



## 37<sup>TH</sup> MEETING OF THE CMS STANDING COMMITTEE

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### BACKGROUND PAPER TO THE DRAFT RESOLUTION ON ECOLOGICAL NETWORKS

(Prepared by the CMS Secretariat, with contributions from Alterra University and Research Centre, Wageningen, The Netherlands)

#### Background

1. Habitat destruction and fragmentation are among the primary threats to migratory species. The identification and conservation of habitats, in particular the critical sites and connecting corridors (where appropriate, e.g. terrestrial mammals), are thus of critical importance for the conservation of these species.

2. An ecological network is defined as “A coherent system of natural and/or semi-natural landscape elements that is configured and managed with the objective of maintaining or restoring ecological functions as a means to conserve biodiversity while also providing appropriate opportunities for the sustainable use of natural resources” (Bennett 2004). Ecological networks usually include core areas and corridors, and sometimes also nature restoration areas and buffer zones. Such critical site networks are particularly relevant in the context of acute habitat fragmentation, which is being observed on a global scale.

3. Ecological connectivity can have multiple advantages, such as maintenance of viable populations and migratory pathways, reduced risk of population extinction and higher resilience to climate change. In the case of birds, networks of “stepping stone” habitat should cover entire flyways to be effective. In a CMS context, the pathways for seasonal migrations for terrestrial mammals, marine species and birds would be a primary reason for CMS to get involved with ecological networks.

4. Existing initiatives for ecological networks exist both at national and international levels. Both are relevant and can support transboundary migration. International initiatives usually concentrate on sites of international importance (e.g. the Ramsar Convention). While it is important to be aware of the limitations of the protected area approach, research has shown that protected areas can be a highly effective tool for biodiversity conservation.

5. The Convention on Biological Diversity (CBD) addresses this issue through its Programme of Work on Protected Areas and IUCN through its Commission on Protected Areas. Networks of protected areas are a corner stone of the Ramsar Convention, the EU

Habitats and Birds directives, the Bern Convention and, though not yet implemented as such, in AEWA. These ‘networks’ are, however not always networks of physically connected sites but rather ‘archipelagoes of isolated sites’. They may be interconnected by areas under national or regional protection or a biodiversity-rich countryside. For migratory birds such ‘stepping stones’ can be effective and it is worth noting that the coverage of critical sites for migratory water birds is rather good. The Wings Over Wetlands project and other research has shown however that the results are still insufficient and further attention to the matter is urgently required.

6. A more ambitious step is to establish networks of critical sites in order to achieve connectivity among them and to protect migratory species along their entire migration route. Rivers, mountain ranges and coastlines are examples of natural corridors that migratory species use as points of reference during their journeys. However, in any habitat corridors can occur and it is important that the nature of the corridors meets the requirements of the species that need these connections. Forests, for example, should be connected to forest habitats, grasslands to grasslands and so forth. This also applies to wetlands but in the case of migratory birds stepping stones along flyways will often be sufficient.

7. The designation of protected areas across very large areas is not always possible. Additional wider countryside measures usually need to be applied. Since many species are widely dispersed across their breeding and non-breeding ranges, it is essential to address and mitigate the anthropogenic changes at the wider landscape scale.

8. The practical approach to the identification, designation, protection and management of critical sites will vary from one taxonomic group to another or even from species to species. The requirements of fish, insects, birds, marine turtles, terrestrial mammals and marine mammals are quite different. The work on birds is well advanced, and the flyway approach provides a useful framework to address habitat conservation and species protection along migration routes. The work of AEWA and the Flyways Working Group of the CMS Scientific Council therefore fit well in an ecological network approach.

9. A flyway is defined as the entire range of a migratory bird species (or groups of related species or distinct populations of a single species), through which it moves on an annual basis from the breeding grounds to non-breeding areas, including intermediate resting and feeding places as well as the area within which the birds migrate.

10. Multi species flyways are defined by the Ramsar Convention as follows: “A single flyway is composed of many overlapping migration systems of individual waterbird populations and species each of which has different habitat preferences and migration strategies. From knowledge of these various migration systems it is possible to group the migration routes used by waterbirds into broad flyways, each of which is used by many species, often in a similar way, during their annual migrations.

11. Freshwater fish require linear corridors like large rivers from the sea up to its headwaters. Many of these have been made inaccessible in the past due to damming and river regulation. Fish can only migrate if rivers are not blocked by dams and have good water quality. Corrective and mitigation measures have to be incorporated into these infrastructures in order to allow the movements of migratory fish.

12. The Serengeti-Mara Ecosystem in Kenya and Tanzania is an example of a migration

corridor for terrestrial mammals in Africa. In Kenya the area is protected through inclusion in the Masai Mara National Reserve and in Tanzania by the Serengeti National Park. There are many other examples throughout the continent where populations of wildebeest, antelopes, elephants, zebras and other terrestrial mammals regularly migrate between their dry and wet season ranges or between high and low elevations. The migration of White eared kob between Ethiopia and Sudan is one of the greatest animal movements in Africa and protecting this process is one of the most difficult conservation challenges that conservationists have to face. Habitat protection and international cooperation are essential to achieve this goal.

13. In North America, South America, Europe and Africa there are several terrestrial national or regional ecological networks with a high degree of connectivity between protected areas. However, implementation is more often done at the local than at the national level. International corridors are even more difficult to develop as there are only few international agreements on linking critical sites. Some NGOs such as WWF are developing international connectivity between National Parks in the Peace Parks project in southern Africa (<http://www.peaceparks.org>).

14. Stakeholder involvement from an early stage is important to implement ecological networks, including an analysis of the cultural settings. Embedding of ecological networks in a societal context is seen as a key issue for maintaining multifunctional landscapes that deliver a range of ecosystem services. No programme of the breadth and ambition of an ecological network can achieve results without the active support of local communities and key stakeholders.

### **Potential role of ecological networks within the CMS framework**

15. In its implementation CMS so far focuses on species rather than habitat conservation, but it is worth noting that the Convention text makes specific reference to habitat conservation:

16. Article III.4 (Appendix I species):

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

17. Article V.5 (V: Guidelines for AGREEMENTS)

- a) **conservation** and, where required and feasible, restoration of the **habitats** of importance...
- b) ...maintenance of a **network** of suitable habitats appropriately disposed in relation to the migration routes.

- c) **elimination**... or compensation for activities and **obstacles** which hinder or impede migration

18. The Convention also assigns a role to the Scientific Council in relation to habitat conservation. The relevant article VIII.5 reads:

The functions of the Scientific Council may include recommending to the COP solutions to problems relating to the scientific aspects of the implementation of the Convention, in particular with regard to the habitats of migratory species.

19. Some CMS instruments have already undertaken work contributing to the implementation of the mandates listed above. The AEWA Strategic Plan 2009-2017, for example, includes the setting up of a “comprehensive and coherent flyway network of protected and managed sites and other adequately managed sites, of international and national importance for waterbirds, taking into account existing networks and climate change”. The recently developed Critical Site Network (CSN) Tool by a partnership of AEWA, Ramsar, Wetlands International and Birdlife International is a very useful instrument. It is a state-of-the-art webportal for flyway-level information on waterbirds and the sites they use in the African-Eurasian region, to underpin planning and management at site level.

20. Other examples include:

- IOSEA is working on a network of critical sites for marine turtles in the region, largely focussing on the nesting beaches that are essential for the reproduction of these species.
- EUROBATS has published a report on protecting and managing underground sites for bats, including a conservation code and practical recommendations for site protection and management.
- The CMS Birds of Prey Memorandum of Understanding (Raptors MoU) has a similar provision on a habitat network as AEWA has.

21. With this in mind the Scientific Council that took place in June 2010 discussed possibilities for site conservation and ecological networks in the framework of CMS, building on and in synergy with similar work by other instruments (e.g. Ramsar, EU), and endorsed the preparation of a Resolution for further work on the initiative to be presented to the Standing Committee in November 2010 and to COP in 2011.

22. CMS could apply the network approach in a number of ways, as listed below. It is noteworthy that all of these activities are dependent on close cooperation and the input of the respective range states, in the first instance by CMS Parties and Signatories of daughter agreements.

- General policies on habitat conservation and ecological networks for migratory species;

- Inclusion of the network approach in the implementation of existing CMS initiatives such as, the West African Elephant MoU, the Gorilla Agreement, the Sahelo-Saharan Antelopes Action Plan, the Saiga antelope MoU, the Bukhara deer MoU and – as is already the case - in the work on flyways;
- Integration of the network approach in new initiatives for migrating mammals and where appropriate also to other taxonomic groups;
- Identification of the most important sites and corridors for selected cases, starting with existing CMS instruments and instruments under development, building on and in synergy with existing initiatives (national protected areas systems; other Multilateral Environmental Agreements);
- Production of guidelines for the integration of the network concept into conservation policies for the species covered by CMS and its daughter agreements;
- Promoting the designation of protected areas as critical sites, assessing the contribution of relevant protected areas in climate change mitigation and enhancing synergies with the LifeWeb initiative of the CBD;
- Promoting habitat restoration at key sites and corridors.
- Reviewing barriers to migration for different taxonomic groups (birds, mammals, fish) and proposing mitigation measures.
- Entering into partnerships with other organizations already involved in work on ecological networks.

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