Working title: **Towards a multi-Convention collaboration on ecosystem restoration – draft discussion paper for CSAB4**

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Summary

This document has been prepared for the CSAB4 meeting of February 2011 to serve as a basis for discussion and agreement on the development of a collaborative programme on ecosystem restoration issues. The document includes:

- relevant supporting information viz. an overview of recent relevant decisions and recommendations of the various MEAs, and an overview of current scientific work related to ecosystem restoration as well as work planned for the immediate future in response to recent decisions of COPs or MOPs;
- suggested early opportunities for collaboration on ecosystem restoration issues based on scientific work which is already ongoing or planned for the near future in one or more of the MEAs, and
- a more comprehensive proposal for developing a future collaborative programme on guidance related to ecosystem restoration.

Ecosystem restoration is now increasingly recognized as an important tool for achieving the multiple co-benefits sought after in the often interlinked objectives of the biodiversity related Conventions and MEAs. Some of the most recent decisions, resolutions and work plans of these bodies point to an immediate need for ecosystem restoration tools, technologies and guidance to assist the Parties and signatories.

The proposal outlined in this document suggests specific measures to address both the immediate and long-term needs of the Contracting Parties and MEA signatories, many of which currently lack the appropriate, science-based tools and guidance to assist them in designing, implementing, and monitoring ecosystem restoration projects/programs that are effective, efficient and engaging. The outline presented here for a collaborative work programme includes potential measures to translate increased knowledge into practical tools and guidance for ecosystem restoration to:

i. To support informed policy decision-making, and
ii. To promote successful design, implementation, and monitoring of restoration projects/programs.

An immediate task being proposed (within the next two years) is the development of practical guidance on ecosystem restoration and related issues:

- **Policy Guidance** (for policy-makers, legislators and regulators) to inform and guide the decision-making process, and specifically assist with the formulation of new and/or revision of existing restoration policy, legislation, and regulation.
- **Best Practice Guidance** (for administrators, planning and implementing agencies), including frameworks for prioritization and adaptive management, and the establishment of baselines, performance indicators, and reporting requirements.

Longer-term tasks are proposed (within three to five years) to complete the suite of tools and guidance on ecosystem restoration of a technical nature for those in the field. These might encompass:

- **Technical Guidance Database** (for practitioners in the field) which would draw on the plethora of existing guidance manuals and handbooks that address specific ecosystems and interventions and present them in an open-source, searchable database;
- **Harmonization** of the existing scientific documentation and ongoing activities/tasks of the Conventions' scientific advisory bodies related to ecosystem restoration

Issues to be considered by the CSAB meeting on 13 February 2011:

i. Is the proposal (in section 4 of this document) adequate as a starting point for development of a collaborative programme on ecosystem restoration amongst relevant members of the CSAB group?

i. Which Conventions and MEAs in the CSAB group have overlapping or complementary interests in ecosystem restoration and might be part of such a collaboration, and what formalities/approvals/consultations might be required in each of those Conventions and MEAs to facilitate their collaboration?

ii. Do the indicated deliverables from this proposed collaboration meet the needs of these Conventions and MEAs?

iii. Which deliverables, if any, might be achievable in the short term with currently available resources and within ongoing collaborative programmes or joint work plans? What additional resources might be available to support the co-ordination and development of this collaboration through the CSAB group?

iv. What immediate next steps might the CSAB group wish to recommend in order to progress the development of this proposed collaboration?

1. Introduction

1.1 Background

The Chairs of the Scientific Advisory Bodies (CSAB) group was established in 2007 in order to provide a forum for the scientific bodies of the biodiversity-related Conventions and Multi-Lateral Environmental Agreements (MEAs) to share information and promote co-ordination and collaboration with respect to their various programmes of work and priority concerns.

At the CSAB3 meeting (Nairobi, October 2009), the group discussed potential ways to encourage and establish collaboration on themes or issues that might be of common interest. An information paper was tabled at the CSAB3 meeting which identified a number of possible modes of collaboration between two or more conventions or MEAs.[1] These modes of collaboration ranged from:

- a fairly straightforward approach of sharing existing guidance by cross-referring to or cross-adopting guidance between MEAs where relevant, as for example in the cross-adoption by Ramsar of CBD's existing guidance on environmental impact assessment and strategic environmental assessment in Ramsar Res X.17[2], to
- more proactive but focused design of single collaborative projects on issues of shared interest, for example in the joint development by AEWA-TC and Ramsar-STRP of guidance on wetlands and extractive industries[3], and
- more comprehensive approaches, such as the proactive design of multi-year multi-MEA programmes of work which might encompass several shared deliverables.

The CSAB3 meeting discussed a number of themes which, in addition to being identified as current or emerging priorities in the scientific work programmes of several of the Conventions, might lend themselves for the proactive design of future joint projects or programmes.[4] This wide-ranging list provides a number of good opportunities for stimulating and strengthening collaboration across the CSAB group of MEAs, and includes:

- guidance on ecosystem restoration;
- specific climate-change related questions;
- guidance on hunting and harvesting;
- guidance on tourism and ecotourism;
- issues related to impacts of urbanization on biodiversity;
- management of invasive species.

[1] http://www.cbd.int/doc/meetings/csab/csab-03/official/csab-03-02-en.pdf
[2] http://www.ramsar.org/pdf/res/key_res_x_17_e.pdf
[3] Task 2.3 in the STRP Work Plan for 2009-2012 http://www.ramsar.org/pdf/strp/strp_workplan_2009.pdf
[4] http://www.cbd.int/doc/meetings/csab/csab-03/official/csab-03-03-en.pdf

In addition, following discussion at CSAB2[5], the Secretariats of the CMS and CITES are currently working on harmonization of species nomenclature in their respective annexes, and the Ramsar STRP also considers this to be important for the Ramsar Convention.

A multi-convention process of collaboration that includes relevant MEAs and other international organizations and is focused on a theme of common interest would offer synergies through sharing of data, knowledge and expertise. Such collaboration could also provide potential leverage by working with and through existing implementation programmes related to the theme of interest. Accordingly, it was agreed at the CSAB3 meeting that a proposal for the proactive design of joint projects/programmes should be developed for the next meeting.[6] The Ramsar Convention on Wetlands agreed to take the lead on identifying possible opportunities for collaboration in relation to development of guidance for ecosystem restoration.

1.2 Scope and purpose of this document

This document has been prepared for the CSAB4 meeting of February 2011 to serve as a basis for discussion and agreement on the development of a collaborative programme on ecosystem restoration issues.

The content of this document is focused more on recent decisions and work programmes (Jan 2007-December 2010) as well as a review of the original agreement texts, in order to help establish a set of objectives for ecosystem restoration which should be taken up within a collaborative programme and which should guide the development of a detailed plan of work. It is not intended to provide herein a detailed review of all current and future scientific work: that still may be considered necessary as a foundation task for a broader multi-year program of work.

This document includes:

- relevant supporting information viz. an overview of recent relevant decisions and recommendations of the various MEAs (section 2), and an overview of current scientific work related to ecosystem restoration as well as work planned for the immediate future in response to recent decisions of COPs or MOPs (section 3);
- suggested early opportunities for collaboration on ecosystem restoration issues (section 4) based on scientific work which is already ongoing or planned for the near future in one or more of the MEAs, and
- a more comprehensive proposal for developing a future collaborative programme on guidance related to ecosystem restoration (section 4).

[5] http://www.cbd.int/doc/meetings/csab/csab-02/official/csab-02-03-en.pdf (see paragraph 24)
[6] http://www.cbd.int/doc/meetings/csab/csab-03/official/csab-03-03-en.pdf (see paragraph 15)

1.3 Why is a collaborative effort on ecosystem restoration a priority now?

Although many of the Convention texts and agreements do not explicitly mention ecosystem restoration, it is now increasingly recognized as an important tool for achieving the multiple co-benefits sought after in the often interlinked objectives of these bodies. Some of the most recent decisions, resolutions and work plans of the biodiversity-related Conventions and MEAs point to an immediate need for ecosystem restoration tools, technologies and guidance that would assist the Parties and signatories. Many of these recent decisions and resolutions, CBD, Ramsar and UNCCD being most prominent, are referenced in this discussion paper.

Ecosystem restoration or the enhancement/reinstatement/recovery/rehabilitation/reclamation of nature's provisioning and regulatory services has enormous potential to deliver a myriad of tangible benefits at a variety of scales that would support the efforts of the Contracting Parties and MEA signatories in achieving their interlinked objectives, including:

- Conserving/protecting/augmenting biodiversity and fostering species recovery;
- Slowing and reversing desertification and terrestrial/aquatic ecosystem degradation and, thus improving biodiversity values, water and natural resource security;
- Promoting employment opportunities resulting in increased involvement and equity in socio-economic development and sustainable livelihood initiatives;
- Climate change mitigation by reducing greenhouse-gas emissions and increasing carbon sequestration and its long-term stability; and
- Climate change adaptation by enhancing the ability of ecosystems and communities to adapt to the adverse impacts of climate change.

A collaborative effort among the Conventions and MEAs makes sense for a number of reasons. Adopting a joint work programme would significantly raise the profile of restoration projects/programs in the national and sub-national policies, strategies and frameworks of the Parties and signatories. It could also be a cost-effective approach that pools and coordinates resources, eliminates redundancies, and takes advantage of the individual strengths, expertise and focus areas of the individual Conventions/MEAs. This approach would serve as a platform by which the expertise and assistance of relevant NGOs and related organizations could be taken into account.

A coordinated effort would be most desirable in terms of products, such as guidance, as it would reflect a holistic, ecosystem approach to restoration that integrates sustainable natural resource management (water/food security), biodiversity conservation, climate change strategies, and equitable socio-economic development taking into account local and indigenous communities, landscape connectivity, and global environmental concerns.

The new Inter-governmental Platform on Biodiversity and Ecosystem Services (IPBES) may also have a role in this coordinated effort as its primary mission will be to bridge the gap between the wealth of

scientific knowledge on the accelerating declines and degradation of the natural world, with knowledge on effective solutions and decisive government action required to reverse these damaging trends.

1.4 Terminology and definitions

The most-cited definition of ecological or ecosystem restoration is provided by the Society for Ecological Restoration (SER): "Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed." (SER 2004) While the SER International Primer emphasizes the need to re-establish the historical trajectory of an impaired ecosystem with respect to its structure and function, it is generally recognized that many degraded ecosystems can no longer feasibly be restored to any particular pre-disturbance condition or ideal state. Thus, restoration projects/programs are considered effective when managing or manipulating biotic and/or abiotic variables successfully reinstates the provisioning and regulatory services that sustain all biodiversity and assists in the recovery of a mature, resilient ecosystem.

Ecosystem restoration projects are generally planned undertakings which result in the restoration of degraded, damaged, or destroyed terrestrial/aquatic habitats at specific project sites within well-defined boundaries. They are generally characterized by a well-defined period of implementation of the proposed interventions with follow-up maintenance, management and monitoring to ensure project success. **Ecosystem restoration programs** are generally longer-term efforts to eliminate threats to ecosystem health and restore ecological integrity at the landscape scale, often involving multiple, inter-connected ecosystems and a variety of land/water uses. They are generally characterized by a multi-sectoral policy framework and cooperative agreement among multiple stakeholders describing the strategies and objectives for the program.

Terminology related to ecosystem restoration varies among the Conventions and MEAs. Documents were searched for a family of terms relating to ecosystem restoration, including "rehabilitation", "creation" [of new landscape or ecological features, structure or functions], "reclamation", and "enhancement". All of these terms and others are used somewhat loosely among the Conventions and MEAs, depending on the context and objectives of the decision or recommendation in which the terms have been mentioned. Clearly a small but significant task in any collaborative programme will be to develop a harmonized set of terms and definitions.

2. Synthesis of what the conventions and other global processes have said about restoration

2.1 Why do we need to know what we've already said ?

While each MEA in the CSAB group is probably well aware of their own decisions and recommendations, including their core agreement or Convention texts, it is helpful to review these and synthesize across all of the CSAB MEAs in order to have a shared understanding of where areas of agreement, overlap and/or divergence might be. It is also helpful to review the recommendations, decisions and positions of several other global initiatives related to other sectoral policies, as these are becoming increasingly significant drivers for ecosystem restoration, beyond just the biodiversity-related MEAs.

The purpose of this synthesis is to clearly establish existing positions and commitments with respect to ecosystem restoration, thus providing an initial mandate for and scope of possible development of guidance going forward. Such a synthesis should also help us as a group to identify possible gaps that may need to be addressed through adoption of specific decisions or recommendations by one or more of the MEAs in the future.

The GBO3 "notes the need to place greater emphasis on the restoration of degraded terrestrial, inland water and marine ecosystems with a view to re-establish ecosystem functioning and the provision of valuable services, to enhance the resilience of ecosystems and to contribute to climate-change mitigation and adaptation, taking note of existing guidance" (COP10 Decision X/4[7]). Recognizing that there is a growing body of knowledge on ecosystem restoration as an important part of effective conservation and sustainable natural resource management, many of the biodiversity-related Conventions and MEAs include references to the need for restoration/rehabilitation/reclamation in their texts and strategic plans as well as the work plans of their scientific advisory bodies.

Where restoration has been mentioned by MEAs in the agreement texts and/or early decisions, the desire or imperative for restoration may be associated more with achieving the specific objectives and obligations of that agreement, and may be targeted at a scale and scope which pertain to that agreement's "internal" mandate. For example, restoration may be cited in the context of restoring the ecological features of a specific protected area or site, or the habitat of particular species which are protected through the agreement or Convention.

Yet as awareness grows in the global policy community regarding the importance and economic value to humans of the full array of ecosystem services,[8,9] we see mandates for ecosystem restoration also being established in relation to other global, regional and national processes. This happens when ecosystem restoration is recognized as a critical supporting strategy for implementing other sectoral policies related to, for example, securing water supplies, supporting subsistence livelihoods and/or alleviating poverty, mitigating or adapting to climate change. This brings the biodiversity-related conventions and agreements squarely into the public policy "mainstream", which in turn means that we must have the technical tools and guidance available to support other sectoral policy implementation.

[7] http://www.cbd.int/decision/cop/?id=12270
[8] Millennium Assessment (2005) http://www.maweb.org
[9] TEEB http://www.teebweb.org

2.2 Review and synthesis of what has been said and in what context

In a more detailed review to be completed later, group the references to specific paragraphs of decisions and recommendations by:

(a) themes which cut across several or all of the conventions/MEAs, for example to note where restoration is mentioned in the context of broad sectoral themes such as:

- Food security, agriculture
- Water security and water resources management & protection
- Poverty eradication
- Climate change mitigation
- Climate change adaptation
- Biodiversity protection

And/or

(b) themes specific to one or two conventions/MEAs, such as restoring habitats of listed species (CITES, CMS, AEWA), or restoring ecological features of listed sites (Ramsar, World Heritage Convention).

Appendix 2 of this document contains a list of references to ecosystem restoration and similar terms in a number of Convention agreement texts. Appendix 3 of this document is an example of a review of Ramsar decisions and resolutions which make reference to restoration or similar terms.

2.3 What have the MEAs/SABs not said?

In a more detailed review later, consider whether there are any significant weaknesses or gaps, where the current uncoordinated approach has let major restoration issues fall through the net between conventions and MEAs. If so, these should be identified in the proposed work programme, or at least we need to build in an exploratory task early in the programme to think through this.

3. Synthesis of what the conventions and other global processes are doing about restoration

3.1 Why do we need to know what we're already doing?

As was noted in the CSAB3 information paper on potential collaboration between the Conventions and MEAs,[10] it is not always easy to find details of the scientific work programmes of the various MEAs in the CSAB group. It was recommended at the CSAB3 meeting that if each Convention/MEA were to maintain and make readily available a clear and consolidated work plan, including tasks, deliverables and

[10] http://www.cbd.int/doc/meetings/csab/csab-03/official/csab-03-02-en.pdf

schedules, this would greatly assist identification of commonality at task and thematic levels, and would facilitate collaboration on specific projects.

For reference, relevant tasks and projects included in the current scientific work programmes of the MEAs and selected other global organizations are briefly described here, along with an indication of scientific work planned for the near future in response to specific decisions or recommendations of a recent COP or MOP. The purpose of this collation is to identify where work is available or already in progress which offers opportunities for early collaborative initiatives, or where work is planned which could form the building blocks for a broader collaborative programme.

Detailed collation and review, possibly presented as annotated bibliography – to be completed later and included in an annex.

3.2 Recently completed, current and future planned work on ecosystem restoration

3.2.1 Recently completed work

Work by Conventions and MEAs

The recent CBD Good Practice Guides series (http://www.cbd.int/development/training/guides/) promotes restoration in each of its guides but only touches briefly on the policy considerations and management options. To date, Ramsar alone has made some advances in providing the Parties with guidance on wetland restoration practice and related policy issues. These documents would also be part of the initial knowledge base and demonstrates that any collaborative products would not be done from scratch.

Ramsar has produced two primary guidance documents with a specific focus on wetland ecosystem restoration:

- Restoration as an element of national planning for wetland conservation and wise use (Resolution VII.17[11]) and
- Principles and Guidelines for Wetland Restoration (Resolution VIII.16[12]).

In addition, a number of Ramsar Handbooks and Ramsar Technical Reports contain reference to wetland restoration:

- Guidance for GIS applications for wetland inventory, assessment and monitoring (RTR 2[13]);
- Guidance for valuing the benefits derived from wetlands ecosystem services (RTR 3[14]).
- Handbook on national wetland policy;[15]
- Handbook on local communities' and indigenous peoples' participation;[16]

[11] http://www.ramsar.org/pdf/res/key_res_vii.17e.pdf
[12] http://www.ramsar.org/pdf/res/key_res_viii_16_e.pdf
[13] http://www.ramsar.org/pdf/lib/lib_rtr02.pdf
[14] http://www.ramsar.org/pdf/lib/lib_rtr03.pdf
[15] http://www.ramsar.org/pdf/lib/lib_handbooks2006_e02.pdf

- Handbooks on integrated river basin management[17] and integrated coastal zone management;[18]
- Handbook on wetland management and inventory.[19]

Work by NGO sector, local and national governments

The NGO community, local, state/provincial, and in some case national/regional governments have been most active in producing ecosystem restoration guidance for specific ecosystems, species assemblages (habitat), EGS components, and targeted interventions. Most notable is the guidance of Parks Canada (2008)[20] on ecological restoration in protected areas that builds upon the work of the Society for Ecological Restoration (SER, 2005[21]) and is now being used to assist the IUCN's World Commission on Protected Areas in developing global best practice guidance for ecosystem restoration in protected areas (see reference to IUCN motion in section 3.2.2, below). This guidance is also called for by Decision X/31 (Protected Areas; Paragraph 8) of the 10th Conference of the Parties to the CBD. Although SER's guidance is a good starting point for developing comprehensive ecosystem restoration guidance, it does not adequately address the implications for policy, legislation, and regulation or the recent emerging issues of climate change, invasive species and novel ecosystems. Likewise, the IUCN and Global Partnership on Forest Landscape Restoration (GPFLR)[22] have produced relevant documentation on restoration, ecosystem-based adaptation and adaptive management that would prove useful.

Recent GEF projects with significant restoration components

As ecosystem restoration becomes more widely recognized as a supporting strategy for implementation of many sectoral public policy initiatives, several restoration programmes of significant scale and scope have been implemented with support from the GEF. These offer valuable opportunities for learning and knowledge transfer, and so are included in this review. Appendix 1 shows a list of projects, with the ecosystem restoration component highlighted, approved by the GEF between January 1, 2008-June 30, 2010.

3.2.2 Current and planned future work

While many of the Conventions/MEAs and their scientific advisory bodies refer to the important role that ecosystem restoration could play in fulfilling their mandates, these needs for restoration tools,

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[16] http://www.ramsar.org/pdf/lib/lib_handbooks2006_e05.pdf
[17] http://www.ramsar.org/pdf/lib/lib_handbooks2006_e07.pdf
[18] http://www.ramsar.org/pdf/lib/lib_handbooks2006_e10.pdf
[19] http://www.ramsar.org/pdf/lib/lib_handbooks2006_e11.pdf
[20] Parks Canada and the Canadian Parks Council. 2008. Principles and Guidelines for Ecological Restoration in Canada's Protected Natural Areas. http://www.pc.gc.ca/eng/progs/np-pn/re-er/index.aspx
[21] http://www.ser.org/pdf/SER_International_Guidelines.pdf
[22] http://www.ideastransformlandscapes.org/

technologies, and guidance have been explicitly recognized as a priority in the strategic and work plans of the CBD, UNCCD, and Ramsar:

- **The CBD, in its multi-year programme of work 2011-2020**, includes "the identification of ways and means to support ecosystem restoration, including the possible development of practical guidance on ecosystem restoration and related issues" (Decision X/9[23])

- **The Ramsar STRP, in its current triennium of work 2009-2012**, was asked to "prepare proposals for updating and expanding existing Ramsar guidance on restoration and rehabilitation of lost or degraded wetlands" (Resolution X.16[24]). This work includes a review of Ramsar's existing practical guidance for restoration of wetland ecosystems, as well as development of comprehensive framework guidance within which wetland ecosystem restoration is addressed in the context of Contracting Parties' obligations for avoidance, mitigation and compensation of potential damage to wetland ecosystems (see STRP updated work plan, tasks 9.1 and 9.2[25]).

- **The UNCCD CST, in its multi-year workplan for 2010–2013**, includes Outcome Area 3.4 "Knowledge of the interactions between climate change adaptation, drought mitigation and restoration of degraded land in affected areas is improved to develop tools to assist decision-making" (Decision 1/COP.9[26]).

- **The IUCN** adopted a motion in Barcelona (2008) and is currently tasked with preparing a Best practice protected area guideline for ecological restoration and presenting it at the next World Conservation Congress in 2012 (CGR4.MOT051[27]). This work is currently under way, as noted above.

4. Proposal for development of a collaborative work programme on ecosystem restoration

4.1 Objectives of proposed collaboration

This proposal suggests specific measures to address both the immediate and long-term needs of the Contracting Parties and MEA signatories, many of which currently lack the appropriate, science-based tools and guidance to assist them in designing, implementing, and monitoring ecosystem restoration projects/programs that are effective, efficient and engaging.

[23] http://www.cbd.int/decision/cop/?id=12275
[24] http://www.ramsar.org/pdf/res/key_res_x_16_e.pdf
[25] http://www.ramsar.org/pdf/strp/STRPworkplanMarch2010.pdf
[26] http://www.unccd.int/cop/officialdocs/cop9/pdf/18add1eng.pdf
[27] http://data.iucn.org/dbtw-wpd/edocs/WCC-4th-004.pdf

The outline presented here for a collaborative work programme includes potential measures to translate increased knowledge into practical tools and guidance for ecosystem restoration to:

iii. To support informed policy decision-making, and

iv. To promote successful design, implementation, and monitoring of restoration projects/programs.

4.2 Primary products and end-users

In order to fully assist the Contracting Parties and signatories, we suggest collaboration between the scientific advisory bodies of relevant Conventions and agreements that would result in a suite of ecosystem restoration tools and guidance. This suite would build on current or planned work in the near future, and would share a common foundation of principles and frameworks, and where appropriate, would include shared technical guidance: for example more than one Convention might collaborate in preparing shared guidance for restoration of a specific ecosystem type of common interest. We propose that two types of products could be delivered through such a collaborative programme:

(a) **General policy and planning guidance**, which builds on existing guidance and takes into account the priorities of the individual Conventions and MEAs, would serve:

- **National, sub-national and local policy-makers, legislators and regulators,** to inform and guide decision-making and the drafting of new and/or revision of existing policy, laws, and regulations that would encourage or mandate appropriate, effective, science-based ecosystem restoration projects/programs within new or existing frameworks;
- **Administrators, planning and implementing bodies (not in the field) such as government agencies, NGOs, communities, corporations, local/state/provincial councils and administrative units,** to provide the necessary background in the design and implementation of restoration projects/programs that include stakeholder participation, adaptive management, and long-term monitoring strategies.

(b) **Technical guidance**, which is ecosystem- or intervention-specific and includes technologies, methods, and techniques in the form of practical manuals, handbooks, and case studies, would serve:

- **Land/water managers and restoration practitioners (in the field),** from contractors to community volunteers, to provide detailed, step-by-step direction on designing, implementing, and monitoring appropriate biotic and abiotic interventions.

4.2.1 Short term task: Development of general policy and planning guidance

An immediate task being proposed is the development of practical guidance on ecosystem restoration and related issues for the two end-users identified in 4.2(a) above.

- **Policy Guidance** (for policy-makers, legislators and regulators) would be a "translation" of the increasing body of knowledge in the field of ecological restoration in order to inform and guide the decision-making process, and specifically assist with the formulation of new and/or revision of existing restoration policy, legislation, and regulation in order to best suit the needs and priorities of the Contracting Parties and signatories.
- **Best Practice Guidance** (for administrators, planning and implementing agencies) would define the standards, attributes, and outcomes for restoration policy, legislation, and regulation with regards to the design, implementation, and monitoring of ecosystem restoration projects/programs, including frameworks for prioritization and adaptive management, and the establishment of baselines, performance indicators, and reporting requirements.

4.2.2 Longer-tem task: Technical tools and field guidance for restoration

One of the longer-term tasks to complete the suite of tools and guidance on ecosystem restoration is that of a technical nature for those in the field. This might encompass:

- **Technical Guidance Database** (for practitioners in the field) which would draw on the plethora of existing guidance manuals and handbooks that address specific ecosystems and interventions and present them in an open-source, searchable database;
- **Harmonization** of the existing scientific documentation and ongoing activities/tasks of the Conventions' scientific advisory bodies related to ecosystem restoration

4.3 Approach, timelines and resources

A collaborative programme could initially build upon the existing MOUs and other joint work collaborations of the Conventions' scientific advisory bodies and MEAs. However, it may also be useful and efficient to establish an ad-hoc working group on ecosystem restoration within the CSAB process that would allow for direct communication and coordination between and among the Conventions' scientific advisory bodies and MEAs in the CSAB group. The work of this group would be further enhanced by convening periodic workshops to facilitate the participation of the most suitable and qualified experts from relevant organizations and institutions.

Current resources and capacity could be used to the extent possible, where these could be directed to a collaborative programme without compromising current commitments and deliverables. However, it may be helpful to contract additional support staff to facilitate and coordinate the development and execution of a collaborative work effort on general policy and planning guidance.

Longer-term, an open-source web-based Technical Guidance Database would require additional funds for programming and hosting. The identification of funding sources and the development of funding strategies would also be an important aspect of the short-term work.

A schedule of deliverables would depend on the strategic and work plan priorities of the individual Conventions and MEAs. For example, the CBD's 2020 Headline Targets, most prominently Target 15 which aims for the "restoration of at least 15% of degraded ecosystems" may require near-term assistance and support for the Contracting Parties. In this case, **Policy and Best Practice Guidance would be most valuable if delivered within the next two years**. Many of the other biodiversity-related Conventions and MEAs would also benefit the sooner this type of guidance is made available. A **Technical Guidance Database would be a longer-term proposition that may require three to five years** to establish and which then must be maintained and updated on a continual basis.

Appendix 1: Projects approved by the GEF 1 January 2008-30 June 2010 and relevant for the CSAB restoration collaboration

Country	Project name	Project description	Project value
Cameroon	CBSP Sustainable Community Based Management and Conservation of Mangrove Ecosystem in Cameroon.	A significant part of the project is devoted to field interventions to protect, restore, and monitor mangrove ecosystems with a particular attention to local and indigenous communities (Bagyeli pygmies and Bantus).	FAO, GEF: $1.73M, GEF cofinancing: $3.7M, Total project: $5.43M
China	CBPF Jiangsu Yancheng Wetlands System Protection Project	The project will result in the restoration of the hydrological and ecological processes in an approx area of 362000ha, representing about 80 percent of the total coastal wetland area in Jiangsu.	ADB. GEF $2.5M, Cofinancing $100M, Total project $102.5M
China	Demonstration of Estuarine Biodiversity Conservation Restoration and Protected Area Networking	Restoration of degraded wetlands habitats	FAO, GEF $ 3.63M, Cofinancing $11.86M, Total project $15.49M
Colombia	Mainstreaming Biodiversity in Palm Cropping in Colombia with an Ecosystem Approach	Restore high value conservation areas in palm-growing regions, enhance their natural assets in the framework of regional conservation schemes… enhanced provision of ecosystem goods and services.	IADB, GEF: $ 4.25 M, Cofinance: $ 14.130 M, Total: $ 18.38 M
Indonesia	Promoting Sustainable Production Forest Management to Secure Globally Important Biodiversity	The project will consist of three main steps: (a) evaluation of existing restoration and NTFP/environmental services programs and establishment of learning sites/models; (b) dissemination of information to stakeholders and support for feasibility assessments for potential businesses/restoration forest concessions; (c) forming partnerships and facilitating investment to set-up new restoration concessions and enhance the management of existing natural forest concessions.	WB, GEF: 3.3M, Cofinancing: 8.0M, Total:11.3M
South Africa	Development, Empowerment and Conservation in the Greater St Lucia Wetland Park and Surrounding Region	Study on options for the restoration of the Umfolozi swamp and its impact on the St Lucia estuary.	WB,GEF $9.0M, co-financing $15.0M, Total $24M)
Kiribati	Phoenix Islands Protected Area (PIPA)	Atoll restoration.	UNEP, GEF: 0.89M, Cofinancing: 0.945M, Total: 1.835M
Russian Federation	Support to the Global Tiger Summit Hosted by the Russian Federation	to take effective transformational joint measures to prevent extinction of tigers and restore their population in the wild to sustainable levels.	WB, GEF $0.56M, Cofinancing $0.685M, Total project 1.245M

Appendix 2: Review and synthesis of ecosystem restoration in the Convention texts and agreements

CONVENTION ON BIOLOGICAL DIVERSITY (CBD)

In its Convention text (http://www.cbd.int/doc/legal/cbd-en.pdf), the CBD has clearly advocated for ecosystem restoration as important tool for achieving its objectives.

> **Article 8 (In-Situ Conservation)** explicitly calls on the Parties to, as far as possible and as appropriate:
>
> **(f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies**

It is important to note that the primary threat to species survival is the degradation and loss of habitat, thus restoring or rehabilitating the ecosystems that sustain these species is often one of the most effective steps for promoting their recovery.

> **(h) Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;**

The control and eradication of invasive species is now squarely with the field of ecological restoration and is often a significant component in most restoration projects/programs.

> **Article 9 (Ex-situ Conservation)**, as in the second clause of Article 8 (f), implicitly recognizes ecosystem restoration is as an important measure to recover, when possible, natural habitats that have been degraded or destroyed in order to successfully reintroduce threatened species.
>
> **(c) Adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats under appropriate conditions;**
>
> **Article 14 (Impact Assessment and Minimizing Adverse Impacts)** explicitly includes ecosystem restoration in the examination of mitigation/compensation measures to address biodiversity loss in the transnational context.
>
> **2. The Conference of the Parties shall examine, on the basis of studies to be carried out, the issue of liability and redress, including restoration and compensation, for damage to biological diversity, except where such liability is a purely internal matter.**
>
> **Article 25 (Subsidiary Body on Scientific, Technical and Technological Advice)** calls on this body, and which it has done with regards to ecosystem restoration (Multi-Year Programme of

Work 2011-2020), to identify technologies and knowledge fields, and the ways and means to promote and transfer these to the Parties.

2 (c) Identify innovative, efficient and state-of-the-art technologies and know-how relating to the conservation and sustainable use of biological diversity and advise on the ways and means of promoting development and/or transferring such technologies;

UN CONVENTION ON COMBATTING DESERTIFICATION (UNCCD)

In its Convention text (http://www.unccd.int/convention/text/convention.php), the UNCCD also advocates for ecosystem restoration in order to meet its objective of combating desertification.

Article 1(Use of terms) clearly states that

(b) "combating desertification" includes activities…which are aimed at: (ii) rehabilitation of partly degraded land; and (iii) reclamation of desertified land;

Article 2 (Objective) recognizes the value of ecosystem restoration not only in reinstating nature's provisioning and regulating services but also its role in sustainable livelihoods and community development.

2. Achieving this objective will involve long-term integrated strategies that focus simultaneously, in affected areas, on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions, in particular at the community level.

CONVENTION ON MIGRATORY SPECIES (CMS)

In its Convention text (http://www.cms.int/pdf/convtxt/cms_convtxt_english.pdf), the CMS echoes the language of the CBD with regard to threatened species, invasive species, mitigation/compensation measures, and the role of ecosystem restoration.

Article III (Endangered Migratory Species: Appendix I)

4. Parties that are Range States of a migratory species listed in Appendix I shall endeavour:

a) to conserve and, where feasible and appropriate, restore those habitats of the species which are of importance in removing the species from danger of extinction;

b) to prevent, remove, compensate for or minimize, as appropriate, the adverse effects of activities or obstacles that seriously impede or prevent the migration of the species; and

c) to the extent feasible and appropriate, to prevent, reduce or control factors that are endangering or are likely to further endanger the species, including strictly controlling the introduction of, or controlling or eliminating, already introduced exotic species.

AFRICAN EURASIAN WATERBIRD AGREEMENT (AEWA)

Likewise, the AEWA (http://www.unep-aewa.org/documents/agreement_text/eng/pdf/aewa_agreement_text_complete_2009_2012.pdf) uses the same language in the same context.

> **ARTICLE III (General Conservation Measures)**
>
> **1. The Parties shall take measures to conserve migratory waterbirds, giving special attention to endangered species as well as to those with an unfavourable conservation status.**
>
> **2. To this end, the Parties shall:**
>
> **(c) identify sites and habitats for migratory waterbirds occurring within their territory and encourage the protection, management, rehabilitation and restoration of these sites, in liaison with those bodies listed in Article IX, paragraphs (a) and (b) of this Agreement, concerned with habitat conservation;**
>
> **(d) coordinate their efforts to ensure that a network of suitable habitats is maintained or, where appropriate, re-established throughout the entire range of each migratory waterbird species concerned, in particular where wetlands extend over the area of more than one Party to this Agreement;**
>
> **(e) investigate problems that are posed or are likely to be posed by human activities and endeavour to implement remedial measures, including habitat rehabilitation and restoration, and compensatory measures for loss of habitat;**

INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE (IUCN)

IUCN Proceedings of the Members' Assembly
World Conservation Congress, Barcelona, 5–14 October 2008
http://data.iucn.org/dbtw-wpd/edocs/WCC-4th-004.pdf

> 6.3 Discussion of 2009-2012 Programme and Commission Mandates
>
> Mr Manfred Niekisch, Chair of the Council's Programme Committee, introduced the 2009–2012 Programme, underlining the fact that its preparation had been guided by IUCN's Vision and Mission. It contained two goals which had been approved at the Bangkok Congress:
>
> - Extinction crisis is alleviated: The extinction crisis and massive loss in biodiversity are universally adopted as a shared responsibility, resulting in action to reduce this loss of diversity within species, between species and of ecosystems.

- Ecosystem integrity is maintained: Ecosystems are maintained and where necessary restored and any use of natural resources is sustainable and equitable. The Programme identified a set of ten global results within a Core Programme Area and four Thematic Programme Areas.

WORLD HERITAGE CONVENTION

Article 5

To ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory, each State Party to this Convention shall endeavor, in so far as possible, and as appropriate for each country:

(d) to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation,

Article 13

1. The World Heritage Committee shall receive and study requests for international assistance formulated by States Parties to this Convention with respect to property forming part of the cultural or natural heritage, situated in their territories, and included or potentially suitable for inclusion in the lists mentioned referred to in paragraphs 2 and 4 of Article 11. The purpose of such requests may be to secure the protection, conservation, presentation or rehabilitation of such property.

Article 22

Assistance granted by the World Heritage Fund may take the following forms:

(a) studies concerning the artistic, scientific and technical problems raised by the protection, conservation, presentation and rehabilitation of the cultural and natural heritage, as defined in paragraphs 2 and 4 of Article 11 of this Convention;

(b) provisions of experts, technicians and skilled labour to ensure that the approved work is correctly carried out;

(c) training of staff and specialists at all levels in the field of identification, protection, conservation, presentation and rehabilitation of the cultural and natural heritage;

Article 23

The World Heritage Committee may also provide international assistance to national or regional centres for the training of staff and specialists at all levels in the field of identification, protection, conservation, presentation and rehabilitation of the cultural and natural heritage.

Article 24

International assistance on a large scale shall be preceded by detailed scientific, economic and technical studies. These studies shall draw upon the most advanced techniques for the protection, conservation, presentation and rehabilitation of the natural and cultural heritage and shall be consistent with the objectives of this Convention. The studies shall also seek means of making rational use of the resources available in the State concerned.

APPENDIX 3: EXTRACTS FROM RESOLUTIONS OF THE RAMSAR COPs WITH REFERENCE TO WETLAND RESTORATION, WETLAND TYPE AND DESIRED AUDIENCE (from McInnes 2010: Review of Ramsar guidance on wetland restoration. Draft report to the STRP).

COP	Resolutions				
	Number	Title	Selected text	Wetland type [1]	Indicative audiences [2]
COP VII	VII. 17	Restoration as an element of national planning for wetland conservation and wise use	WHOLE RESOLUTION	All	Unspecified / CPs
	VII. 24	Compensation for lost wetland habitats and other functions	ALSO RECALLING the Kushiro Statement (Resolution 5.1) on the *Framework for the implementation of the Ramsar Convention* which includes the commitment of the Contracting Parties to restore degraded wetlands and to compensate for wetland losses;	All	Unspecified / CPs
			RECALLING Recommendation 6.15 on restoration of wetlands, which could play a prominent role to compensate for loss of natural wetlands;	All	Unspecified / CPs
COP VIII	VIII.1	Guidelines for the allocation and management of water for maintaining the ecological functions of wetlands	REALIZING that a number of related decisions have been adopted previously which provide guidance for the Contracting Parties on wetland policy formulation (Resolution VII.6), reviewing laws and institutions (Resolution VII.7), involving local communities and indigenous people in wetland management (Resolution VII.8), promoting communication, education and public awareness related to wetlands (Resolution VII.9), incentives (Resolution VII.15), impact assessment (Resolution VII.16), wetland restoration as part of national planning (Resolution VII.17), and international cooperation under the Ramsar Convention (Resolution VII.19), all of which are relevant to the process of the allocation and management of water for maintaining the ecological functions of wetlands;	All	Local communities, indigenous people, water resource managers, national policies

			REALIZING ALSO that this meeting of the Conference has adopted further guidance that is relevant to the allocation and management of water for maintaining the ecological functions of wetlands, notably the New Guidelines for management planning for Ramsar sites and other wetlands (Resolution VIII.14), Principles and guidelines for wetland restoration (Resolution VIII.16), impact assessment (Resolution VIII.9), Agriculture, wetlands and water resource management (Resolution VIII.34), The impact of natural disasters, particularly drought, on wetland ecosystems (Resolution VIII.35), and Guidelines for rendering the use of groundwater compatible with the conservation of wetlands (Resolution VIII.40);	All	Water resource managers, Ramsar site managers, natural disaster managers, agricultural managers
	VIII.3	Climate change and wetlands: impacts, adaptation, and mitigation	CALLS UPON Contracting Parties to manage wetlands so as to increase their resilience to climate change and extreme climatic events, and to reduce the risk of flooding and drought in vulnerable countries by, inter alia, promoting wetland and watershed protection and restoration;	All	Flood risk managers, drought managers
			CALLS UPON all relevant countries to take action to minimize the degradation, as well as promote restoration, and improve management practices of those peatlands and other wetland types that are significant carbon stores, or have the ability to sequester carbon and are considered as mitigation factors, as well as to increase the adaptive capacity of society to respond to the changes in these ecosystems due to climate change;	Peatlands	Carbon managers
	VIII.16	Principles and guidelines for wetland restoration	WHOLE RESOLUTION	All	Unspecified / CPs
	VIII.17	Guidelines for Global Action on Peatlands	Contracting Parties should, in line with Resolution VII.17, establish policies to implement peatland restoration and rehabilitation, where appropriate seeking the assistance of countries, and the private sector, with knowledge in these fields, utilizing the Principles and guidelines for wetland restoration adopted by COP8 (Resolution VIII.16).	Peatlands	Private sector

			The wise use management of peatlands, including restoration and rehabilitation, should be treated as a priority by all Contracting Parties that have peatland resources within their territory. In order to assist Contracting Parties and all other bodies and organizations involved in peatland management and exploitation in ensuring that peatlands are used wisely, global guidelines for peatland wise use and management are being developed by a consortium of peatland organizations, including the International Peat Society (IPS) and the International Mire Conservation Group (IMCG). Such wise use and management guidelines are recommended as a source of further information and expertise for ensuring sustainable peatland management.	Peatlands	NGOs, Industry, private sector
			Best management practices and peatland restoration should be promoted by Contracting Parties as an important input to Ramsar principles and other international conventions such as CBD and UNFCCC.	Peatlands	MEAs
			Measures should be undertaken to restore peatland functions in those systems that have been degraded through human activity, drawing on experience and best management practices from different regions.	Peatlands	Regional fora
			Peatlands suitable for restoration and rehabilitation should be identified following the procedures outlined in the Principles and guidelines on wetland restoration adopted by Ramsar COP8 (Resolution VIII.16), and research and transfer of technologies for peatland management and the restoration and rehabilitation of appropriate peatlands should be facilitated, particularly for local community use in developing countries and countries with economies in transition.	Peatlands	Local communities
	VIII.32	Conservation, integrated management, and sustainable use of mangrove ecosystems and their resources	REQUESTS Contracting Parties with mangrove ecosystems in their territories to review, and as appropriate to modify their national policies and strategies that could have harmful effects on these ecosystems, and to implement measures to protect and restore their values and functions for human populations, recognizing their rights, uses and traditional customs and the maintenance of biodiversity, and to cooperate at the international level to agree regional and global strategies for their protection;	Mangroves	National policies, regional fora

			URGES all relevant Contracting Parties to identify the factors degrading their mangrove ecosystems and to seek to restore such ecosystems, using the guidance on this matter adopted by this meeting (Resolution VIII.16), so that they can deliver their range of values and functions;	Mangroves	Unspecified / CPs
COP IX	**IX.1**	Additional scientific and technical guidance for implementing the Ramsar wise use concept	However, it should be noted that other actions adopted by the Convention, such as those concerning assessing the overall status and trends of wetlands and Ramsar sites, require information on all types of change in ecological character – positive and negative, natural and human-induced (as is recognized in COP8 DOC. 20 and by Resolution VIII.8). Likewise, the Ramsar Convention has also recognized that wetland restoration and/or rehabilitation programmes can lead to favourable human-induced changes in ecological character (Annex to Resolution VI.1, 1996) and are a key aspect of wetland management interventions (see, e.g., Annex to Resolution VIII.14).	All	Ramsar site managers, water resource managers, local communities, national policies, river basin managers, coastal zone managers
			Ecosystem processes that help maintain groundwater supplies must be protected and restored where degraded. Groundwater also supports many ecosystems that provide a wide range of benefits/services to people. Integrated management of ecosystems and natural resources is therefore an essential element in maintaining our planet.	All	Water resource managers, natural resource managers, river basin managers
			Desk based information. Investigations normally start with information available in the office. Spatial data will often include topographical, land use/vegetation, and geological maps and photographs taken from aircraft or satellites. Old photos have proved to be very useful in explaining hydrological links with wetlands in Costa Rica, where restoration practices benefit from historical knowledge.	All	Unspecified / CPs

	IX.4	The Ramsar Convention and conservation, production and sustainable use of fisheries resources	COMMENDING those Parties that have taken actions to conserve or restore native aquatic species populations and their habitats, such as through habitat restoration, the provision of fish passages past in-stream infrastructure, the control of invasive alien species competitors, the control of unsustainable aquaculture practices and/or the reduction of water pollution impacts;	Aquatic systems	Fishery managers, natural resource managers, water pollution managers
			URGES Contracting Parties to take the necessary steps within their frameworks for integrated river basin and coastal zone management to maintain or reinstate aquatic biota migration pathways, to reduce the impacts of point source and diffuse pollution in all its forms, to establish and implement environmental flow allocations supporting the conservation of aquatic biota, to protect critical spawning and nursery grounds, and to restore relevant habitats where these have become degraded, taking into account the guidance adopted in Resolutions VIII.1 on water allocation, VIII.4 on Integrated Coastal Zone Management, and VIII.32 on mangrove ecosystems;	Aquatic systems	Water resource managers, river basin managers, coastal zone managers, natural resource managers, fishery managers, water quality managers
			URGES each Contracting Party with coral reef, sea grass beds and other associated ecosystems in their territories to implement national programs for the protection of these ecosystems through the establishment of effective protected areas, monitoring programs, awareness programmes and cooperation for innovative coral reef, sea grass beds and associated ecosystem restoration projects;	Coral reef, sea grass beds, marine systems	Coastal zone managers, fishery managers, national policies
	IX.14	Wetlands and poverty reduction	*human life and safety*: measures to protect against impacts such as cyclones, storm surges, saline intrusions, droughts and floods through the sustainable use and restoration of wetlands;	All	National policies, natural disaster managers, water resource managers, flood risk managers, drought managers
			ecological sustainability: measures to enhance the priority given to sustainability in all relevant mainstream policy sectors, including ecosystem restoration measures;	All	Unspecified / CPs
			REAFFIRMS the value of linking wetland restoration to poverty reduction, by incorporating the provision of work, skills and opportunities into restoration projects and by focusing on the restoration of ecosystem benefits/services upon which communities depend.	All	Local communities, natural resource managers, economists, social-welfare managers, NGOs, aid agencies

COP X	**X.3**	The Changwon Declaration on human well-being and wetlands	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;	All	MEAs, national policies, regional fora, economists, social-welfare managers
			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.	All	Water resource managers, agricultural managers, fishery managers, natural resource managers
			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.	All	Water resource managers, agricultural managers, flood risk managers, natural resource managers
			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.	All	Economists, social welfare managers, NGOs, aid agencies

	X.17	Environmental Impact Assessment and Strategic Environmental Assessment: updated scientific and technical guidance	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.	All	National policies, local government, planning authorities, planners, natural resource managers
			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;	All	National policies, local government, planning authorities, planners, natural resource managers
	X.19	Wetlands and river basin management: consolidated scientific and technical guidance	Guidelines for Contracting Parties for prioritizing the protection and restoration of wetlands and their biodiversity	All	Unspecified / CPs
			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.	Inland wetlands	Water resource managers, agricultural managers, fishery managers, natural resource managers, flood risk managers, dam managers

			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.	All	Agricultural managers, aid agencies, carbon managers, drought managers, economists, fishery managers, flood risk managers, indigenous people, industry, local communities, local government, MEAs,natural disaster managers, NGOs, planners, private sector, Ramsar site managers, river basin managers, social-welfare managers, water pollution managers, water resource managers
			Promote the protection and restoration of wetland areas, and their biodiversity, within river basins.	Inland wetlands	River basin managers,
			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.	All	Unspecified / CPs
			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).	Constructed and man-made wetlands	Agricultural managers, flood risk managers, river basin managers, water pollution managers, water

					resource managers
			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.	Floodplain wetlands, sustainable drainage features	Flood risk managers, river basin managers, water pollution managers, water resource managers
			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.)	Inland wetlands	Economists, National policies, planning authorities, Regional fora
			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.)	Inland wetlands	National policies, planning authorities, Regional fora, river basin managers
			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.	Inland wetlands	Natural resource managers, NGOs, fishery managers
			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.	Inland wetlands	Unspecified / CPs

			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.	Inland wetlands	River basin managers, water pollution managers, water resource managers, natural resource managers, planning authorities
			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.	Inland wetlands	River basin managers
	X.22	Promoting international cooperation for the conservation of waterbird flyways	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).	Marine wetlands, intertidal areas	Coastal zone managers
	X.24	Climate change and wetlands	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;	Peatlands, floodplain wetlands	Natural disaster managers, flood risk managers, carbon managers, planners
	X.26	Wetlands and extractive industries	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	Post-extraction wetlands	Industry, planning authorities, natural resource managers

			programmes;		
	X.27	Wetlands and urbanization	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;	Urban wetlands	Local government, planning authorities, natural resource managers, social-welfare managers
	X.28	Wetlands and poverty eradication	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;	All	Social welfare managers, economists, NGOs

Note

[1] Wetland type: Where explicit in the Resolution text a particular wetland type is identified, otherwise generic wetland types are inferred.

[2] Audience: Suggestions as to whom the Resolution applies in the context of understanding wetland restoration. Where there is no clear audience 'Unspecified/CP' is applied.