Convention at national level. The AA is responsible for:</p> <ul style="list-style-type: none"> • ensuring the ongoing representation of the Contracting Party in the Convention. • coordinating national actions by all relevant players for the implementation of the Convention by, <i>inter alia</i>: <ol style="list-style-type: none"> i) sharing information and exchanging ideas with relevant organizations, including governmental agencies, civil society and donors; ii) designating wetlands for the Ramsar List; iii) organizing appropriate management of these sites; iv) organizing the preparation and adoption of a national wetland policy for wetlands and facilitating the implementation of the policy by all relevant organizations; v) promoting Ramsar values, including approaches to the wise use of wetlands, at the national level. • guiding and supporting relevant institutional capacity-building at subnational level. <p>Above all, the AA should liaise with other competent government agencies with responsibilities relevant to wetlands and other natural resource issues, with a view to strengthening the implementation of the Ramsar Convention.</p> <p>Liaison with national focal points of other multilateral environmental agreements is another key function.</p>	<p>Texts of the Convention</p> <p>This task statement and roadmap of the National Focal Point; Brochure on NFPs (2007)</p>

	<p>The Administrative Authority generally appoints a person to act as a National Focal Point for the Convention.</p> <p>Under the direct authority of the AA, the National Focal Point represents the Contracting Party. The National Focal Point:</p> <ul style="list-style-type: none"> • liaises regularly between the Contracting Party government and the Secretariat of the Convention; • assists in the coordination the implementation of the Convention at the national level. 	
STRP National Focal Point	<p>The National Focal Point for STRP (Scientific and Technical Review Panel) is a recognized and committed technical expert in wetlands of the government or some another entity, appointed by the Administrative Authority. STRP NFPs primarily liaise between regional members of the Panel and national networks of other competent experts.</p>	<p>Resolutions VII.2, VIII.28 (including terms of reference for STRP NFPs), IX.11 and X.9; Brochure on NFPs (2007)</p>
CEPA National Focal Points	<p>The National Focal Points for CEPA are recognized experts in communication, education, participation and awareness (CEPA) working in government entities or non-governmental organizations (NGOs). Two CEPA National Focal Points are appointed by the Administrative Authority: one governmental CEPA NFP and one non-governmental CEPA NFP. Together, they are the lead, at the national level, for the development and implementation of national CEPA programs or action plans on wetland areas of particular interest.</p>	<p>Resolutions VII.9, VIII.30, and X.8; Brochure on NFPs (2007)</p>
National Ramsar/Wetland Committee	<p>The National Ramsar Committee (NRC) or national wetland committee is entrusted with the provision of guidance and advice on the national implementation of the Convention and the COP Resolutions. Such committees can also serve as a platform for national programmes relating to CEPA and to the work of the STRP. To act in the most efficient manner, national committees should include a broad representation of wetland, water and other relevant sectors and representatives of policy, science and management functions.</p> <p>The composition and structure of NRCs may differ between Contracting Parties.</p> <p>It is recommended also that National Committees establish good working relationships with, or include in their membership, the national focal points of other multilateral environmental agreements as well as relevant funding organizations, as appropriate.</p>	<p>Recommendation 5.7; Brochure on NFPs (2007)</p>



Support tools

2. To assist the Contracting Parties in implementing the Convention at the national level, the Secretariat could produce a useful "Memorandum for the Administrative Authority National Focal Point" as well as examples of the composition and operation of National Ramsar Committees.

3. Also, a platform specifically designed for communication and exchange of information between National Focal Points could be developed on the Ramsar Web site.
4. Finally, the development of tools to be shared by the Ramsar Convention and other relevant conventions is to be encouraged.



10th Meeting of the Conference of the Parties to the Convention on Wetlands (Ramsar, Iran, 1971)

“Healthy wetlands, healthy people”

Changwon, Republic of Korea,
28 October-4 November 2008

Resolution X.30

Small Island States and the Ramsar Convention

1. RECALLING that during the 4th Pan-American Ramsar Regional Meeting (2007) and the Caribbean Regional Meeting on the Implementation of the Convention (2008), the Caribbean States all supported the conclusion that they should be viewed as Small Island Developing States (SIDS) in terms of their vulnerability to development, climate change, and loss of wetlands;
2. AWARE that funding support from the Ramsar Convention is currently based on the Parties' economic status by reference to the OECD Development Assistance Committee list and that the Parties at the meetings referred to above believe that such eligibility for support for SIDS should be based rather upon their vulnerability to climate change, as is the case with the Convention on Biological Diversity, the Convention on International Trade in Endangered Species, and the UN Framework Convention on Climate Change;
3. RECOGNIZING that among the expected impacts of climate change are sea level rise, disruption of the global hydrological cycle, increased frequency and intensity of extreme weather events, and increased vulnerability of coastal areas to flooding, erosion, loss of mangroves and other wetlands, and seawater incursion into freshwater areas, and ACKNOWLEDGING the potential negative impact of these phenomena on the economic status of many small islands;
4. RECALLING that in Resolution IX.9 (2005) the Parties acknowledged that “both conservation of natural wetland ecosystems such as mangroves, as well as wise use of such wetlands in the coastal zone, contribute to natural flood prevention” and recognized “the significance of synergies with the other multilateral environmental agreements and agencies with a particular focus on the impacts of natural disasters, especially the joint UNEP/OCHA Environment Unit and including the International Strategy for Disaster Reduction (ISDR), The World Health Organization (WHO), The World Meteorological Organization (WMO) . . . the United Nations Convention to Combat Desertification, and the UN Framework Convention on Climate Change, and also recognized the role that can be played in the immediate aftermath of a natural disaster by . . . non-governmental organizations (NGOs) . . . especially the Convention's International Organization Partners (IOPs)”; and
5. ALSO RECALLING the Mauritius Declaration (2005), which affirms that “small island developing States continue to be a ‘special case’ for sustainable development”, and RECOGNIZING that one of the Key Messages of the Millennium Ecosystem Assessment

in *Ecosystems and Human Well-Being: Wetlands & Water* (2005) indicates that “the status of both freshwater and coastal wetland species is deteriorating faster than those of other ecosystems”;

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6. REQUESTS the Ramsar Secretariat, in considering the eligibility of projects in small island States for funding under the Ramsar Small Grants Fund, to take into account, in addition to their economic status, the vulnerability of such States to climate change and loss of wetlands, and to treat all such States for this purpose in a manner analogous to Small Island Developing States (SIDS), whether or not they are formally classified as such on economic grounds in the DAC list of the OECD; and
7. URGES Contracting Parties and others involved as proponents or funders of infrastructure and other development activities in small island areas to have special regard to the particular environmental vulnerability of wetlands in such areas, including through application of the Ramsar Convention’s guidance on vulnerability assessment contained in the forthcoming Ramsar Technical Report.



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Resolution X.31

Enhancing biodiversity in rice paddies as wetland systems

1. RECOGNIZING that rice is grown in at least 114 countries worldwide and, as the staple diet for over half the world's population, has contributed to about 20% of the total calorie supply in the world;
2. AWARE of recent concern over global food supplies and costs and the need for increasing food production, and ALSO AWARE that Resolution X.23 on *Wetlands and human health and well-being* highlights the interdependencies between human health, food security, poverty reduction and sustainable wetland management and calls for Contracting Parties to “strengthen collaboration and seek new partnerships between the sectors concerned with wetland conservation, water, health, food security and poverty reduction”;
3. RECOGNIZING that rice paddies (flooded and irrigated fields in which rice is grown), a typical agricultural landscape for a significant proportion of world rice cultivation, have provided large areas of open water for centuries in regions with a variety of rice-growing cultures, and, in addition to producing rice, also provide other animal and/or plant food sources and medicinal plants, thus acting as wetland systems and helping to sustain livelihoods and human well-being in these regions;
4. NOTING that rice paddies in many parts of the world support important wetland biodiversity, such as reptiles, amphibians, fish, crustaceans, insects and molluscs, and play a significant role in waterbird flyways and the conservation of waterbird populations;
5. FURTHER RECOGNIZING that aquatic biodiversity associated with rice paddies can make an important contribution to the nutrition, health and well-being of rural populations;
6. RECOGNIZING ALSO that in some particular regions, it is important that irrigated rice paddies remain connected to surrounding natural/semi-natural habitat, in particular to wetlands, for the sake of biodiversity;
7. RECALLING that “rice fields” are included in the Ramsar Classification System for Wetland Type as a human-made wetland (“Type 3 Irrigated land; includes irrigation channels and rice fields”) and thus, where appropriate, may be designated as, or included in, Wetlands of International Importance (Ramsar sites), and that at least 100 designated Ramsar sites around the world include rice field habitats that play important ecological

roles and support a range of biodiversity, including supporting internationally important populations of breeding and non-breeding resident and migratory waterbirds;

8. NOTING that some sites associated with rice paddies are or could be included in the Globally Important Agricultural Heritage Systems (GIAHS) Programme, which was initiated by the Food and Agriculture Organization of the United Nations (FAO) and promotes the dynamic conservation of areas important for indigenous techniques and cultural and biodiversity values, and RECOGNIZING that such sites could provide examples of wetland wise use;
9. CONCERNED about current and potential threats to the role of rice paddies as sustainable wetland systems, as well as about the potential and current impacts to the surrounding environment, caused by factors such as inappropriate agricultural practices relating to water management and change of natural flow, as well as introduction of new taxa, including invasive alien species, use of high levels of harmful agricultural chemicals, and the impact of inappropriate conversion of rice paddies to other land uses;
10. NOTING that some water management approaches, such as flooding of rice paddies when they are not in use for rice production, have been adopted in order to provide suitable habitat for some fauna, including migratory waterbirds, and to control weeds and pest insects;
11. ALSO CONCERNED that inappropriate conversion of wetland to paddy field may have potential negative impacts on local biodiversity and related ecosystem services, and AFFIRMING that this Resolution is not to be used to justify conversion of existing natural wetlands into human-made wetlands, nor to justify inappropriate conversion of land to human-made wetlands;
12. ALSO AFFIRMING that the focus of this Resolution is specifically on the maintenance and enhancement of the ecological and cultural role and value of appropriate rice paddies as wetland systems, consistent and in harmony with the Convention, internationally agreed development goals, and other relevant international obligations;
13. RECALLING that Resolution VIII.34 (2002) highlighted, *inter alia*, the importance of ensuring that agricultural practices are compatible with wetland conservation objectives and that sustainable agriculture supports some important wetland ecosystems, and AWARE of the work currently being undertaken in response to Resolution VIII.34 by the Scientific and Technical Review Panel (STRP) and the Guidance on Agriculture-Wetlands Interactions (GAWI) initiative with the FAO, Wageningen University and Research Centre, the International Water Management Institute (IWMI), Wetland Action, and Wetlands International, including the preparation of a framework for guidance related to interactions between wetlands and agriculture; and
14. NOTING that information and products related to rice paddy farming are available through the work and publications of the Organization for Economic Cooperation and Development (OECD) on agriculture and biodiversity, including agri-biodiversity indicators; that information on wetland, water and rice farming is available in the Comprehensive Assessment of Water Management in Agriculture (CA); and that the analyses of distribution and representativeness of Ramsar wetland types, currently being

undertaken by the IWMI for the STRP, include, *inter alia*, rice paddies as human-made wetlands;

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15. ENCOURAGES Contracting Parties to promote further research on flora, fauna and ecological functions in rice paddies and on the cultures that have evolved within rice-farming communities that have maintained the ecological value of rice paddies as wetland systems, in order to identify sustainable rice paddy farming practices that reinforce wetland conservation objectives and provide ecosystem services such as groundwater recharge, climate moderation, flood and erosion control, landslide prevention, provision of plant and or animal food resources and medicinal plants, and the conservation of biodiversity;
16. INVITES Contracting Parties to consider offering recognition and/or protection to such sites through, for example, their designation as Wetlands of International Importance and through mechanisms such as the FAO Globally Important Agricultural Heritage Systems Programme, and FURTHER INVITES Contracting Parties to disseminate and exchange information on these practices and sites amongst governments, farmers and conservation agencies, in order to support improvement of sustainable rice farming practices and water management;
17. ENCOURAGES Contracting Parties to:
 - i) identify challenges and opportunities associated with managing rice paddies as wetland systems in the context of the wise use of wetlands, also paying attention to the concept of connectivity between rice paddies, natural wetlands and river basins, as well as to the promotion of sustainable agricultural practices, and furthermore to encourage conservation authorities to collaborate with agriculture authorities and those agencies responsible for rice production and disease prevention to identify and actively promote planning, farming practices, and water management in rice paddies that serve to enhance the natural biodiversity, ecosystem services, and sustainability of rice paddies, while also contributing to improved nutrition, health and well-being of farming household members and surrounding community members and to the conservation of waterbird populations;
 - ii) ensure that such planning, farming practices, and water management are implemented wherever applicable, making appropriate use of the Ramsar guidance on wetlands and river basin management adopted in COP10 Resolution X.19 so as to ensure that river basin processes and possible upstream and downstream effects of rice paddy farming are considered, while being conscious of the need for food production and the interests of local communities;
 - iii) ensure that planning, farming practices, and water management associated with rice paddies do not lead to loss of existing natural biodiversity and ecosystem services through inappropriate conversion of natural wetlands or other habitats to human-made wetlands; and
 - iv) consistent with the measures identified above, seek appropriate environmentally sustainable ways of minimising risks to human health associated with waterborne

diseases, disease vectors (including Highly Pathogenic Avian Influenza), and excessive and inappropriate use of agricultural chemicals in rice paddies; and

18. REQUESTS the Scientific and Technical Review Panel, working with other interested organizations, to:
 - i) prepare a technical report on the role of rice paddy in supporting the conservation of wetland biodiversity and the delivery of wetland ecosystem services, taking into account differences in the ways in which rice fields are managed, considering also the work of the GAWI partnership; and
 - ii) review, disseminate, and exchange available guidance and information related to rice paddy planning, management practices and training on sustainable rice farming that protect or enhance wetland biodiversity and ecosystem services while also supporting essential food production, in collaboration especially with FAO, IWMI, the International Rice Research Institute (IRRI), the Africa Rice Centre (WARDA), the GAWI partnership, and others.



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“Healthy wetlands, healthy people”

**Changwon, Republic of Korea,
28 October-4 November 2008**

Resolution X.32

Thanks to the host country, the Republic of Korea

1. HAVING MET for the first time in 15 years in the Asia region, in the Republic of Korea (Changwon City);
2. FULLY AWARE of the significant effort required for the organization of a meeting of the Conference of the Contracting Parties (COP), with, on this occasion, more than 1,620 participants from 129 Contracting Parties and 2 observer States;
3. RECOGNIZING the Republic of Korea’s visionary low-carbon Green Growth Initiative championed by His Excellency Lee Myung-bak, President of the Republic of Korea; and
4. NOTING the launch of the Ramsar Cultural Centre by the Mayor of Changwon City on 2 November 2008;

THE CONFERENCE OF THE CONTRACTING PARTIES

5. EXPRESSES its gratitude to His Excellency Lee Myung-bak, President of the Republic of Korea, for his outstanding commitment to and support for wetland conservation;
6. RECORDS its thanks to the President, the Alternate President and the Vice-Presidents of COP10 for their efficient and effective chairing of the plenary sessions;
7. ALSO RECORDS its thanks and appreciation to the Republic of Korea, and in particular to the Ministry of Environment and the Ministry of Land, Transport and Maritime Affairs, for their efficient, comprehensive and thorough preparations which ensured the smooth running of the COP and all its associated events, as well as for the secondment of an officer to assist the Secretariat in the preparations for COP10;
8. FURTHER RECORDS its gratitude to the government of Gyeongnam Province for its exceptional hospitality and generous support;
9. FEELS INDEBTED to the mayor and people of Changwon City for their warm and gracious welcome, and for their efforts made to fully engage and mobilize the local community both before and during the COP in support of wetland conservation;
10. EXPRESSES its admiration for and utmost appreciation of the crucial role played by the COP10 volunteers that have contributed to so many aspects of the COP’s success;

11. GREATLY APPRECIATES the numerous side events and cultural exhibitions that provided a wonderful opportunity for technical and cultural exchanges between delegates and Korean citizens;
12. COMMENDS the Republic of Korea's support for the Ramsar Convention and wetland conservation and wise use through:
 - a) its commitment to promoting implementation of the Changwon Declaration;
 - b) its generous contribution to the Ramsar Small Grants Fund;
 - c) its hosting of the drafting workshop for the Changwon Declaration and of the intersessional technical meeting of the STRP on wetlands and health, which made a significant contribution to the theme of COP10; and
 - d) the generous support by Changwon City for production of the new Ramsar promotional video;
13. WELCOMES in particular the Republic of Korea's plan to inaugurate the *Ramsar Regional Centre for East Asia* to enhance implementation of the Ramsar Convention; and
14. LOOKS FORWARD to working ever more closely with the government and people of the Republic of Korea to harness the interest and energy generated by COP10 for the benefit of wetland conservation locally, nationally, and internationally.