CONVENTION ON WETLANDS (Ramsar, Iran, 1971)
36th Meeting of the Standing Committee
Gland, Switzerland, 27-29 February 2008

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Agenda item 12.5

Wetlands and climate change

Action requested: The Standing Committee is invited to consider the update provided on the STRP's work on wetlands and climate change, and to advise on transmission of these matters for COP10 consideration.

1. In the 1999-2002 triennium the Scientific and Technical Review Panel (STRP) was requested to prepare a comprehensive review of climate change and wetlands, including mitigation and adaptation. This was provided to the 8th meeting of the Conference of the Parties as an Information Paper (COP8 DOC 11), and it formed the basis of COP8's adoption of Resolution VIII.3 *Climate change and wetlands: impacts, adaptation, and mitigation.*

2. ResolutionVIII.3 requested further work on these matters by the STRP and others, but lack of capacity meant that such work could not be progressed during the 2003-2005 triennium, and further work on wetlands and climate change was not instructed by Resolution IX.2 as an STRP high or immediate priority for its 2006-2008 work plan.

3. Since COP8 there have been a range of significant developments in the understanding of climate change impacts and the roles of wetlands in climate mitigation and adaptation, including through the recent UNFCCC Bali Conference, the Intergovernmental Panel on Climate Change (IPCC)'s 4th Assessment Report, and more specific issues of the role of wetlands in climate change such as new research on the important role of peatlands, especially in Southeast Asia. Nevertheless, there still appears to be a general lack of significant attention to wetlands in the climate debates.

4. Immediately prior to the STRP's mid-term workshops in March 2007, the STRP and the Secretariats of Ramsar and the CBD held a joint expert workshop on "Wetlands, water, biodiversity and climate change" to review current knowledge and issues and identify future priorities for attention. The unedited draft report of this workshop was launched jointly by CBD Executive Secretary and Ramsar Secretary General on the occasion of World Biodiversity Day in June 2007, and it is available on: www.biodiv.org/doc/case-studies/wtr/cs-wtr-ramsar-en.pdf. The draft executive summary of this meeting report is attached as Annex 1. The expert meeting stressed the need for better communication and public awareness on weltands, water and climate change.

5. In view of such issues and developments, and in view of the results of that workshop, the STRP revisited issues surrounding wetlands and climate change at its mid-term workshops in March 2007, and the Panel agreed to establish a additional thematic work area on this (re)emerging topic, to led by the STRP Chair.

6. Some initial work has been undertaken for discussion at STRP14, and the Panel will be developing the scope, terms of reference, and proposed priority tasks for this work area in

preparation for proposing a more comprehensive suite of activities in the next triennium, including how best to engage with IPCC and UNFCCC technical processes in future. The Secretary of the IPCC will be participating in STRP14's discussions. It is anticipated that the Panel may consider bringing forwards a further draft Resolution on these matters to Standing Committee and COP10.

7. The Panel has a number of products in preparation to support its further discussion at STRP14 on wetlands and climate change. These include:

   i) the draft proceedings report of the joint CBD-Ramsar workshop (March 2007), which will be further reviewed and published as a Ramsar Technical Report;
   ii) a report on simple methodologies for assessing hydrological vulnerability of wetlands to climate change scenarios (being prepared for STRP by the UK Centre for Ecology & Hydrology), also anticipated to be issued as a Ramsar Technical Report);
   iii) a review discussion paper (prepared by invited expert Kevin Erwin) on "Climate change and wetland restoration"; and
   iv) a Ramsar Technical Report on "Wetland vulnerability assessment"; STRP work carried over from the previous triennium for completion.

8. STRP14's discussions on earth observation and the potential for establishing a partnership approach for a global wetland observing system will also be relevant to climate change issues.

9. The STRP has already identified that there is one particular gap in current knowledge of wetlands and climate change, which is impeding a wider understanding of the importance of wetlands in this debate. There is a dearth of consolidated information on the role and importance of different types of wetlands in carbon sequestration and storage, which is also essential to setting the recent findings about such roles in Southeast Asian peatlands within their global context. A verbal report on the further outcomes of STRP14 on these matters will be provided by the STRP Chair.

10. Issues of biodiversity, climate change and peatlands were also discussed in July 2007 by the CBD's Subsidiary Body on Science, Technical, and Technological Advice (SBSTTA) and will be further considered at the CBD's COP in May 2008 (Bonn, Germany).

11. The Standing Committee will also be aware of the growing global debate on the issue of "biofuels", and some of the implications of increased global biofuel production (notably from clearance and planting of palm oil plantations) for the future wise use and maintenance of the ecological character of wetlands, promise to be significant. The Committee may wish to consider the extent to which the STRP should include an assessment of this issue within its future climate change and wetlands work.

Annex

Executive summary: Water, wetlands, biodiversity and climate change

Provisional outcomes of an Expert Meeting, 23–24 March, 2007, Gland, Switzerland

The objective of the expert meeting was to enhance the availability of scientific and technical information on the linkages between biodiversity, wetlands and climate change **so as to contribute to the international debate** and strengthen in-country adaptation and mitigation planning. Specific activities of the meeting included to: (i) undertake a review of the general state of knowledge on wetlands, biodiversity and climate change linkages based upon published reviews; (ii) identify key areas where wetlands should have a higher profile in the international debate on climate change; and (iii) identify key strategic opportunities to promote the enhanced awareness of the contribution of wetlands to the mitigation of climate change and the need to adequately consider wetlands in climate change adaptation measures.

The meeting based its deliberations on scientifically based evidence and experience but focused its outputs on influencing policies and activities in the nonspecialist community.

A summary of key issues, key messages and responses is provided together with an extended set of messages to form the basis of follow-up CEPA work. These are based on reviews of the subject area and are supported by technical and scientific information provided in the report, its annexes and related publications.

There is no time for delay: combating climate change is a vital need. This report addresses this major challenge and provides some solutions regarding wetlands and biodiversity. The opportunities are significant. Wetlands/biodiversity and climate change are interlinked. Climate change threatens these important ecosystems and the services they provide for human welfare. These ecosystems are already declining faster than any other biome and climate change will exacerbate this problem largely because its main impacts will be on water. Climate change affects the hydrological cycle which in turn impacts wetlands. In addition, many response measures to climate change will focus on water (e.g. increased agricultural demand for water).

Wetlands are also critical to mitigating climate change. They have an important and underestimated role in both carbon storage and the regulation of greenhouse gas emissions. Degraded wetlands are already a significant source of atmospheric carbon and the restoration/rehabilitation of wetlands offers a return on investment up to 100 times that of alternative carbon mitigation investments.

The work of the Intergovernmental Panel on Climate Change has also made us all aware that Climate Change is likely to be the main driver of biodiversity loss in the future. Biodiversity has already been affected by recent climate change and projected climate change for the 21st century is expected to affect all aspects of biodiversity. Studies show clearly that changes in distribution and behaviour of a large number of wetland species are the consequence of shifts in local or regional climate, weather patterns and resulting changes of vegetation and habitat quality. The impacts of climate change and the changes in habitat may be dramatic for certain wetland related species such as birds, fishes, reptiles, amphibians. There is likely to be a general decline in avian species richness, with the mean extent of species' potential geographical distributions likely to

decrease. Species with restricted distributions and specialized species of particular biomes are likely to suffer the greatest impacts. Migrant species are likely to suffer especially large impacts as climatic change alters both their breeding and wintering areas, as well as critical stopover sites, and also potentially increases the distances they must migrate seasonally.

An overview of regional assessments shows mainly that the impacts of global warming has been most pronounced in the Arctic, that small islands are particularly vulnerable to climate change and that Africa is expected to suffer more food and water scarcity (less coastal wetlands and fish). Thus, wetlands can also mitigate another adverse effect of climate change by providing vital biodiversity resources, especially for poor people.

For general CEPA purposes it is clear that there is already enough information to produce a substantial technical document focussing on explanations of key messages identified. The short-term goal, however, might be simpler, shorter materials targeted to specific groups. The International Day for Biological Diversity (22 May, 2007) on "biodiversity and climate change", is a good opportunity for providing appropriate materials (for both Ramsar and the CBD).

It is time for the international community to fully recognize that wetlands are more important as carbon stores than other biomes and therefore efforts to protect these vital ecosystems should be expanded. It is already known that peatlands alone store twice the carbon present in forest biomass of the world and that they store this carbon for very long periods of time (thousands of years), contrary to forests. However, precise information concerning the storage-capacity of other types of wetlands is missing. One thing is sure: degradation of wetlands by drainage and fire has severe impacts on carbon emissions to the atmosphere. Therefore, reducing climate change is possible through the conservation, restoration or creation of wetlands but even more difficult if their degradation is not prevented. On this point, it is crucial to note that the Kyoto Protocol excludes the emissions from soil and degraded vegetation, allowing no consideration of peatland degradation which is a huge cause of global warming.

It is urgent that the international community recognizes the crucial importance of wetlands to mitigate climate change (reducing Greenhouse Gases). Equally, adaptation measures for wetlands (which deal with the impacts of climate change) are critically important to human welfare. Wetland services are not only vulnerable to climate change but must be maintained in order to cost-effectively reduce the impacts of climate change on human populations.

The stage is set for action at Convention level. SBSTTA 12 will consider peatlands and advise CBD COP 9. There are indications that improved emphasis on these issues will receive strong support from some Parties – particularly in Europe. CBD COP 10 will consider climate change in detail. An effective partnership between the CBD and Ramsar Secretariats offers the possibility of significant progress in these matters but an effective strategy needs to be designed which includes having a stronger influence on the IPCC and UNFCCC.

Better explanation of wetland-biodiversity-climate change issues can provide significant additional argument for improved management in a rapidly changing world.