



CONVENTION ON MIGRATORY SPECIES

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Agenda Item 19

EXECUTIVE SUMMARY: REVIEW OF MIGRATORY FRESHWATER FISH

*(Introductory note prepared by the Secretariat
and Executive Summary by Dr. Zeb Hogan, Appointed Councillor for Fish)*

1. The Strategic Plan 2006-2011 and its updated version 2006-2014 foresee under Objective 1 that reviews of status and conservation actions for Appendix I and Appendix II species are published at regular intervals.
2. The Scientific Council has identified freshwater fish as a priority group since these species are underrepresented on the CMS Appendices and some of them are subject to severe declines due to a constellation of threats.
3. The 15th Meeting of the Scientific Council (Rome, 2008) agreed that a review of migratory freshwater fish was to be coordinated by Dr. Zeb Hogan, Appointed Councillor for fish, with the aim of assessing conservation status and identifying suitable candidates for listing.
4. The 16th Meeting of the Scientific Council (Bonn, 2010) discussed a preliminary report on freshwater fish and recommended closer collaboration and coordination between CITES, FAO and CMS, and agreed that a working group was established at the Scientific Council and the review to be presented to its 17th Meeting of the Scientific Council.
5. The Executive Summary of the review is included below and the full document is tabled as UNEP/CMS/Inf.10.33.

Action requested:

The Conference of the Parties is invited to:

- a. Take note of the review;
- b. Consider the advice provided by the Scientific Council; and
- c. Adopt draft Resolution contained in UNEP/CMS/Res.10.12.

REVIEW OF MIGRATORY FRESHWATER FISH

EXECUTIVE SUMMARY

1. Growing evidence shows that freshwater fish species are among the most imperilled in the world (Dudgeon et al. 2006, Abell et al. 2007, Revenga et al. 2005). Recent reviews suggest that 40 percent of North American freshwater fish and 38 percent of European freshwater fish are threatened (Kottelat and Freyhoff 2007). The situation for migratory freshwater fish may be even worse: one recent study of North Atlantic diadromous fish showed that “all species had suffered population extirpations” and many species are classified as endangered (Limburg and Waldman 2009).

2. This decline of freshwater biodiversity has led for call for the international community to consider “all reasonable interventions” to halt biodiversity loss (Abell et al. 2007, Dudgeon et al. 2007). The need to study and protect freshwater fish has never been more urgent and while the causes of this biodiversity loss (habitat fragmentation and degradation, flow alteration, overharvest, pollution, and invasive species) are well known, the discussion about – and action toward - protecting global freshwater fish biodiversity, especially migratory freshwater fish biodiversity, has barely begun (Abell et al. 2007).

3. The Secretariat of the Convention on Migratory Species, recognizing the need for action, called upon Parties to strengthen measures to protect migratory freshwater fish. As a first step in the process, the Secretariat requested a review of the conservation status of migratory freshwater fish to determine which species would benefit from listing on the Appendices of the Convention.

4. Dr. Zeb Hogan, the CMS Scientific Councillor for Fish, was asked to prepare a review of the conservation status of migratory freshwater fish to determine which species qualify for listing on the CMS Appendices according to their status and conservation needs. This report, modelled after the December 2007 Review of Migratory Chondrichthyan Fishes, summarizes the results of the review.

5. The first steps of this assessment were to 1) determine the number of threatened freshwater fish species and 2) determine the number of migratory freshwater fish species. Those lists were then integrated to develop a list of threatened, migratory freshwater fish. Of approximately 15,000 species of freshwater fish, 3,146 have been assessed by IUCN and 1,116 are considered threatened (with an additional 102 extinct and 677 Near Threatened or Data Deficient). Of those 1,116 threatened species, 223 occur in more than one country, making them potential candidates for CMS listing depending on migratory status. Based on data from Fishbase (which lists 1,182 species of migratory freshwater fish) and IUCN, ~30 species meet all criteria: migratory, transboundary freshwater fish with unfavourable conservation status. An additional ~20 species were added to this list based on information from other sources including additional 5,000+ IUCN Red List assessments completed in 2010 and 2011, CMS scientific councillors, the Global Registry of Migratory Species (GROMS) and published primary research.

6. The assessment includes four sets of data (threatened freshwater fish, threatened freshwater fish that occur in more than one country, migratory freshwater fish, and threatened migratory freshwater fish). The databases have been compiled using Microsoft Excel and the final integrated spreadsheet includes ~30 species of CMS migratory freshwater fish. The data fields in the spreadsheet include order, family, genus, species, migratory pattern, IUCN conservation status, and details on the IUCN Red List threat category. More detailed information

has been prepared for an additional ~20 species which might benefit from CMS listing – some at species, some at genus, and others at family level.

7. This preliminary review identifies several species assemblages (groups of related migratory species) that would likely benefit from listing on CMS. These are groups of fish that contain many threatened species, occur in areas with many transboundary issues, or both. These groups include sturgeon and salmon, sawfish (Pristiformes), freshwater stingrays (*Himantura* spp.) anguillid eels (Anguillidae), shad (Alosinae), and large, migratory pimelodids and characids of South America, pangasiid catfish of Southeast Asia (most notably the Mekong River), mahseer (*Tor* spp. and related species), Alestiidae of the Lake Chad basin, and cichlids of the East African Great Lakes. While this is not a comprehensive list of potential CMS candidates, it represents a starting point for discussions.

8. This review also highlights the importance of several generic actions to improve the management and conservation status of migratory fish, including: 1) development of baseline information on current and historical abundance of migratory fish; 2) improvement of knowledge of migratory fish ecology; 3) mitigation of problems created by damming; 4) reduction of habitat degradation, including pollution; 5) initiation of trans-boundary monitoring and management programs in partnership with other management frameworks and including regional migratory fish workshops and data sharing.

9. It should be noted that knowledge of freshwater biodiversity, especially in Africa, Asia, and South America, is incomplete. Over one hundred new species of freshwater fish are described each year (Lundberg et al. 2000) and of all freshwater fish species less than half have been assessed by IUCN. Detailed data on freshwater fish migrations is even scarcer. As a consequence, this review should be considered a work in progress. As more information on the conservation status and migratory behaviour of freshwater fish becomes available, the database must be updated especially considering the recent initiative by IUCN to complete Red List assessments for all species on freshwater fish.