Convention on the Conservation of Migratory Species of Wild Animals

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REVIEWS OF THE CMS SCIENTIFIC COUNCIL WORKING GROUP ON GLOBAL FLYWAYS

CMS Working Group on Flyways
Review 1 – Existing CMS and non-CMS instruments

Summary Briefing Note

2 June 2010

Scope of the present review

Through Resolutions 9.2 and 9.13, COP9 of the Convention on Migratory Species (CMS) established an open-ended working group on global bird flyways (hereafter referred to as the 'Flyways Working Group'), under the auspices of the CMS Scientific Council. During the inter-sessional period leading up to COP10, the working group has been tasked with:

- Reviewing scientific and technical issues for the conservation of migratory birds and their habitats;
- Reviewing relevant international instruments, initiatives and processes, as the basis for future CMS policy on flyways and contributing to the work on the Future Shape of the CMS.

The Flyways Working Group determined that three reviews would be required:

- **Review 1** – a review of CMS and non-CMS existing administrative/ management instruments for migratory birds globally;
- **Review 2** – an overview of scientific/technical knowledge of bird flyways and major gaps and conservation priorities; and
- **Review 3** – proposed policy options for flyway conservation/ management to feed into future shape of the CMS.

Terms of Reference and methodology

This paper presents the findings of Review 1 for which the Terms of Reference required: "an overview of the CMS and non-CMS existing administrative/ management instruments for migratory birds globally, their relative strengths and weaknesses and major geographic/species gaps" by:

- Undertaking a rapid desk study to review CMS and non CMS publications, reviews, research papers and related documents on migratory birds, flyways and conservation initiatives;
- Communicating/conducting interviews of key persons/agencies/organisations involved with the major key flyway instruments;
- Drafting and finalizing the review, through two rounds of consultation with the Working Group.

The broad approach followed by UNEP/CMS (2009) in terms of aggregating the world's major flyways has been used as the basis for this paper. Detailed scientific knowledge of flyways is being assessed through Review 2 and is not part of the Terms of Reference for

Review 1. The compilers of the two reviews have consulted each other to ensure compatibility of approach.

Draft Findings & Conclusions

General findings

1. Globally, there are more than 30 different international, flyway-based instruments for the conservation of migratory birds (see Annex). These range from multilateral intergovernmental treaties covering more than 110 countries, through instruments addressing the conservation of single species (or small groups of species), to voluntary, multi-sector partnerships and networks of designated sites.

2. There are many more instruments that are not flyway-based, and therefore outside the scope of detailed consideration under this review, but which nevertheless make a significant contribution to the conservation of migratory species and their habitats. These range from ecosystem-focused treaties, such as the Ramsar Convention, to national ecosystem initiatives (e.g. the recent announcement by Canada concerning the protection of boreal forest from logging), through national and regional protected areas networks (e.g. Natura 2000 in Europe, or the Mesoamerican Biological Corridor), to resource-management and climate-change adaptation measures such as integrated water resource management plans for major river basins or REDD (Reducing Emissions from Deforestation and [forest] Degradation) programmes in developing countries. Mainstreaming of migratory bird conservation (both species-led and habitat-led approaches) into these mechanisms provides an important means of widening stakeholder buy-in and support, particularly through integration of relevant government policy areas. There is also a wide range of relevant NGO-led partnerships, such as that between BirdLife International partners in the UK and Gambia, in conjunction with the British Trust for Ornithology, to study the ecology of migratory passerines on the non-breeding grounds in West Africa.

3. The effectiveness of flyway-based conservation instruments must be seen in this wider context and the multiple opportunities that exist for maximising synergy (at the same time reducing the risk of negative overlaps that may arise from duplication, inadequate consultation/communication and even direct competition for the same limited resources for environmental management).

4. Each category of flyway-based conservation instrument and each individual instrument within a category has its own strengths and weaknesses. The appropriateness and effectiveness of each category and each individual instrument has to be assessed against a set of circumstances that is unique to the flyway, species and conservation challenges it aims to address. Questions needing consideration include:

    - Which flyway and which migratory bird species/populations would the proposed instrument address?
    - What are the main threats and pressures adversely affecting the conservation status of those species/populations?
    - How and why would the proposed new instrument constitute the best possible framework for implementing the required conservation measures

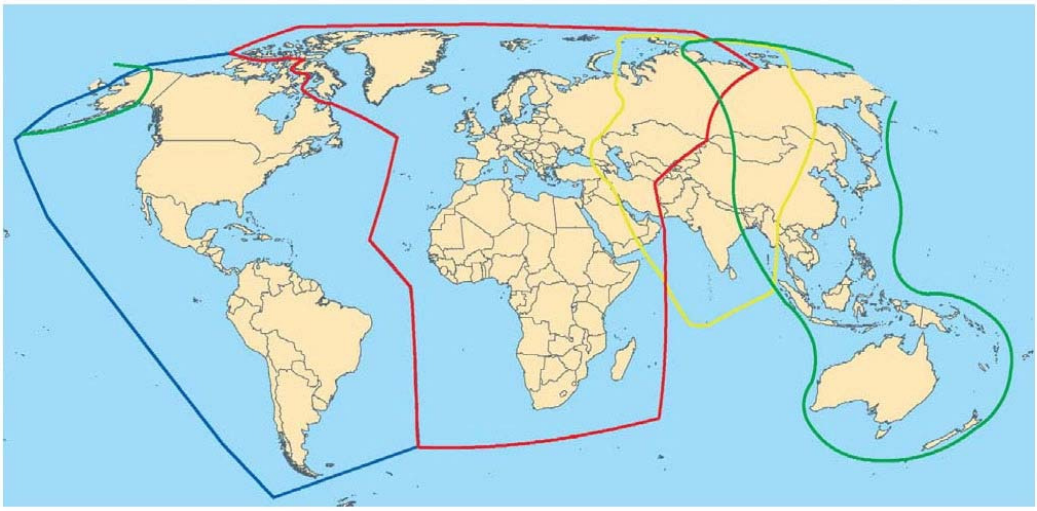
effectively and sustainably? (i.e. why would it be better than an alternative approach?)

- What is the broad geopolitical context? Is there a tradition of working through legally binding treaties or a more flexible voluntary partnership approach? Are there specific political factors involved that would make it difficult for key range states to join a legally binding agreement? Does the flyway include countries for whom a species-led approach to conservation may be less relevant than an approach based on the maintenance of multiple ecosystem services that provide tangible economic benefits (with conservation of migratory bird species a more indirect benefit)?
- Is there a strong reason to believe that an additional instrument would significantly enhance the conservation of migratory birds and their habitats? Could those same benefits be met or exceeded by strengthening existing instruments? Is there scope for enhanced cooperation and synergy between existing instruments? How could this be realised in practice?

5. It would therefore be much too simplistic to conclude that any one category or model of flyway-based cooperation for the conservation of migratory bird species is inherently better than any other; it is entirely dependent on circumstances.

Geographical coverage

Map: Aggregation of flyways for migratory waterbirds. The map delineates the principal global flyway aggregations as proposed by Stroud et al. 2006[1]. The four regional aggregations are considered here for simplicity as Americas, Africa–Eurasia, Central Asia and East Asia – Australasia. The latter two are sometimes combined as ('Asia – Pacific'). Source: Stroud *et al*. 2006.



[1] **Stroud D.A., G.C. Boere, C.A. Galbraith & D. Thompson.** 2006. Waterbird conservation in a new millennium – where from and where to? In: *Waterbirds Around the World*. Eds G.C. Boere, C.A. Galbraith & D.A. Stroud. The Stationery Office, Edinburgh, UK. p. 30–39.

6. Geographical coverage (on paper) is strongest in:

- Africa – Eurasia (particularly Eurasia);
- Americas (particularly North America);
- East Asia – Australasia.

In these regions there is an established flyways-based approach to bird conservation that can be traced back over the course of 30 to 50 years.

7. Geographical coverage (on paper) is weakest in the following regions:

- Central Pacific;
- Central Asia (there is a CMS Action Plan for waterbirds that has yet to be implemented; there is also substantial overlap with the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and the CMS Memorandum of Understanding (MoU) on Migratory Birds of Prey in Africa-Eurasia);
- Pelagic (open ocean) flyways in the Atlantic Ocean, Pacific Ocean, Indian Ocean and Southern Ocean.

Species group coverage

8. Coverage of species groups (on paper) is strongest for:

- Waterfowl (*Anatidae*);
- Shorebirds/waders (*Scolopacidae*);
- Other migratory waterbirds such as divers (loons), grebes, cranes, herons etc;
- Nearctic-breeding passerines and other landbirds that migrate to the Neotropics for the non-breeding season;
- Raptors (particularly in Africa-Eurasia).

9. Coverage of species groups (on paper) is weakest for:

- Passerines (particularly in Africa-Eurasia and Asia-Pacific, though coverage is good for Nearctic-breeding migratory passerines in the Americas);
- Other landbirds (with some exceptions e.g. certain species covered through bilateral treaties in the Americas and Asia – Pacific regions; also the CMS MoU on African-Eurasian birds of prey and CMS MoU on Middle European population of Great Bustard *Otis tarda*);
- Inter-tropical and intra-tropical migrants in all regions;
- Migratory seabirds not covered by the CMS Agreement on the Conservation of Albatrosses and Petrels (ACAP) and whose flyways at sea are only partly covered by instruments such as AEWA, or the Partnership for the East Asian – Australasian Flyway (EAAFP).

From paper to implementation

10. Extent of global flyway coverage (whether geographically, or in terms of species/species groups) is one consideration, but the crucial point is how theoretical coverage 'on paper' is translated into effective conservation action.

11. Among the foremost challenges confronting the majority of flyway-based conservation instruments, particularly those covering Africa, but also parts of Asia, Latin America and the Caribbean, are:

- ensuring that developing-country needs and priorities are fully integrated into the development and implementation of both new and existing instruments;
- securing sustainable means of financial support for implementation, especially in developing countries.

12. In many countries, primarily the developing ones, there tends to be a focus on wider sustainable development issues (rather than species conservation issues *per se*) such as:

- water and food security; climate change mitigation and adaptation;
- protection of economically important ecosystem services.

13. Instruments for the conservation of migratory bird species – whether intergovernmental or not – are likely to struggle for sufficient attention, capacity and resources unless they are explicitly linked to the wider socio-economic country priorities outlined above. In other words, priority must be given to mainstreaming of species conservation within the broader environment and sustainable development agenda.

14. In addition to focusing on developing-country needs and priorities where relevant to the geographical area of coverage, 'ingredients for success' appear to include:

- the opportunity for all parties/partners/signatories/stakeholders to communicate on a regular basis, including face-to-face meetings;
- a clear decision-making mechanism at a policy level;
- a clear mechanism for ensuring decisions are based on the best available science;
- clear conservation goals and objectives that are measurable/verifiable;
- an action plan for reaching those goals and objectives;
- an implementation monitoring plan.

Findings concerning instruments in the framework of UNEP/CMS

15. UNEP/CMS is widely recognised as the principal global Multilateral Environmental Agreement (MEA) for intergovernmental cooperation on the conservation of migratory species and provides a range of options for such cooperation, from legally binding Agreements (such as AEWA) to simpler, non-binding Memorandums of Understanding.

16. Other global MEAs relevant for the conservation of migratory birds and their habitats include the Convention on Biological Diversity(CBD) and the 'Ramsar' Convention on Wetlands. CBD provides a high-level political umbrella and a Joint Work Programme between CBD and CMS was established by CBD Decision VI/20 (COP6, 2002). The Ramsar Convention text contains specific provisions for intergovernmental cooperation on wetland-dependent species and their habitats. Like CMS, Ramsar has established a Joint Work Programme with the CBD.

17. Depending on circumstances, CMS may not necessarily provide the most appropriate or only framework for cooperation in every case. For example:

- in cases where there is an established tradition/preference among stakeholders for a particular species/group of species, or within a particular region, for informal, partnership-based means of working (as opposed to a formalised intergovernmental approach);
- where a habitat-led or ecosystem services-led approach, rather than a species focus, may make it more effective for CMS to work in partnership with or through other mechanisms, rather than seek to establish a CMS instrument as such.

18. The key is to be guided by an objective assessment of the conservation purpose and geopolitical/socio-economic context and to select the instrument, or combination of instruments, most appropriate for the particular circumstances. The many opportunities for synergies to be realised through complementary, cooperative work under different instruments also need to be maximised.

19. The fact that a Range State may become a Party/Signatory to UNEP/CMS Agreements and MoUs without being a Contracting Party to CMS offers a degree of flexibility but also adds complexity that some view as undermining the overall cohesiveness of the CMS family.

20. For political reasons, some countries will not – or are highly reluctant to – participate in flyway-based instruments under the auspices of CMS. This may be a consequence of a given country not being a Party to CMS (which may itself be a consequence of wider international politics unconnected with the conservation of migratory birds), or because there is a national or regional tradition/preference for working through non-binding partnerships.

21. The increase in the number of different instruments within the CMS framework, particularly the proliferation of MoUs for single species or small groups of species during the last 15 years has – with only relatively few exceptions – not been matched by a growth in the administrative, technical and financial resources/capacity needed to secure tangible conservation impacts on the ground.

Findings concerning instruments outside the framework of UNEP/CMS

22. Instruments outside the UNEP/CMS framework can be divided into two broad categories:

- other intergovernmental agreements (including the flyway-related provisions of the Ramsar Convention noted above and a range of bilateral treaties on migratory birds);

- arrangements based on voluntary partnerships, with a greater or lesser degree of informality.

23. There are advantages and disadvantages of both the non-CMS alternatives listed under point 22 and these are detailed in the review. In terms of other legally binding mechanisms, it may be that issues such as geopolitical context or funding possibilities make another instrument the most appropriate choice. In relation to voluntary (non-binding) partnerships, the following strengths and weaknesses can be identified:

ADVANTAGES	**DISADVANTAGES**
• Provides the opportunity for stakeholders from all sectors (governmental, civil society, private sector, academic) to work flexibly alongside one another as equal partners. • May be a more attractive framework for financial support from the private sector, civil society and some governments/government agencies. • Potentially more flexible and dynamic than legally binding agreements that require consensus decision making among governments and other partners/stakeholders. • A partnership approach may be more philiosphically and politically palatable for some stakeholders than a legally binding approach.	• Partners (especially governments) are not formally obliged to honour any undertakings given. This could be seen as undermining long-term commitment, particularly from governments when there is a change of administration. • Implementation is not mandatory. • Accountability may be unclear. • Governmental partners may be overly reliant on non-government/private-sector partners and neglect their own responsibilities for action.

24. In some cases, one of these established mechanisms may provide the most appropriate framework for addressing a particular conservation need. In other cases a CMS-based instrument will be more appropriate. Effective decision making will be facilitated by:

- maintaining regular, open, two-way dialogue between CMS and non-CMS approaches;
- assessing on a case-by-case basis the strengths and weaknesses of existing instruments in relation to the conservation needs and priorities of a specific flyway or population;
- identifying and acting on opportunities for synergy;
- only establishing a new instrument where it is shown conclusively that these needs and priorities cannot be met through existing instruments.

Annex – Listing of principal flyway-based instruments for conservation of migratory birds

Instrument name	Date established	Type of instrument
AFRICA – EURASIA (MULTILATERAL) (in chronological order of establishment)		
Bern Convention on the Conservation of European Wildlife and Natural Habitats	1979	Intergovernmental treaty
Agreement on the Conservation of African – Eurasian Migratory Waterbirds (AEWA)	1995 (The Hague; entry into force 1999)	CMS Agreement
Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia	2008	CMS Memorandum of Understanding (MoU)
AMERICAS (MULTILATERAL) (in chronological order of establishment)		
Convention on Nature Protection & Wildlife Preservation in the Western Hemisphere	1940 (Washington; entry into force 1942)	Intergovernmental treaty
North American Waterfowl Management Plan (Canadian component = 'Wings Over Water')	1986 (Canada/US) 1994 (Mexico)	International action plan
Western Hemisphere Shorebird Reserve Network (WHSRN)	1986	Site-based partnership
Partners in Flight (PIF)	1990	Public/private partnership
North American Bird Conservation Initiative (NABCI)	1999	Public/private partnership based on inter-governmental agreement
North American Waterbird Conservation Plan ('*Waterbird Conservation for the Americas*')	2000	Voluntary partnership
Western Hemisphere Migratory Species Initiative (WHMSI)	2003	Public/private partnership/forum Key technical document(s): *International Action Plan* (2001)
AMERICAS (BILATERAL) (in chronological order of establishment)		

Migratory Bird(s) Convention/ Treaty	1916 (between Great Britain and US)	Intergovernmental treaty implemented via *Migratory Birds Convention Act* (1917; significantly updated 1994) in Canada and *Migratory Bird Treaty Act* (1918) in US
Migratory Bird Treaty	1932 (US & Mexico) 1972 (US & Japan) 1976 (US & Russia)	Intergovernmental treaty
AMERICAS (OTHER)		
Neotropical Migratory Bird Conservation Act	2000	Act of US Congress providing for grant funding of conservation efforts for Neotropical migrants
CENTRAL ASIA (MULTILATERAL)		
Central Asian Flyway Action Plan for the Conservation of Migratory Waterbirds and their Habitats	2005	CMS intergovernmental Action Plan
CENTRAL ASIA (BILATERAL)		
Agreement between Russian Federation and India	1984	Intergovernmental agreement
ASIA – PACIFIC (MULTILATERAL)		
Asia-Pacific Migratory Waterbird Conservation Strategy	1996 (initially 1996-2000; updated strategy 2001-2005) and 2006	Non-binding framework strategy
Partnership for the East Asian-Australasian Flyway	2006	Non-binding partnership of governments, government agencies & international NGOs

ASIA – PACIFIC (BILATERAL)		
Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment (JAMBA)	1974	Bilateral intergovernmental treaty
Agreement between China and Japan	1981	Bilateral intergovernmental treaty
Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment (CAMBA)	1986	Bilateral intergovernmental treaty
Agreement between Japan and Russian Federation	1988	Bilateral intergovernmental treaty
Agreement between Republic of Korea and Russian Federation	1994	Bilateral intergovernmental treaty
Agreement between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds (ROKAMBA)	2006 (entry into force 2007)	Bilateral intergovernmental treaty
Agreement between Republic of Korea and China	2007	Bilateral intergovernmental treaty
INSTRUMENTS COVERING INDIVIDUAL SPECIES OR GROUPS OF SPECIES (MULTILATERAL) (in chronological order of establishment)		
Memorandum of Understanding concerning Conservation Measures for the Slender-billed Curlew *(Numenius tenuirostris)*	1994	MoU in the framework of CMS Article IV paragraph 4 (though link to CMS not explicit in MoU text)
Memorandum of Understanding concerning Conservation Measures for the Siberian Crane (*Grus leucogeranus*)	1998	MoU in the framework of CMS Article IV paragraph 4
Memorandum of Understanding on the Conservation and Management of the Middle-European Population of the Great Bustard *(Otis tarda)*	2000	MoU in the framework of the Convention on Migratory Species
Agreement on the Conservation of Albatrosses and Petrels (ACAP)	2001 (Cape Town; entry into force 2004)	MoU in the framework of CMS Article IV paragraph 3
Memorandum of Understanding concerning Conservation Measures for the Aquatic Warbler *(Acrocephalus paludicola)*	2003	MoU in the framework of CMS Article IV paragraph 4
Memorandum of Understanding on the Conservation of Southern South American Migratory Grassland Bird Species and Their Habitats	2007	MoU in the framework of CMS Article IV paragraph 4

Alianza del Pastizal (Alliance for the 'pastizal' grasslands)	To be confirmed	NGO-led initiative
Memorandum of Understanding on the Conservation of High Andean Flamingos and Their Habitats	2008	MoU in the framework of CMS Article IV paragraph 4
INSTRUMENTS COVERING INDIVIDUAL SPECIES OR GROUPS OF SPECIES (BILATERAL)		
Memorandum of Understanding concerning Conservation Measures for the Ruddy-headed Goose *(Chloephaga rubidiceps)*	2006	MoU in the framework of CMS Article IV paragraph 4

CMS Scientific Council:
Flyway Working Group Reviews

Review 2:

Review of Current Knowledge of Bird Flyways, Principal Knowledge Gaps and Conservation Priorities

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Executive summary

A review of current knowledge for migratory birds at the flyway scale, including threats, has been undertaken, from which conservation priorities and recommendations are identified.

The many different types of migration that birds undertake are first described as well as the flyways and strategies that they use to complete their migratory journeys. The great complexity in bird migration is evident and brings with it a requirement for a multitude of conservation approaches. International collaboration is a key element in any strategy for migratory bird conservation and the signatories to the Convention on Migratory Species (CMS) have a key role to play.

Analysis of status and trends was carried out for a total of 2,274 CMS-defined migratory species (23% of the world's birds). Migratory birds are found in all regions of the world, however, the Americas and Asian regions stand out with more than 1,000 species each.

At a global level, 14% (317) of the included species are currently considered threatened or near-threatened according to the IUCN Red List. Since 1988, 53 species have deteriorated in status (sufficiently to be uplisted to higher categories of extinction risk on the IUCN Red List) while only nine species have improved (sufficiently to be downlisted to lower categories). Listing of species on CMS appendices (these being species identified as deserving of specific attention) does not yet appear to have resulted in an improvement in overall status.

There is increasing evidence of regional declines, although regional and taxonomic differences exist. Population trend data show that more Nearctic–Neotropical migrants have declined than increased in North America since the 1980s, and more Palearctic–Afrotropical migrants breeding in Europe declined than increased during 1970–2000. The East Asia–Australasia region has the highest proportion of threatened migratory waterbirds (20%); Africa–Eurasia, Central Asia and East Asia–Australasia having the highest proportions of threatened soaring birds (c.30% each); and the Americas, Africa–Eurasia and East Asia–Australasia the highest proportions of threatened seabirds (c.30%). On a flyway scale, the East Asia–Australasia flyway has the highest proportion of threatened migratory waterbirds (19%), and the highest proportions of threatened soaring birds (24–34%) was recorded for the Black Sea–Mediterranean, East Asia–East Africa, Central Asia and East Asia–Australasia flyways. These and other data reviewed indicate that a significant proportion of migratory birds are at high risk and have an unfavourable conservation status.

Analysis of the main threats to migratory species evaluated as threatened and near-threatened on the 2010 IUCN Red List shows that important threats include land-use change, illegal hunting and taking, non-native species, diseases, pollution, climate change, natural system modifications, infrastructure development, human disturbance, fishing, energy production and distribution. Published literature on key threats has been collated and reviewed.

Key information needs are identified that relate to our knowledge of the status, trends and threats to migratory bird species, and information needed in order to more effectively pursue their conservation. These include the continuing need for robust information on status and trends, distribution and ecology, and for further information on the wide variety of threats to migratory birds.

There is a need to determine the 'ideal' landscape for migratory birds in each geographical region of the world, where landscape-scale conservation is key to the protection of migratory birds. To facilitate migratory movements, it is vital to find ways to improve the connectivity of habitats critical to population survival currently and in the future. A continuation of monitoring and research into the impacts of climate change on migratory species, as well as the ability of species and populations to adapt, remains important. This knowledge is vital to identify key limiting factors, the 'weakest link', upon which each species' survival hinges, and to provide essential building blocks for policy guidance.

Conservation priorities have been identified that address the key identified threats. Protection of habitats, and the resources they provide, is identified as being of vital importance to migratory birds, and this should be afforded the highest priority of all.

Migratory species that depend on a network of sites along their flyways will strongly benefit from the proper protection and management of these sites. The degree of protection afforded to network sites is at present insufficient. Effective management of key sites for migratory birds needs to address the whole range of factors that cause direct mortality (e.g. hunting, trapping, collisions, predation, pollution etc.), and those that reduce food supplies or destroy or degrade habitats. Best practice habitat management needs to be shared.

Specific threats highlighted by this review that are of particular significance for migratory birds include: wind turbine developments; power line collisions and electrocutions; illegal trapping and shooting; reclamation of wetlands; and pollution, overfishing and the by-catch of seabirds during long-line and trawl fishing operations. These threats are identifiable and will need continued effort to address particular impacts on particular species.

Climate change impacts are likely to be critical for a range of migratory birds and this defines climate change adaptation as one of the key conservation priorities for coming years. A network of critical sites, not least along the world's flyways, is likely to maximise the potential of migratory birds to adapt to climate change.

A total of 72 specific recommendations for action were generated on the basis of this review but not all will be applicable to all engaged in migratory bird conservation world-wide. Thus, eight key recommendations are provided for CMS to consider, each crucial to improving the fortunes of the world's migratory birds.

Key recommendations from the review

A total of 72 specific recommendations for action were generated on the basis of this review (see Annex 5) and there is no doubt that others could be identified. Not all of these will be applicable to all engaged in migratory bird conservation world-wide. Similarly, not all will be relevant to all migratory bird groups and the different specialist groups focusing on their particular conservation requirements.

From the full list of recommendations a more focused selection of key recommendations have been identified for broadscale action, as follows:

1. *Ensuring effective implementation*: With 14% of migratory bird species considered globally threatened or near-threatened, nearly 40% declining overall, and extinction risk increasing (including for those species specifically listed on CMS appendices and related agreements), continuing effective implementation of existing conservation efforts under CMS auspices remains an urgent priority.

2. *Reviewing CMS species selection*: With nearly 800 migratory bird species (35% of the total considered in this review) explicitly covered by different elements of the Convention, there is already considerable taxonomic coverage. However, additional consideration should be given to selected species with the highest extinction risk not currently listed on the appendices or its instruments. In addition, specific consideration should be given to declining species or groups of species that would complement / add to existing initiatives where CMS is well placed to extend its current remit. Species should only be chosen after careful review and ideally chosen as flagships whose conservation will address wider issues.

3. *Covering flyways*: With many flyway-scale conservation initiatives already established by CMS and other international collaborations and partnerships, there is already considerable geographic coverage of migratory species. For CMS, the East Asia–Australasia region deserves particular attention on account of the high proportion of threatened migratory bird species (waterbirds, soaring birds and seabirds) found there.

Selected species groups not currently listed on CMS appendices or other instruments

Species Group	Region	Total number species	Number (%) declining	Number (%) threatened or near-threatened
Petrels, shearwaters[1]	Global	74	38 (51%)	27 (37%)
Waterbirds[2]	East Asia–Australasia	61	23 (38%)	15 (25%)
Storks / Ibises[2]	East Asia	8	5 (63%)	5 (63%)
Bustards / Floricans	Africa–Eurasia, C. Asia, E. Asia	4	4 (100%)	4 (100%)
Pigeons / Parrots	East Asia–Australasia	65	22 (34%)	11 (17%)
Pigeons / Parrots	Americas	61	25 (41%)	15 (25%)
Passerines[3]	Americas	434	133 (31%)	25 (6%)
New world[3] warblers	Americas	50	22 (44%)	4 (8%)
Passerines	Africa–Eurasia	188	64 (34%)	3 (2%)
Passerines	Central Asia	125	46 (37%)	0 (0%)
Passerines	East Asia–Australasia	315	93 (30%)	10 (3%)
Larks	Africa–Eurasia, C. Asia, E. Asia	33	15 (46%)	0 (0%)

Notes The species groups above were identified on the basis of four or more declining species facing similar threats and none currently listed on CMS appendices or associated instruments. 1. 29 species of albatrosses and petrels are already covered by ACAP. 2. These species are technically covered by the East Asian–Australasian Flyway Partnership but not specifically listed. 3. These species are covered by the 'Partners in Flight' initiative.

4. *Addressing issues at the broad scale*: With threats leading to habitat degradation and destruction having the greatest impact on migratory species, addressing issues at the wider landscape scale remains a considerable challenge. In this review, some specific terrestrial habitats have been identified as deserving of particular attention, including:

   a. halt conversion of *intertidal wetlands in East Asia*, especially in the Yellow Sea
   b. protect remaining *lowland forest in South-East Asia* from conversion to plantation agriculture
   c. reform the Common Agricultural Policy to promote *diverse farmlands in the European Union* that supports biodiversity and rural livelihoods.
   d. support efforts to reduce and reverse desertification and loss of flood plain habitat in the *drylands of the African Sahel*, using approaches that protect and restore native vegetation and conserve natural flood regimes
   e. protect remaining *lowland and montane forests in Central America and the tropical Andes*
   f. protect key *grasslands in South America* and maintain traditional, extensive grassland ranching practices.

5. *Conserving important sites*: With increasing recognition of the importance of critical sites for migratory birds during breeding, non-breeding and on passage, and their poor protection (e.g. 56% of 8,400 Important Bird Areas having less than 10% of their area formally protected), it is a priority to ensure identification and effective management of a network of sites along migration flyways as a whole, including:

   a. supporting the development of flyway-scale networks such as the Western Hemisphere Shorebird Reserve Network in the Americas, the East Asia–Australasian Flyway Site Network and the West / Central Asian Site Network for Siberian Cranes and other waterbirds, and through applying the critical site network approach (as developed by the 'Wings over Wetlands' Project) to other regions and taxonomic groups
   b. listing important sites on CMS instruments for particular attention / management plans (as is currently done under the Agreement on the Conservation of Albatrosses and Petrels and the Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia)
   c. evaluating the effectiveness of current protection / management of sites
   d. seeking protection of sites through formal designations or voluntary measures.

6. *Tackling species-specific issues*: With migratory bird species facing a multitude of complex, often interacting, threats, it would be important for CMS to focus on those where CMS can add value and / or is / could be a leader of best practice, including:

   a. addressing unsustainable trapping and shooting, ensuring full implementation and adherence to hunting regulations, especially in the Mediterranean basin

b. ensuring best practice, and exercising extreme caution, in the location and construction of man-made structures in sensitive areas for migratory birds, especially wind turbines and power transmission and telecommunication infrastructure.

7. *Facilitating international cooperation*: Given that efforts to conserve migratory birds in one part of the range are less effective if unaddressed threats are reducing populations and habitats along migration flyways as a whole, international collaboration and coordinated action are key elements in conserving migratory birds, including, for example:

a. mainstreaming migratory bird issues through other UN conventions, including the Convention on Biological Diversity, United Nations Framework Convention on Climate Change, United Nations Convention to Combat Desertification, and the Convention for the Prevention of Marine Pollution
b. supporting and strengthening implementation of relevant regional conventions and initiatives, e.g. the Abidjan and Nairobi Conventions through the African Ministerial Conference on the Environment and the Africa Union, and the *Alliances* initiative for the conservation of the South American Southern Cone grasslands.
c. supporting the Agreement for the Conservation of Albatrosses and Petrels (ACAP) to address bycatch of seabirds during long-line and trawl fishing operations, including in international waters
d. coordinating and implementing action across critical site networks
e. conserving important trans-boundary sites
f. coordinating and adhering to international legal protection for globally threatened and declining species.

8. *Supporting monitoring*: In order to detect declines early and implement appropriate action rapidly, it is recommended that CMS uses its influence to promote monitoring of migratory bird populations across all its projects and programmes (including, e.g., through Important Bird Area and International Waterbird Census coordinated monitoring).