Global activities on the conservation, management and sustainable use of migratory waterbirds: an integrated flyway/ecosystem approach

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Boere, G.C. 2003. Global activities on the conservation, management and sustainable use of migratory waterbirds: an integrated flyway/ecosystem approach. *Wader Study Group Bull.* 100: 96–101.

Though conservation and scientific organisations as well as individuals can achieve much for the conservation of wetland birds, it is governments that have the power to make a real difference if only they have the will and the motivation. Here I summarise the main conventions, treaties and other intergovernmental arrangements that are relevant to waterbird conservation and reflect on the ways in which they can be developed and made more effective.

INTRODUCTION

For most readers of the *Wader Study Group Bulletin* the world of international bureaucracy, of treaties, conventions, strategies and the like probably seems very boring. It is a world of "conference tigers", polluting the environment by endless travelling and producing tons of paper that mostly goes straight into the waste bin. Ever looked behind the scenes at the close of a Convention meeting? Don't do it!

But, is it really that bad?

I say "No!"

Once you know your way around the complexities of all those legal mechanisms and how to operate in that environment, once you know how to make maximum use of all that paper, there is tremendous scope to achieve great things for nature conservation. This means hitting governments with the obligations of the conventions they have ratified and the resolutions they have adopted (probably without knowing exactly what they have done in the huge conference halls with appalling acoustics, with people continually walking in and out and with any number of vociferous negotiations going on all at the same time!).

The essence of all this is what I once, in a presentation in 1991 at the European BirdLife Conference in Aachen (Germany), described as the "Convention Paradox": that conventions are concluded by government organisations but it is usually through non-government organisations that they become operational.

When the International Wader Study Group adopted the "Odessa Protocol" in 1992, it entered the international arena of conservation policy relating to migratory birds. I do not propose to evaluate what this may have achieved. That is for the Final Declaration of the upcoming global flyway conference *Waterbirds Around the World* (April 2004). Instead, I will summarise some of the more important aspects of current developments concerning those treaties and conventions that involve waders, in the framework of which WSG members are active (in a professional or volunteer way) or could become active in making them really effective and useful.

THE EVOLUTION OF POLICY

Many bird conservation movements in western Europe, such as Vogelbescherming in The Netherlands and the Royal Society for the Protection of Birds in the United Kingdom, developed in the late 19th and early 20th century. These are among the oldest nature conservation organisations in the world. With the advent of such non-governmental organisations (NGOs), bird conservation moved up the political agendas of many governments. The early 20th century saw the development of bird conservation policies and regulations such as the *Convention for the Protection of Birds Useful to Agriculture* (Paris, 1902) and its successor treaty, the *International Convention for the Protection of Birds* (Paris, 1950). While both are technically still in force, they have now been superseded.

During the 1960s and 1970s, with conservation and environment issues figuring prominently in many countries, several international treaties affecting birds came to fruition. The development of the *Convention on Wetlands of International Importance especially as Habitat for Waterfowl* (Ramsar Convention, 1971) originally used birds as the main criterion for site designation. The First United Nations Conference on Human Health and Environment (Stockholm 1972) gave a major stimulus for the creation of several more international agreements of this kind. These include the *Convention on the Conservation of Migratory Species of Wild Animals* (CMS, Bonn 1979), which affects the global conservation of the many migratory bird species.

In North America, the institutional framework for international co-operation in conserving migratory birds was established early in the 20th century. In 1916, Canada and the United States signed a bilateral *Convention on the Conservation of Migratory Birds*, and in 1936, the United States and Mexico signed a similar convention. By the 1980s, a long tradition of international co-operation in waterfowl population surveys and harvest management was in place across the continent. The need was clear: international co-operation in harvest management had to be extended to include habitat con-

servation. This need was met by the bilateral, Canada–USA, *North American Waterfowl Management Plan* signed in 1986; with Mexico formally joining the NAWMP in 1994.

PRESENT POLICIES AND LEGISLATION

Today, many international legal instruments assist in setting priorities for direct conservation actions for birds. These fall into the following categories: (a) legally binding accords, mainly between governments, and often of a multilateral nature; (b) bilateral accords; and (c) a wide variety of cooperative arrangements between different countries, between countries and NGOs, or between different NGOs. The numerous policy documents can be grouped as follows, all with specific uses and methods of implementation.

- **Global, regional and sub-regional conventions and treaties:** These are mainly intergovernmental legally binding agreements, but also include less-binding arrangements such as "Statements of Co-operation" or "Memoranda of Understanding".
- **Global, regional, sub-regional and national overviews:** These are reports on threatened species or species at risk, often presented as "Red Data Lists", and generally based on standard criteria developed by the International Union for the Conservation of Nature (IUCN) or a specialized related organisation. Some larger countries with a federal structure, such as the USA, Canada, Germany and Russia, have adopted national regulations to develop Red Lists at a national or sub-national (province, state) scale.
- **Overviews of birds of particular conservation concern:** These are focused on species not currently threatened, but which may become so without attention.
- **Overviews and action plans for regions, flyways or groupings of protected areas:** these have a geographic focus.
- **Action plans for single species or species groups:** these are either based on taxonomic groups or on a shared conservation problem.
- **Inventories of important habitats and areas:** These can be for birds at all stages of their life cycle (e.g. the Important Bird Areas [IBA] Programme of BirdLife International).

Waterbirds, and certainly waders, along with raptors and seabirds, as well as migratory birds in general, have long been of major interest to several groups of people including researchers, subsistence and sports hunters and not forgetting the large proportion of the general public who enjoy bird watching. There are very good reasons why this is so:

- Many of the species breed in large colonies with good access for research, observation and sustainable harvest (of eggs, young or adult birds);
- Their large size makes it easy to observe them in the field, thus facilitating monitoring of populations and exploitation for food by hunters;
- Many species concentrate in large flocks outside the breeding season and in a relatively small number of areas, thus facilitating census-taking, catching and ringing;
- Many species are large enough to apply individual marking systems (colour bands, wing tags, neck collars, small radio sets and, in recent years, satellite tags) and so have been of great importance in fundamental migration research (the classic method of using numbered metal rings having the severe limitation that it require birds to be recaptured or found dead before it can yield results); and
- Many waterbird species (ducks, geese, large waders) are also considered to be pest species for mussel farming (eiders and oystercatchers), agricultural crops (especially geese, swans and ducks, and, in Africa even some waders when they feed on rice), grasslands (geese) and fish farming (cormorants, herons, pelicans and sawbills). This has stimulated research, monitoring and other activities.

Because of these factors, the migration routes and numbers of waterbirds are relatively well known, including those of the rare and endangered species. This knowledge has stimulated the development of co-ordinated conservation and management actions along whole flyways.

THE INTERNATIONAL WATERBIRD CENSUS

Collecting census data in non-breeding areas was the first of many activities focused on waterbird conservation. Now, there are several co-ordinated census programmes for migratory waterbirds including:

- The International Waterbird Census (IWC). This was originally restricted to Europe and the Mediterranean. The IWC started in 1967 (its first international co-ordinator, George Atkinson-Willes, died only last year) and is the longest running internationally co-ordinated biodiversity monitoring programme in the world. Each year, the census takes place over a weekend in mid-January and involves 10,000–15,000 volunteer counters.
- Later, in the 1980s and 1990s, waterbird census programmes as part of IWC were developed for the Asia–Pacific region, Oceania, Africa and the Neotropics. Only just recently an agreement has been concluded between Wetlands International and the Patuxent Wildlife Research Institute that will bring North American data into the IWC, making it a truly global programme.
- In addition, many other regular international, national and local waterbird censuses are now carried out, including some during the breeding season and a few that focus on a single species or groups of species. Examples are surveys in the framework of North American Waterbird Management Plan and circumpolar arrangements for monitoring breeding waders in the Arctic.

Wetlands International and its regional offices act as co-ordinators of all these waterbird census programmes by liasing with a network of national co-ordinators and members of the Specialist Groups Network (shared by Wetlands International, BirdLife International and IUCN). In all these active field surveys, close co-operation exists between the BirdLife International partners and the national agencies involved in managing protected areas.

Data from the IWC have played an important role in developing the tools for the *Ramsar Convention on Wetlands* to designate wetlands of international importance through the well known 1% criterion. Also, those implementing other treaties like the *Bonn Convention* and the *African–Eurasian Waterbird Agreement* are using the data for their policy development.

At regular intervals, all data available are summarised by Wetlands International in a publication presenting the world

waterbird population estimates of presently 868 waterbird species with over 2,271 subspecies or distinct biogeographical populations. Three volumes have been published so far: *Waterbird Population Estimates 1, 2* and *3* (*WPE 1* in 1994, *WPE2* in 1997 and *WPE3* in November 2002 during the eighth meeting of the Conference of Parties of the Ramsar Convention).

In addition, census data are published by regions. Examples include the *International Waterbird Census for the Western Palearctic and Southwest Asia 1995 and 1996* (published in 1999) and a similar volume for 1997, 1998 and 1999 (published in 2002). Regular reports have also been published with the results of the African Waterbird Census, the Asian Waterbird censuses and the Neotropical Waterbird Census. More recently a number of overview reports have appeared for the North American Region, including one on shorebirds, as well as annual reports on population trends in quarry species produced by the Canadian Wildlife Service and the US Fish and Wildlife Service. These differ between species groups and from region to region.

In view of the many flyway initiatives (see below) it is hoped and expected that there will be an increase in waterbird monitoring in areas that are less well surveyed, such as large parts of Africa, Asia (particularly Central Asia) and Central and South America.

THE FLYWAY CONCEPT

Generally, a flyway is understood to mean the entire range of migratory waterbird species (or groups of species or distinct populations of a single species) from the breeding grounds to the non-breeding area, including the intermediate resting and feeding places and the areas within which the birds migrate. The concept was developed in North America and is now widely used because it helps us to understand the problems a migratory waterbird encounters in its life cycle and identifies the countries that should co-operate to protect and sustainably manage the populations.

Flyways differ considerably in length: many geese have relatively short and well-defined flyways, whereas many arctic-breeding waders migrate huge distances. This has implications for multilateral legal arrangements.

The concept fully supports the "ecosystem approach" required under the *Convention on Biological Diversity* (CBD), because a flyway is in fact the entire ecosystem that is necessary to enable a migratory waterbird to survive.

Moreover the flyway concept, by definition, requires close co-operation between all states involved. It can also strongly stimulate co-operation between states to build up networks of scientists, conservationists and reserve managers and stimulate a wealth of small-scale initiatives in all fields of biodiversity and habitat conservation.

MULTILATERAL LARGE-SCALE FLYWAY INITIATIVES

I now present a brief overview of various multilateral initiatives at a flyway level (not in any particular order) that are in various stages of development or implementation. They also represent a mixture of legally binding and non-binding arrangements. Governments initiated some. Others have their origin in science or in the activities of NGOs.

Convention on the Conservation of Migratory Species of Wild Animals (UNEP/CMS; Bonn 1979)

The Bonn Convention came into force in 1983. It requires the conservation and sustainable use of all migratory species, and so is an important instrument for bird conservation. Annex 1 of the Convention requires strict protection for a number of highly endangered bird species such as the Slender-billed Curlew *Numenius tenuirostris* and Siberian Crane *Grus leucogeranus*; for both of which separate "soft legal instruments", such as Memoranda of Understanding, have been concluded. Annex 2 of the Bonn Convention, lists a large group of species and families for which co-ordinated action is important to maintain populations. This is mainly achieved through agreements between the states in which species occur. Good examples for birds are the *African Eurasian Waterbird Agreement* (AEWA; The Hague, 1995) and the *Agreement on the Conservation of Albatross and Petrel* (ACAP, Cape Town, 2001). The CMS has high potential as a bird conservation treaty and there are many new initiatives underway to develop agreements for flyways and threatened groups.

Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention; Ramsar, 1971)

One of the very first international conservation treaties, the Ramsar Convention is very important for bird conservation. It is a successful convention because of its relatively simple obligations, and has over 130 Contracting Parties (November 2002) and major NGO partners. Countries can become a Contracting Party by subscribing to the general terms of the convention to conserve and sustainably use the resources associated with all wetlands (not only those of international importance!) and by designating at least one wetland of international importance. The results of the International Waterbird Census, along with other criteria, are important in the selection of wetlands of international importance. The Ramsar Convention has evolved from a bird-related convention to one dealing with the integrated conservation, management and sustainable use of wetlands, fresh water resources and catchment areas.

North American Waterfowl Management Plan (NAWMP)

The "founding father" of the flyway concept, it concentrates on the conservation and sustainable management of migratory waterfowl in Canada, USA and Mexico and is managed by four flyway councils. Originally signed in 1986 (after a long process of consultations and negotiations), it was updated in 1994 and 1998 and is presently being updated again.

Western Hemisphere Shorebird Reserve Network (WHSRN)

A network of large wetlands, coastal areas, etc., selected on the basis that they support at least 5% of a flyway population, WHSRN is aimed at conserving the most important sites for migratory shorebirds. It could be the backbone of a full flyway agreement for the Americas under the Bonn Convention.

US Shorebird Conservation Plan, Canadian Shorebird Plan and others

These are new initiatives at a national level but with wide-ranging international implications, given the long distance migration of the species that they cover.

Neotropical Migratory Bird Conservation Act

This act came into force in the USA just before President Clinton finalised his term.

Western Hemisphere Convention (Washington, 1940)

This is generally not used but remains a tool for USA support for various programmes in Latin America and could be the international legal basis for a major flyway agreement.

African Eurasian Migratory Waterbird Agreement (AEWA, UNEP/CMS Bonn Convention)

This is the largest Agreement under the Bonn Convention both in geographical coverage (about 117 countries) and species (about 175) and the largest flyway Agreement globally. The AEWA came into force in November 1999 and has to date (January 2003) been ratified by 38 Range States. The Secretariat is based at UNEP/CMS in Bonn, Germany. An Action Plan is in place and recently an application has been made to the Global Environment Facility to support the large-scale implementation of the AEWA. This application is expected to be successful.

Central Asian Flyway (CAF)

This is a recent initiative by UNEP/CMS, the Russian and Dutch Governments, the AEWA Secretariat and Wetlands International. It should lead to a co-ordinated effort to develop an action plan and, in the long term, may become a formal agreement like AEWA. Here the priority is to address the lack of data about many species.

Asia–Pacific Migratory Waterbird Conservation Strategy (APMWCS; updated version of October 2000)

The strategy includes a large geographical area in which generally three flyways are identified: Central Asian Flyway, East Asian–Australasian Flyway and the West Pacific Flyway. The work is co-ordinated by Wetlands International with support from the Governments of Japan and Australia. Site-based networks for cranes, anatidae and shorebirds have been developed, stimulating many bilateral conservation actions on habitat and the wider countryside.

America Pacific Flyway Initiative

This is an initiative from our good friend, the late Pablo Canevari, which he was unable to bring to fruition during his lifetime. With support from the Dutch Government, a draft strategy was developed that has been widely discussed in the region. The next step is to redraft the strategy based on comments received and make it an operational tool like the APMWCS.

Partners in Flight (PIF, 1991) and the North American Bird Conservation Initiative (NABCI, 1999/2000)

These are mainly platforms to protect migratory birds in the whole of the Western Hemisphere involving a large number of stakeholders: governmental organisations and NGOs, private landowners and the corporate world.

Migratory Birds Commission of the International Council for Wildlife Management (CIC)

This provides the framework for a number of national and international hunting organisations and their many activities involving, among others, harvesting waterbirds, co-ordinating applied research and monitoring.

REGIONAL AND BILATERAL INITIATIVES IMPORTANT FOR FLYWAYS

Many other arrangements are in place for migratory birds focussing on smaller areas or which service bilateral co-operation between countries (Boere & Rubec 2002). The following is an overview of a few of the more important instruments and arrangements:

EU Bird and Habitat Directives

Very strong legal protection for both species, including migrants, and their habitats in all European Union member states. New member states have to comply with the EU Directive at the time of their accession. This creates a large geographical area with good legal protection for migratory birds.

Bern Convention: the Convention on the Protection of the European Fauna and Flora and their Habitat, 1979

Administered by the Council of Europe) has a specific annex for the protection of migratory species that is the basis for a few African countries ratifying the Bern Convention.

Migratory Birds Convention Canada–USA (1906) and with Mexico (1936)

One of the oldest legal instruments includes substantive arrangements for the sustainable harvest of waterbird populations. A system of "flyway councils" is in place and facilitates many research projects on migratory species. Amended in 1978.

Siberian Crane Memorandum of Understanding (UNEP/CMS Bonn Convention)

Aiming at the conservation of the various small populations of this globally endangered species, each with its distinctive flyway and staging and wintering areas. The MoU provides the basis for active co-operation between the governments involved, NGOs (e.g., the International Crane Foundation) and UNEP/CMS. The MoU is substantially supported by funds from the Global Environment Facility.

Slender-billed Curlew Memorandum of Understanding (UNEP/CMS Bonn Convention)

Another flyway agreement for a single species that is one of the world's rarest birds. It facilitates a number of conservation activities in wetlands in the former wintering area and surveys of supposed last strongholds in the Middle East.

Bilateral agreements on migratory birds

There are quite a number such as: *China–Australia* (CAMBA), *Russia–India*, *Australia–Japan* (JAMBA), *Russia–Japan*, *USA–Russia*, *Korea D.P.R–Russia* and *Japan–USA*. Canada has agreements on migratory species with Ireland, Russia and the UK. Some of these bilateral agreements are quite effective, but I prefer multilateral ones because, in practice, they are useless if they do not cover all countries. If a multilateral agreement is not possible, e.g. for political reasons, theoretically you need a couple of thousand bilateral ones to secure the interest of migratory birds!

National legislation

Many countries do protect bird species on their territory, including migratory species. However, some countries have also developed specific legislation for the protection of migratory species; examples include the USA and Australia.

Other initiatives important for migratory waterbirds

A very large number of other international conventions, treaties and regional co-operating bodies can help protect migratory waterbirds: the Convention of Algiers, OSPAR, Western Hemisphere Convention, regional treaties in Africa, Asia and North America (NAFTA). Many such bodies have structures in place, such as environmental committees, that can address waterbird conservation as an integral part of biodiversity and habitat conservation (see Boere & Rubec 2002). A good example is the *Working Group on the Conservation of Arctic Fauna and Flora* (CAFF). The CAFF Working Group plays an important role co-ordinating conservation, research and sustainable use efforts at a circumpolar level. The Arctic is in fact the main "source" for many of the waterbird species populating the various flyways around the world. CAFF also initiated the publication of a comprehensive overview report on the "Conservation of Migratory Arctic Breeding Birds outside the Arctic".

For the Arctic breeding grounds of so many waterbird species, the possible effect of climate change is important and may have a negative influence on distribution and populations. In this regard, actions underway within the *UN Framework Convention on Climate Change* should have an important long-term effect.

RESEARCH

While the need for information for the various conventions, treaties, policy documents and so on is enormous, resources for (applied) research are even scarcer than for conservation actions. Much of the basic information needed for effective conservation and management of migratory birds is limited or even completely lacking.

Many of the international conventions have technical and scientific institutions that advise on research and data collection priorities and translate scientific information into policy proposals. Examples of such bodies are:

- *The Scientific and Technical Review Panel of the Ramsar Convention* (a relatively small team of experts); meetings are open to observers on invitation.
- *The Scientific Council of the Bonn Convention* with a representative of each party (over seventy) and a large number of experts. Council meetings are open to observer countries and a number of NGOs.
- *The Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biodiversity*. This is a large body with representatives of all parties and meetings are of hundreds of people, including many NGOs.
- *Subsidiary Body for Scientific and Technical Advice for the Framework Convention on Climate Change*, however the independent International Panel on Climate Change is effectively the scientific body.

The level of information available is extremely biased towards developed countries, notably Western Europe and North America, despite the exchange of experts and training facilities available for developing countries.

I outline below some of the priorities for data collection and research, as seen through the eyes of the policy makers, to help them answer the conservation and management questions arising from the policies described in this paper.

- More and detailed information on migration routes and the importance of staging posts.
- Long-term influences of climate change (particularly in the Sahel and the Arctic) on bird populations; including an analysis of existing databases containing long-term monitoring data.
- Long term influences of large scale logging of tropical forests
- Impacts of ecological changes in the wintering areas of migratory birds.
- Impact of coastal and shallow-water fisheries (for flat fish) on wintering birds.
- Population effects of harvesting birds for food (i.e. not sports hunting).
- More work on the value of birds as bio-indicators.
- A global overview of all Important Bird Areas.

CONCLUSIONS

General

There are numerous well-developed international arrangements, with wide geographical coverage, available to further the interests of bird conservation. While some, such as flyway agreements, could usefully be developed further, much can be achieved with existing treaties, conventions and initiatives. It is, however, important that people know of their existence, so that pressure can be applied on governments to deliver on the obligations to which they are signatories. In this, the role of NGOs is vital. The International Wader Study Group is one such NGO and is one to which the "Convention Paradox" applies.

It is also very clear that to function effectively, many treaties require a certain minimal infrastructure, such as a secretariat, regular meetings of the parties, and implementation strategies, as well as plans that are supported by adequate

funding. Increasingly, international arrangements develop their own work plans, and the larger ones, such as the Convention on Biological Diversity, have a fast growing influence on the way governments and NGOs set their own priorities at the global level. Therefore it is essential that bird conservation issues continue to be addressed in these fora, not only in relation to species, but also the conservation of their habitats and ecosystems.

Flyway conservation

In the more specific case of flyway conservation, the following additional conclusions can be formulated:

- Migratory waterbirds are a biodiversity resource shared by all countries of the world; conserving and sustainably using them helps to protect the biodiversity of many countries at the same time.
- Most species are highly migratory covering large distances, concentrating in large numbers at often a small number of places, making them vulnerable to external influences; but attractive for bird-watching and ecological tourism at the same time.
- The flyway concept supports the ecosystem approach by protecting several habitat types at the same time in order to provide breeding, resting and non-breeding areas during the whole annual cycle.
- Range States are really forced to work together to conserve migratory species because of the interest they share in conserving each others biodiversity and assuring that use of species in one country is co-ordinated with others in order to avoid unsustainable use of populations.
- Monitoring and research of migratory waterbirds is relatively well-developed and is providing models for population ecology, fundamental research on ecology and migration of species and it involves large numbers of volunteers.
- The *Convention on the Conservation of Migratory Wild Animals* is involved in many migratory waterbird initiatives and can provide the global and legal framework necessary for international co-operation.

The planned international conference, *Waterbirds Around the World*, 3–8 April 2004 in Edinburgh, UK, will be entirely focussed on the whole spectrum of issues related to global waterbird flyways. Hopefully this will lead to the adoption of a final declaration that will be an important input into the decision-making processes of the intergovernmental fora mentioned above. In WSG terminology: "the Odessa Protocol, revisited, updated and enlarged!"

REFERENCE

This article is an updated summary of a more extensive analysis of international legislation relevant to bird conservation contained in:

Boere, G.C. & Rubec, C.D.A. 2002. Conservation policies and programmes affecting birds. pp. 246–270 in: Norris & Pain (eds.) *Conserving Bird Biodiversity; general principles and their application*. Cambridge University Press, Cambridge.