

AEWA Conservation Guidelines No. 1

Guidelines on the preparation of
National Single Species Action Plans for
migratory waterbirds



Introduction

In Article II of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds, Parties agree, as a fundamental principle, to take co-ordinated measures to maintain migratory waterbird species in a favourable conservation status or to restore them to such a status. To this end, the Parties agree to apply within the limits of their national jurisdiction a number of general conservation measures prescribed in Article III of the Agreement, as well as a number of more specific actions determined in the Action Plan appended to the Agreement. In paragraph 7.3 of the Action Plan, the Agreement Secretariat is required to co-ordinate the development of a series of Conservation Guidelines to assist the Parties in the implementation of their obligations under the Agreement. These Conservation Guidelines, which should be prepared in co-ordination with the Technical Committee and with the assistance of experts from Range States, were submitted to the First and Second Meetings of the Parties, which recommended publication after minor amendment, and further recommended regular review (Article IV, paragraph 4 of the Agreement). The Technical Committee keeps the guidelines under review, and formulates draft recommendations and resolutions relating to their development, content and implementation for consideration at sessions of the Meeting of the Parties (paragraph 7.6 of the Action Plan).

Paragraph 7.3 of the Action Plan gives a list of some of the topics that should be covered by the Conservation Guidelines. These are as follows:

- (a) single species action plans;
- (b) emergency measures;
- (c) preparation of site inventories and habitat management methods;
- (d) hunting practices;
- (e) trade in waterbirds;
- (f) tourism;
- (g) reducing crop damage;
- (h) a waterbird monitoring protocol.

Preparation of the Conservation Guidelines was identified as a major activity in the *International Implementation Plan for the Agreement on the Conservation of African-Eurasian Migratory Waterbirds 1997-1999*, prepared by Wetlands International in April 1997 with financial support from the Ministry of Agriculture, Nature Management and Fisheries in The Netherlands. Activity 3 of the *Implementation Plan* involved the preparation of nine sets of conservation guidelines, following the list in paragraph 7.3 of the Action Plan, but treating site inventories and habitat management methods as two separate topics. These Guidelines were accepted by the first Meeting of the Parties in Cape Town, South Africa, in November 1999, subject to minor amendment. The necessary amendments were made after discussion by the Technical Committee, and the amended version of the Conservation Guidelines was accepted by the second Meeting of the Parties to the Agreement in Bonn, Germany, in September 2002.

The nine sets of guidelines, as set out in the *Implementation Plan* and presented here, are as follows:

1. Guidelines on the preparation of Single Species Action Plans for migratory waterbirds

In paragraph 2.2.1 of the Action Plan, Parties are required to co-operate with a view to developing and implementing international single species action plans for populations listed in Category 1 in Column A of Table 1 as a priority and also for those populations listed with an asterisk in Column A of Table 1. Furthermore, in paragraph 2.2.2, Parties are required to prepare and implement national single species action plans for all those populations listed in Column A of Table 1 with a view to improving their overall conservation status. The Agreement Secretariat is required to co-ordinate the development, harmonisation and implementation of these plans. The present guidelines focus on national single species action plans. They outline a standard procedure for the preparation of such action plans, and identify the priority species

and populations occurring in the Agreement Area.

2. Guidelines on identifying and tackling emergency situations for migratory waterbirds

In some situations, populations of waterbirds can suddenly be subjected to much higher levels of mortality than normal. These emergency situations can arise as a result of natural phenomena, such as periods of exceptionally cold weather or prolonged droughts, or as a result of man-made disasters, such as major pollution incidents. International co-operation is required to address these situations without delay. In Article III, paragraph 2 (f) of the Agreement, Parties agree to co-operate in emergency situations requiring international concerted action and in identifying the species of migratory waterbirds, which are the most vulnerable to these situations. Furthermore, Parties agree to co-operate in developing appropriate emergency procedures to provide increased protection to these species in such situations. In paragraph 2.3 of the Action Plan, Parties are required, in close co-operation with each other whenever possible and relevant, to develop and implement emergency measures for populations listed in Table 1, when exceptionally unfavourable or endangering conditions occur anywhere in the Agreement Area. At its third session, the AEWA Technical Committee adopted criteria to define emergency situations, which require urgent conservation measures, and determined the modalities for assigning responsibility for action to be taken (Article VI, paragraph 7 (e) of the Agreement). The present guidelines identify many of the possible emergency situations that may arise, and outline procedures for establishing early warning systems and tackling these situations at national level.

3. Guidelines on the preparation of site inventories for migratory waterbirds

In Article III, paragraph 2 (c) of the Agreement, Parties are required to identify sites and habitats for migratory waterbirds occurring within their territory. More specifically, in Paragraph 3.1.1 of the Action Plan, Parties are required, in liaison where appropriate with competent international organisations, to undertake and publish national inventories of the habitats within their territory, which are important to populations listed in Table 1. Parties should endeavour, as a matter of priority, to identify all sites of international or national importance for populations listed in Table 1 (Paragraph 3.1.2). These guidelines develop a step-wise approach to the inventory process, which takes full advantage of existing regional and national wetland inventories and lists of sites important for migratory waterbirds.

4. Guidelines on the management of key sites for migratory waterbirds

In Article III, paragraph 2 (c) of the Agreement, Parties are required to encourage the protection, management, rehabilitation and restoration of sites and habitats for migratory waterbirds occurring within their territory. More specifically, in Paragraph 3.2.1 of the Action Plan, Parties are required to endeavour to continue establishing protected areas to conserve habitats important for the populations listed in Table 1 of the Action Plan, and to develop and implement management plans for these areas. These guidelines set forth the basic procedures for the design and implementation of management plans, with special reference to sites of importance for migratory waterbirds.

5. Guidelines on sustainable harvest of migratory waterbirds

If populations of migratory waterbirds are to be maintained in a favourable conservation status, it is essential that any exploitation of these populations be carried out on a sustainable basis. Article III, paragraph 2 (b) of the Agreement requires that Parties ensure that any use of migratory waterbirds is based on an assessment of the best available knowledge of their ecology, and is sustainable for the species as well as for the ecological systems that support them. In paragraph 4.1.1 of the Action Plan, Parties are required to co-operate to ensure that their hunting legislation implements the principle of sustainable use as envisaged in the Action Plan, taking into account the full geographical range of the waterbird populations concerned and their life history characteristics. The present guidelines promote the establishment of 'harvest frameworks' at both international and national levels, and identify a series of steps to assist Range States in adopting a sustainable approach to the harvesting of waterbirds.

6. Guidelines on regulating trade in migratory waterbirds

Paragraph 7.3 of the Action Plan requires that guidelines be provided on the regulation of trade in

waterbirds. Although it seems that there is relatively little international trade in migratory waterbirds in the Agreement Area, national (or domestic) trade can be very high, involving annual harvests of many thousands of birds for sale as food in local markets. In some areas, such trade may be of considerable importance to the local economies. These guidelines concern both international and domestic trade, and offer practical advice on how trade in waterbirds can be regulated within the framework of sustainable harvests.

7. Guidelines on the development of ecotourism at wetlands

The development of ecotourism based on spectacular concentrations of migratory waterbirds can not only increase support amongst the general public for waterbird conservation, but can also, if properly managed, provide a valuable source of income for local people with negligible harm to the environment. In Paragraph 4.2.1 of the Action Plan, Parties are required to encourage, where appropriate, the elaboration of co-operative programmes to develop sensitive and appropriate ecotourism at wetlands. Furthermore, in Paragraph 4.2.2, Parties are required, in co-operation with competent international organisations, to endeavour to evaluate the costs, benefits and other consequences that can result from ecotourism at wetlands with concentrations of waterbirds. The present guidelines examine a wide range of issues relating to nature-oriented tourism in general, and offer practical advice for the sensitive development of ecotourism at wetlands important for migratory birds.

8. Guidelines on reducing crop damage, damage to fisheries and other forms of conflict between waterbirds and human activities

Changes in population levels and distribution of waterbirds, combined with an intensification of agriculture and aquaculture, have led to increased conflicts between some waterbird species and human activities, notably agriculture, aquaculture, and commercial and recreational fisheries. With the great increase in air traffic in recent decades, many large waterbirds now pose a serious hazard to aircraft. In Paragraph 4.3.2 of the Action Plan, Parties are required to endeavour to gather information on the damage, in particular to crops, caused by populations listed in Table 1, and report the results to the Agreement Secretariat. In paragraph 4.3.3, Parties are required to co-operate with a view to identifying appropriate techniques to minimise the damage, or to mitigate the effects of damage, in particular to crops, caused by populations of waterbirds listed in Table 1. The present guidelines examine the major causes of conflict between migratory waterbirds and agriculture, fisheries and aviation, outline procedures for investigating the problems, and suggest a number of measures that can be taken to reduce the damage.

9. Guidelines for a waterbird monitoring protocol

Populations of all migratory waterbirds in the Agreement Area should be monitored on a continuous basis to determine population trends and to provide an early-warning system for species in difficulty. This will enable appropriate measures to be implemented before the populations fall to dangerously low levels. Paragraph 5.2 of the Action Plan requires that Parties endeavour to monitor the populations of waterbirds listed in Table 1, and make the results of such monitoring available to appropriate international organisations, to enable reviews of population status and trends. Paragraph 5.3 requires that they co-operate to improve the measurement of bird population trends as a criterion for describing the status of such populations. In Paragraph 5.8, Parties agree to co-operate with relevant international organisations to support research and monitoring projects. The present guidelines examine the value of monitoring in the conservation of migratory waterbirds, review existing monitoring practices, and provide guidance on the development of national waterbird monitoring schemes that are most appropriate for international conservation efforts.

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and

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Step chart

In the preparation of national Single Species Action Plans, each country should take the following steps:

Step 1: Identify a co-ordinator and agencies to be involved in the development and implementation of national Single Species Action Plans (SSAPs).

Step 2: Identify and prioritise the species in need of a SSAP.

Step 3: Identify working groups and sources of information for each species.

Step 4: Produce a status report as a background document for each SSAP.

Step 5: Produce the actual SSAPs using a standardised format.

Step 6: Implement the SSAPs.

Step 7: Monitor the implementation and impact of the SSAPs.

Introduction

A Single Species Action Plan (SSAP) is defined as a prescriptive plan for a species or a population of a species, aimed at maintaining that species in a favourable conservation status or restoring it to that status.

Why do we need SSAPs? All over the world, there is a tendency towards a more ecosystem-oriented approach in nature conservation, as opposed to species-oriented protection. With the species-oriented approach, there is always the risk of favouring one species at the expense of other valuable species, possibly from other groups of animals or plants, of which the conservation body responsible for protection may not even be aware.

However, some species cannot be adequately protected by ecosystem - or habitat-oriented measures alone. During migration, waterbirds may depend on locations that cannot be fully protected, or they may be particularly threatened by developments on their breeding grounds, at specific staging areas, or on their wintering grounds. Because migratory species cross national boundaries, it is essential that measures for the protection of these species and conservation of their habitats be co-ordinated at an international scale. Single Species Action Plans may help to achieve this co-ordination.

Parties to the African-Eurasian Waterbird Agreement (AEWA) are obliged to co-operate with a view to developing and implementing *international* SSAPs for those populations of migratory waterbirds with the least favourable conservation status. These are the populations listed in Category 1 in Column A of Table 1 in the Action Plan and the populations marked with an asterisk in Column A of Table 1 (Paragraph 2.2.1 in the Action Plan). Parties are also obliged to prepare and implement *national* SSAPs for all populations of waterbirds listed in Column A of Table 1 (Paragraph 2.2.2 in the Action Plan).

The relationship between international and national SSAPs is controversial. Some people argue that it is not practical to draw up a national SSAP when no international SSAP is available, and that the international SSAP should always come first. This may be true for globally threatened species, but for species in which only certain populations have an unfavourable conservation status, a national SSAP may be more appropriate.

A compromise may be a regional SSAP, in which two or more neighbouring countries combine their efforts and resources, although it should be remembered that the AEWA Action Plan specifically calls for SSAPs at the national level (Paragraph 2.2.2 in the Action Plan).

It should be noted that there is an inverse relationship between the level of detail needed in SSAPs and their geographical scope. Thus, international SSAPs may be more general in character, while national SSAPs should give more practical details. International and national SSAPs may overlap greatly, but they are not the same, and the existence of either one does not mean that there is no need for the other.

These guidelines are concerned primarily with the preparation and implementation of national Single Species Action Plans, although most of the activities involved are equally applicable to international Single Species Action Plans. Seven major steps are identified.

Step 1: Identify a co-ordinator and agencies to be involved in the development and implementation of national Single Species Action Plans (SSAPs)

Whether or not to embark on a SSAP initiative at national level will depend on capacity and priorities with respect to other AEWA related activities and obligations.

The initiative for setting up a SSAP task force lies with the national AEWA focal point, usually a person in the ministry responsible for nature conservation or wildlife/game management. This person should appoint a project (task force) co-ordinator, who need not be a government employee, but could come from an institute, university, consultancy or NGO dealing with conservation or wildlife/game management, provided he/she can obtain sufficient government support (financial and logistical) to fulfil his/her task.

The AEWA focal point and task force co-ordinator should investigate funding options within the government and elsewhere, and identify other team members, at two levels:

- the permanent task force,
- temporary species working groups, on a project basis.

The permanent task force should prioritise species (Step 2), identify sources, authors and working groups for each species (Step 3), and maintain contact with the AEWA Secretariat for co-ordination and the AEWA Technical Committee for technical advice.

The species working groups should include not only the authors of the SSAPs, but also representatives of the major stakeholders at grassroots level, to ensure that in the implementation phase, plans are carried out with care, sensitivity and open-mindedness to all points of view (Step 3).

Plans for SSAPs may be presented to funding agencies as attractive, well-defined projects. Such projects should consider preparation of the actual SSAP as phase 1 of a process, and should already envisage implementation as phase 2. This distinction should be maintained in the budget, as the costs of phase 1 can be estimated much more accurately than those of phase 2 (which depend on the outcome of phase 1).

Step 2: Identify and prioritise the species in need of a SSAP

The AEWA Action Plan calls for national SSAPs for all populations listed in Column A of Table 1 in the Action Plan. A list of these populations is given in Appendix I to these guidelines.

Highest priority should be given to populations listed in Category 1 in Column A. These are:

- Populations of species that are included in Appendix I to the Bonn Convention (Category 1a).
- Populations of species that are listed as globally threatened in the *IUCN Red List of Threatened Animals* (Category 1b).
- Populations that number less than around 10,000 individuals (Category 1c).

These populations and the populations listed in Categories 2 and 3 in Column A and marked with an asterisk should be the subjects of both international and national SSAPs. Only national SSAPs are required for the other populations listed in Categories 2 and 3 in Column A.

Priority 1: Globally Threatened species

In these guidelines, the designation 'Globally Threatened species' is based on the *2000 IUCN Red List of Threatened Species*, which differs slightly from the 1996 version of this list, and from Appendix I to the Bonn Convention.

The following migratory waterbirds occurring in the AEWA area are currently listed as globally threatened:

- Slaty Egret - *Egretta vinaceigula*
- Northern Bald Ibis (Waldraap) - *Geronticus eremita*
- White-headed Duck - *Oxyura leucocephala*
- Lesser White-fronted Goose - *Anser erythropus*
- Red-breasted Goose - *Branta ruficollis*
- Marbled Teal - *Marmaronetta angustirostris*
- Siberian Crane - *Grus leucogeranus*
- Blue Crane - *Grus paradisea*
- Wattled Crane - *Grus carunculatus*
- Sociable Lapwing - *Vanellus gregarius*
- Slender-billed Curlew - *Numenius tenuirostris*

All of these species except Slaty Egret, Blue Crane and Wattled Crane are also included in Appendix 1 to the Bonn Convention. All of them are now also listed in Category 1 in Column A of Table 1 in the AEWA Action Plan. Appendix 1 to the Bonn Convention also includes Audouin's Gull *Larus audouinii*, but this species has shown a remarkable recovery in recent years, and is now considered by IUCN to be 'near-threatened' rather than globally threatened (see below).

To help individual countries select priority species for national SSAPs, Appendix II to these guidelines gives an overview of the occurrence of globally threatened migratory waterbirds in the AEWA Range States (see also Box 1).

Box 1: Top 11 AEWA countries regularly hosting Globally Threatened migratory waterbird species

Number of Globally Threatened waterbird species per country (for details, see Appendix II)

Russian Federation	7
Kazakhstan	6
Turkey	5
Azerbaijan	4
Bulgaria	4
Greece	4
Iran	4
Romania	4
Syria	4
Turkmenistan	4
Uzbekistan	4

Appendix 1 to the Bonn Convention includes the Palearctic populations of the Great White Pelican *Pelecanus onocrotalus*. Although this species is not globally threatened, the population breeding in Europe and Western Asia has a highly unfavourable conservation status, and should therefore also be considered as one of the highest priorities for a SSAP.

Priority 2: Populations that number less than around 10,000 individuals

These small populations, although not necessarily declining or under imminent threat, give cause for concern because of their extreme vulnerability to sudden change and catastrophic events. In some cases, the loss of even a single site may have a disastrous effect on the population. Most of the populations concerned have very restricted distributions, often confined to only a few countries.

Priority 3: Populations marked with an asterisk in Column A of Table 1

These populations, listed in Categories 2 or 3 in Column A of Table 1, are considered to have an unfavourable conservation status only by virtue of their small population size. The AEWA Action Plan makes an exception for these populations to allow hunting to continue on a sustainable basis where hunting is a long-established cultural practice (Paragraph 2.1.1 in the Action Plan). The national SSAPs for these populations should therefore include provisions for sustainable use, where appropriate. This sustainable use should be conducted within the framework of special provisions of a species action plan at the appropriate international level (Paragraph 2.1.1 of the Action Plan).

Priority 4: Other populations in Column A of Table 1

These are populations listed in Categories 2 or 3 in Column A of Table 1 in the Action Plan and not marked with an asterisk.

Category 2: Populations numbering between around 10,000 and around 25,000 individuals.

Category 3: Populations numbering between around 25,000 and around 100,000 individuals and considered to be at risk as a result of:

- (a) concentration onto a small number of sites at any stage of their annual cycle;
- (b) dependence on a habitat type which is under severe threat;
- (c) showing significant long-term decline; and
- (d) showing extreme fluctuations in population size or trend.

Only national SSAPs are required for these populations.

The 2000 IUCN Red List of Threatened Species lists 11 species of migratory waterbirds occurring in the AEWA area as 'near-threatened' or 'conservation dependent'.

- Dalmatian Pelican - *Pelecanus crispus*
 - Pygmy Cormorant - *Phalacrocorax pygmeus*
 - Socotra Cormorant - *Phalacrocorax nigrogularis*
 - Madagascar Pond Heron - *Ardeola idae*
 - Lesser Flamingo - *Phoenicopterus minor*
 - Ferruginous Duck - *Aythya nyroca*
 - Steller's Eider - *Polysticta stellerii*
 - Great Snipe - *Gallinago media*
 - White-eyed Gull - *Larus leucophthalmus*
 - Audouin's Gull - *Larus audouinii*
 - Damara Tern - *Sterna balaenarum*
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- Black-winged Pratincole – *Glareola nordmanni* is in decline in many areas but is listed as Data Deficient

These species, except for *Phalacrocorax pygmeus* and *Gallinago media*, are now accepted for inclusion in Column A of Table 1 in the AEWA Action Plan: The Dalmatian Pelican, Pygmy Cormorant, Ferruginous Duck, Steller's Eider and Audouin's Gull were previously considered to be globally threatened, and have already been the subjects of international SSAPs.

Step 3: Identify working groups and sources of information for each species

It is essential that the species working group includes not only the authors of the SSAP, but also the stakeholders at all levels, from the very start. This greatly facilitates acceptance and successful implementation of the Action Plan. SSAPs should never adopt the sort of top-down approach that does not take into account the concerns of people living and working in the places where the species in need of an SSAP occurs. Such an approach may increase tensions and problems, and may prove counterproductive. Stakeholders should be fully involved in the SSAP process from the beginning, so that they feel they 'own' the plan and have a personal interest in its successful implementation.

Members of the working group may be sought within:

- the government (departments responsible for environment, water resources, fisheries, agriculture, infrastructure *etc.*) and statutory agencies;
- universities;
- BirdLife International Partners and representatives of other relevant NGOs;
- specialised institutes;
- hunters' organisations;
- the national co-ordinator of the International Waterbird Census (IWC, including the African Waterbird Census AfWC);
- other stakeholders (*e.g.* landowners, farming and fisheries representatives).

Working groups will vary in their composition depending on the species concerned, although there is likely to be overlap between different working groups, both in members and in time.

Useful sources of information may include:

- existing Action Plans;
- other literature on the species concerned;
- scientific databases;
- expert knowledge;
- field research, to fill in any gaps identified from the above.

Authors should be sought from within the country, and do not necessarily have to be specialists on the species concerned, but must have strong communication skills. If necessary, one or more specialists can be brought in as co-authors.

Experts can also be found in other countries, through international networks, either through government contacts, or through international and national NGOs. These experts should be selected for their expertise on:

- the species concerned;
- drafting other action plans;
- management and restoration practices.

Existing international SSAPs can be used as a source of information for the following:

- Pygmy Cormorant, Dalmatian Pelican, Lesser White-fronted Goose, Red-breasted Goose, Marbled Teal (see Box 2), White-headed Duck, Slender-billed Curlew and Audouin's Gull (Heredia *et al.*, 1996);
- Ferruginous Duck (Callaghan, 2001);
- Steller's Eider (Pihl, 2001);
- Roseate Tern (BirdLife International, in prep.);
- Greenland White-fronted Goose (Stroud, 1992).

Global Action Plans for groups of species relevant to the AEWA area have been, or are being, compiled for the following:

- Grebes (O'Donnell & Fjeldsa, 1997);
- Herons (Kushlan & Hafner, 2000);
- Cranes (Meine & Archibald, 1996);

- Anseriformes (Threatened Waterfowl Specialist Group, in prep.);
- Eiders (Circumpolar Seabird Working Group, 1997).

Many national SSAPs have been produced, and their number is increasing rapidly. The members of a national working group should be able to find out which national SSAPs are already available in their country without too much difficulty.

Box 2: The Marbled Teal in Spain

The Marbled Teal *Marmaronetta angustirostris* has a restricted range in the Mediterranean and the Middle East, where it was formerly common in eutrophic wetlands rich in submerged and emergent aquatic vegetation. It often favours temporary wetlands and other wetlands that fluctuate widely in size, depending on water levels, rainfall and drought.

Many Mediterranean wetlands have been destroyed or severely degraded, and water levels have been reduced almost everywhere. In Spain, where the species was once numerous, it came close to extinction. Full protection for the species and designation of reserves did not stop the decline.

Various Action Plans were prepared on a global, national and regional scale.

Research revealed that at its last remaining resorts, the Marbled Teal was suffering unacceptably high mortality from:

- shooting by hunters who did not recognise the bird, or had no respect for its protected status;
- broods becoming trapped in concrete irrigation canals;
- birds being killed in crayfish traps;
- lead poisoning.

Hunting bans in the core areas, construction of escape routes from irrigation canals, and local bans on crayfish traps led to an increase in the population from a low point of 35 pairs in 1994 to about 160 pairs in 1998. Further expansion of the population will now be dependent on the restoration of suitable habitat.

(Source: Andy Green)

Step 4: Produce a status report as a background document for each SSAP

SSAPs have to be read by government officials and other people with limited time. Therefore, it is recommended that authors limit the size of their national SSAPs to about 10 pages, following the examples in *Globally threatened birds in Europe: Action plans*, published by the Council of Europe in 1996. Extensive descriptive information in the form of a species status report can be placed in a separate background document, to which the SSAP can refer.

As with SSAPs, there is a controversy about the usefulness of national status reports versus international status reports. As the status report is not a formal part of the SSAP, countries have greater freedom to combine their efforts, and should base their choice between an international, regional or national species status report on the availability of information and resources.

No fixed format is proposed for the species status report, but the report should, as a minimum, include the following:

- Geographical range;
- Species information (many sub-headings are possible);
- Environmental information (many sub-headings are possible);
- Ecological relationships and implications for conservation;
- Bibliography.

Geographical range should cover the breeding, moulting, 'wintering' and migration periods, each of which will be different and may impose different strategic requirements on the species. Special attention should be given to key sites at any time in the annual cycle, and numbers of individuals (or percentage of the flyway population) using the key sites.

Species information includes:

- reference to existing important studies on the species;
- numbers and trends of breeding and non-breeding populations;
- information on breeding ecology and ecology at staging and wintering areas;
- food and feeding ecology;
- habitat requirements during the breeding and non-breeding seasons;
- population dynamics (mortality, productivity, recruitment, turnover).

Environmental information includes:

- habitat changes in the past, present and future which may affect the occurrence of the species;
- changes in land use at key sites;
- other threats, including threats from both human and natural causes (note that natural causes are often indirectly related to human causes);
- environmental enhancement schemes currently operating in the area.

Ecological relationships and implications for conservation include:

- effects of habitat changes;
- habitat management and the response of the species to management (if known);
- habitat fragmentation and site networks;
- food abundance;
- use of food by competitors, including man;
- competition with other species (including introduced species), predation and disease;
- additional mortality factors, and (if applicable) mitigation.

Step 5: Produce the actual SSAPs using a standardised format

A recommended general format for a national SSAP is as follows:

Executive summary

Introduction

Chapter 1. Current status

Distribution and population

Life history

Threats and limiting factors

Conservation status and recent conservation measures

Key sites

Chapter 2. Objectives

Population development

Policy and legislation

Species and habitat protection

Monitoring and research

Public awareness and training

Chapter 3. Implementation

Lead agencies

Actions (including timetable)

Evaluation

Sources

Literature

Experts

This general format combines recommendations and examples adopted by the Council of Europe and IUCN Species Survival Commission. Close adherence to this fixed format throughout the AEWA area is essential to ensure the compatibility of national SSAPs covering the same species in different Range States.

Chapter 1: Current Status

This chapter briefly summarises the status report. Of special interest is the list of key sites, which is not always given in international SSAPs, but is essential for national SSAPs.

The chapter should include details of threats and limiting factors. A separate paragraph should describe each of the threats and the factors, which affect population sizes. These should be ranked on the following scale of importance:

Critical: a factor that could lead to the extinction of the species or sub-species in 20 years or less

High: a factor that could lead to a decline of more than 20% of the population in 20 years or less

Medium: a factor that could lead to a decline of less than 20% of the population in 20 years or less

Low: a factor that is only affects the species or sub-species at a local level

Unknown: a factor that is likely to affect the species or sub-species but it is unknown to what extent

Chapter 2: Objectives

The general objective of a national SSAP should be to improve the overall conservation status of the species concerned (Paragraph 2.2.2 in the Action Plan). Specific objectives relating to population development might include reaching a target population size, stabilising a downward trend, or setting limits to acceptable change. Depending on feasibility, objectives can be set for a five- or ten-year period, or left open-ended. Objectives may be revised after a specified period (e.g. five or ten years) if, for example, the situation changes. Similarly, objectives relating to policy and legislation may be very specific in describing the laws that

need to be introduced, or may be concerned more generally with a change in the direction of policy development.

Chapter 3: Implementation

Defining the required actions is the most difficult part of drafting a SSAP. Actions must be clearly linked to the objectives, and are the actual means of meeting these objectives. Therefore, it is essential that the objectives are realistic and that the associated actions are feasible. In the design of actions and allocation of responsibility for implementation, it is essential that there is close communication between the working group and the stakeholders. Actions must also be prioritised, taking into account biological needs, urgency, likelihood of success, cost and other factors that may vary from species to species. In brief, actions should be:

- well defined;
- realistic;
- measurable (to allow monitoring);
- budgeted;
- given a timetable for initiation and completion;
- allocated to appropriate bodies or individuals for implementation.

An indication of the priority of each action point should be given, according to the following scale:

Essential: an action that is needed to prevent a large decline in the population, which could lead to the species or sub-species extinction

High: an action that is needed to prevent a decline of more than 20 % of the population in 20 years or less

Medium: an action that is needed to prevent a decline of less than 20% of the population in 20 years or less

Low: an action that is needed to prevent local population declines or which is likely to have only a small impact on the population across the range

Additionally, time scales should be attached to each action using the following criteria:

Immediate: completed within the next year

Short: completed within the next 1-3 years

Medium: completed within the next 1-5 years

Long: completed within the next 1-10 years

Ongoing: an action that is currently being implemented and should continue

Completed: an action that was completed during preparation of the AP

The AEWA Action Plan calls for the preparation of many national SSAPs. Since these will be crossing the desks of very busy people, the Executive Summary is particularly important, as stressed by IUCN. It should be attractive, informative and less than one page in length, and should give the reader:

- an explanation of why the species needs a SSAP (threats);
- the goal of the plan;
- a list of activities and the partners involved;
- some remarks on validation and timetable.

Copies of the national SSAPs should be submitted to the AEWA Secretariat and the AEWA Technical Committee.

Step 6: Implement the SSAPs

The actions to be taken are usually so species-specific that no general guidelines can be given.

Activities should be planned for an initial project period of five years, although many populations are unlikely to show a significant response within ten years. An evaluation after the first five-year period may or may not result in a decision being taken to seek funding for a second five-year period, but a final decision to abandon the project should not be taken until after ten years.

The amount of money required for the project will vary enormously from case to case. As the drafting and implementation of SSAPs within the AEWa framework are government commitments, funding should primarily be the responsibility of the government. However, in practice it will not always be feasible to mobilise government funding. Where government funding is not available, funds can be sought from international and national NGOs, international funding agencies or the corporate sector. Raising public awareness is an essential part of the implementation of SSAPs, and can be especially useful in mobilising funds.

Step 7: Monitor the implementation and impacts of the SSAPs

Monitoring should be planned and budgeted from the start.

An annual report should be produced containing:

- population estimates for each site (if appropriate);
- trends;
- activities carried out;
- discussion on effectiveness of measures taken;
- a financial report;
- plans for the following year.

The annual report should be kept as brief as possible, and should be submitted to the AEWA Secretariat, the national AEWA focal point and the sponsors.

Every five years, a more extensive evaluation report should be produced. This may lead to a revision of the SSAP. The evaluation report should compare results with the targets set out in the objectives of the plan. Success indicators are an increase in population or some other favourable change in population status (*e.g.* halting a decline after the removal of a man-induced threat).

A logical partner in the monitoring process would be the national co-ordinator of the International Waterbird Census (IWC), if such a person has been appointed.

References and useful web sites

1. ACTION PLANS

References and further reading

- Circumpolar Seabird Working Group 1997. *Circumpolar Eider Conservation Strategy and Action Plan*. CAFF Conservation of Arctic Flora and Fauna.
- Collar, N.J., M.J. Crosby & A.J. Stattersfield 1994. *Birds to Watch 2: The World Checklist of Threatened Birds*. BirdLife Conservation Series No.4. BirdLife International, Cambridge, U.K.
- Council of Europe 1997. *Drafting and implementing action plans for threatened species. Workshop, Bértiz, Navarre (Spain), 5-7 June 1997*. Environmental Encounters 39. Council of Europe Publishing, Strasbourg, France.
- Gimenez Dixon, M. 1996. The IUCN/SSC action plans for species conservation, concepts and basic guidelines. *Gibier Faune Sauvage, Game and Wildlife* 13: 1143-1152.
- Heredia, B., L. Rose, & M. Painter (eds.) 1996. *Globally threatened birds in Europe: Action Plans*. BirdLife International, Cambridge and Council of Europe, Strasbourg, France.
- Hilton-Taylor, C. (Compiler) 2000. *2000 IUCN Red List of Threatened Species*. IUCN, Gland, Switzerland and Cambridge, U.K.
- Meine, C.D. & G.W. Archibald 1996. *The Cranes: Status Survey and Conservation Action Plan*. IUCN, Gland, Switzerland and Cambridge, U.K.
- O'Donnell, C. & J. Fjeldsa 1997. *Grebes: Status Survey and Conservation Action Plan*. IUCN, Gland, Switzerland and Cambridge, U.K.
- Pihl, S. 1997. *European Species Action Plan: Steller's Eider Polysticta stelleri*. In: Final Technical Report and Claim, 1 March 1996 – 30 November 1997. Species Action Plans for 8 European Threatened Bird Species. RSPB, Sandy, U.K.
- RSPB 1997. *Species Action Plans for 8 European threatened species*. Royal Society for the Protection of Birds, Sandy, U.K.
- Stroud, D.A. 1992. *Greenland White-fronted Goose Anser albifrons flavirostris: International Conservation Plan*. National Parks and Wildlife Service of the Office of Public Works, Ireland, and the International Waterfowl and Wetlands Research Bureau, Slimbridge, U.K.
- Threatened Waterfowl Specialist Group. In prep. *Global Action Plan for the Conservation of Anseriformes (Ducks, Geese, Swans and Screamers)*. IUCN, Gland, Switzerland.

Useful web sites

- AEWA Action Plans can be found at:
http://www.unep-aewa.org/publications/technical_series.htm
- Action Plans for EC Birds Directive Annex 1 species can be found at:
<http://europa.eu.int/comm/environment/nature/directive/birdspriority.htm>
- IUCN Species Survival Commission Specialist Groups
<http://www.iucn.org/themes/ssc/sqs/sqs.htm>
- IUCN Species Survival Commission Specialist Groups Action Plans
<http://www.iucn.org/themes/ssc/pubs/sscaps.htm>

2. EMERGENCY SITUATIONS

References and further reading

- Beintema, N. 2001. *Lead poisoning in waterfowl, International Update Report 2001*. Wetlands International – AEME, Wageningen, The Netherlands.
- Gibbons, D.W., Smith, K.W., Atkinson, P., Pain, D., Arendt, W.J. Gray, G., Hartley, J., Owen, A. & Clubbe, C. 1998. After the Volcano: a future for the Montserrat Oriole? *RSPB Conservation Review* 12: 97-101.

- Stanners, D. & P. Bourdeau (eds.) 1991. *The Dobbris Assessment*. European Environment Agency, Copenhagen, Denmark. See also web site.
- Stroud, J.M. 1992. *Statutory suspension of wildfowling in severe weather: Review of past winter weather and actions*. JNCC Report 75. Joint Nature Conservation Committee, Peterborough, U.K.

Useful web sites

- Botulism
<http://www.pnr-rpn.ec.gc.ca/nature/migratorybirds/avianb/ce00s02.en.html>
- Diseases
<http://www.avianbiotech.com/diseases/newcastle.htm>
- Algal blooms
<http://www.epa.gov/OWOW/estuaries/pfiesteria/>
<http://www.whoi.edu/redtide/>
- Lead poisoning
http://www.unep-aewa.org/publications/other_publications.htm
<http://www.britishcolumbia.com/Wildlife/wildlife/information/Lead%20Poisoning%20of%20Water%20Birds.htm>
- Oil spill in Wales
<http://www.swan.ac.uk/biosci/empress/news.htm>
- Oil spill in the Russian Federation
<http://www.american.edu/projects/mandala/TED/KOMI.HTM>
- Oils spill in South Africa
<http://web.uct.ac.za/depts/stats/adu/oilspill/>
- Cyanide pollution of river Tisza
<http://nfp-hu.eionet.eu.int/cyanide.html>
- Heavy metal pollution of Coto Doñana
<http://www.yale.edu/ynhti/curriculum/units/1999/6/99.06.01.x.html>
- National Response Center
<http://www.nrc.uscg.mil/nrchp.html>
- Emergency Response Notification System
<http://www.nrc.uscg.mil/nrchp.html>
- National Response Team
<http://www.nrt.org>

3. SITE INVENTORIES

References and further reading

- Burgis, M.J. & J.J. Symoens 1987. *African Wetlands and Shallow Water Bodies*. ORSTOM, Paris, France.
- Carp, E. 1980. *A Directory of Western Palearctic Wetlands*. UNEP, Nairobi, Kenya and IUCN, Gland, Switzerland.
- Costa, L.T., J.C. Farinha, N. Hecker & P. Tomàs Vives 1996. *Mediterranean Wetland Inventory: A Reference Manual*. MedWet/Instituto da Conservação da Natureza/Wetlands International Publication, Volume I.
- Cowardin, L.M., V. Carter, F.C. Golet & E.T. Laroe 1979. *Classification of wetlands and deep water habitats of the United States*. US Fish and Wildlife Service, Washington DC, USA.
- De Beaufort, F. & A.-M. Czajkowski 1986. *Zones Humides d'Afrique septentrionale, centrale et occidentale. II: Inventaire préliminaire et méthodologie*. Secrétariat de la Faune et de la Flore, Museum National d'Histoire Naturelle, Paris, France.
- Ethiopian Wildlife and Natural History Society & BirdLife International 1996. *Important Bird Areas of Ethiopia. A First Inventory*. Ethiopian Wildlife and Natural History Society, Addis Ababa, Ethiopia.
- European Commission 1994. *Natura 2000. Special Protection Areas*. European Commission, Brussels, Belgium.

- European Communities 1991. *CORINE Biotopes: the design, compilation and use of an inventory of sites of major importance for nature conservation in the European Community. Report and Manual (3 volumes)*. Office for Official Publications of the European Communities, Luxembourg.
- Evans, M. I. (ed.) 1994. *Important Bird Areas in the Middle East*. BirdLife Conservation Series No.2. BirdLife International, Cambridge, U.K.
- Farinha, J.C., L. Costa, E. Fitoka, A. Mantzavelas, G. Zalidis, N. Hecker & P. Tomàs Vives 1996. *Mediterranean Wetland Inventory. Habitat Description System*. MedWet/Instituto da Conservação da Natureza/Wetlands International/EKBY Publication, Volume III.
- Frazier, S. 1999. *Ramsar Sites Overview: A Synopsis of the World's Wetlands of International Importance*. Wetlands International, Wageningen, The Netherlands.
- Frazier, S. 2002. *A Directory of Wetlands of International Importance*. CD-RoM. Wetlands International, Wageningen, The Netherlands.
- Heath, M.F. & Evans, M.I. (eds.) 2000. *Important Bird Areas in Europe: Priority sites for conservation*. 2 vols., Cambridge, U.K.: BirdLife International (BirdLife Conservation Series No. 8).
- Hecker, N. & P. Tomàs Vives (eds.) 1995. *The Status of Wetland Inventories in the Mediterranean Region*. MedWet Publication/IWRB Publication No.38. IWRB, Slimbridge, U.K.
- Hughes, R.H. & J.S. Hughes 1992. *A Directory of African Wetlands*. IUCN, Gland, Switzerland/UNEP, Nairobi, Kenya/ WCMC, Cambridge, U.K.
- Luther, H. & J. Rzóska, 1971. *Project Aqua: a source book of inland waters proposed for conservation*. IBP Handbook No.21. Blackwell Scientific Publications, Oxford.
- Magnin, G. & M. Yazar 1997. *Important Bird Areas in Turkey*. Dogal Hayati Koruma Dernegi, Istanbul, Turkey.
- Olney, P. 1965. *Project MAR. List of European and North African Wetlands of International Importance*. IUCN New Series No.5. IUCN, Morges, Switzerland.
- Scott, D.A. 1980. *A Preliminary Inventory of Wetlands of International Importance for Waterfowl in West Europe and Northwest Africa*. IWRB Special Publication No.2. IWRB, Slimbridge, U.K.
- Scott, D.A. (ed.) 1995. *A Directory of Wetlands in the Middle East*. IUCN, Gland, Switzerland and IWRB, Slimbridge, U.K.
- Scott, D.A. & P.M. Rose 1996. *Atlas of Anatidae Populations in Africa and Western Eurasia*. Wetlands International Publication No.41. Wetlands International, Wageningen, The Netherlands.

Useful web sites

- Ramsar sites directory
<http://www.wetlands.org/RDB/Directory.html>
- Ramsar Information Sheet
http://www.ramsar.org/key_ris_index.htm
- Ramsar Information Sheet explanatory notes and guidelines
http://ramsar.org/key_ris.htm#note
- Ramsar criteria
http://ramsar.org/key_criteria.htm
- UNESCO World Heritage List
<http://fp.thesalmons.org/lynn/world.heritage.html>

4. SITE MANAGEMENT

References and further reading

- Alexander, M. & J.M. Perrins 1993. *Countryside Management System*. Countryside Council for Wales, Barmouth, U.K.

- Eurosite Working Group on "Management Plans: Methods and Techniques" 1996. *European Guide for the Preparation of Management Plans for protected and managed natural and semi-natural areas*. Eurosite, Tilburg, The Netherlands.
- NCC 1983. *A handbook for the preparation of management plans*. Nature Conservancy Council, Peterborough, U.K.
- NCC 1987. *Site management plans for nature conservation, a working guide*. BP edition. Nature Conservancy Council, Peterborough, U.K.
- Scott, D.A. (ed.) 1982. *Managing Wetlands and their Birds: A Manual of Wetland and Waterfowl Management*. IWRB, Slimbridge, U.K.

Useful web sites

New guidelines for management planning for Ramsar sites and other wetlands

http://ramsar.org/key_guide_mgt_new_e.htm

Ramsar wise use guidelines

http://ramsar.org/key_wiseuse.htm

Additional guidance for the implementation of the Wise Use concept

http://ramsar.org/key_add_guide.htm

Eurosite Management Planning Toolkit

<http://www.seit.ee/projects/toolkit.pdf>

5. SUSTAINABLE HARVEST

References and further reading

- BASC 1994. *Shooting: Countryside Sport and Conservation. A Teacher's Resource Pack*. British Association for Shooting and Conservation, Rossett, U.K.
- Begbie, E. (ed.) 1989. *The New Wildfowler*. Third Edition. Stanley Paul, London.
- Beintema, N. 2001. *Lead poisoning in waterfowl, International Update Report 2001*. Wetlands International – AEME, Wageningen, The Netherlands
- Freese, C.H. (ed.) 1997. *Harvesting Wild Species: Implications for Biodiversity Conservation*. Johns Hopkins Press, Baltimore and London.
- Harradine, J. (ed.) 1992. *Wings in Waterfowl Research and Management*. Proc. 2nd Meeting IWRB Hunting Research (Wing Studies) Group. Saarbrücken, Germany, 9-10 April 1992. Wetlands International, Slimbridge, U.K.
- Laws, T. & Y. Lecocq 1996. The contribution of European hunting organisations in Anatidae conservation. In: M. Birkan, J. van Vessem, P. Havet, J. Madsen, B. Trolliet & M. Moser (eds.), *Proceedings of the Anatidae 2000 Conference*, Strasbourg, France, 5-9 December 1994. *Gibier Faune Sauvage, Game Wildl.* 13: 1257-1260.
- Madsen, J. 1998. Experimental refuges for migratory waterfowl in Danish wetlands. II: Tests of hunting disturbance effects. *J. Appl. Ecol.* 35: 398-417.
- Madsen, J. & A.D. Fox 1995. Impacts of hunting disturbance on waterbirds - a review. *Wildlife Biology* 1: 193-203.
- Matthews, G.V.T. (ed.) 1990. *Managing Waterfowl Populations*. Proc. IWRB Symposium, Astrakhan, 1989. IWRB Special Publication No.12. IWRB, Slimbridge, U.K.
- Nichols, J.D. & F.A. Johnson 1996. The management of hunting of Anatidae. In: M. Birkan, J. van Vessem, P. Havet, J. Madsen, B. Trolliet & M. Moser (eds.), *Proceedings of the Anatidae 2000 Conference*, Strasbourg, France, 5-9 December 1994. *Gibier Faune Sauvage, Game Wildl.* 13: 977-990.
- Pain, D.J. (ed.) 1992. *Lead poisoning in waterfowl*. IWRB Special Publication No.16. IWRB, Slimbridge, U.K.

Useful web sites

Federation of Field Sports Associations of the EU (FACE)

<http://www.face-europe.org/>

The Game Conservancy Trust (UK)

<http://www.gct.org.uk/>

International Council for Game and Wildlife Conservation (C. I. C)

<http://www.cic-wildlife.org/>

Lead poisoning

<http://www.npwrc.usgs.gov/resource/othrdata/pbpoison/pbpoison.htm>

International Wildlife Rehabilitation Council

<http://www.iwrc-online.org/>

6. REGULATING TRADE

References and further reading

Bradley Taylor, M. 1996. *Wildlife Crime: A Guide to Law Enforcement in the United Kingdom*. Stationery Office, London.

Crawford, A. (compiler) 1997. *Making CITES Work: Examples of Effective Implementation and Enforcement*. TRAFFIC International, Cambridge, U.K.

De Klemm, C. 1993. *Guidelines for legislation to implement CITES*. IUCN, Gland, Switzerland and Cambridge, U.K.

Thomsen, J.B., S.R. Edwards & T.A. Mulliken (eds.) 1992. *Perceptions, Conservation & Management of Wild Birds in Trade*. TRAFFIC International, Cambridge, U.K.

Wijnstekers, W. 1995. *The Evolution of CITES. A reference to the Convention on International Trade in Endangered Species of Wild Fauna and Flora*. Fourth Edition. CITES Secretariat, Switzerland.

World Conservation Monitoring Centre 1995. *Checklist of birds listed in the CITES Appendices*. Joint Nature Conservation Committee Report No.236. JNCC, Peterborough, U.K.

Useful web sites

IUCN Species Survival Commission Specialist Groups

<http://www.iucn.org/themes/ssc/pubs/sscaps.htm>

CITES

<http://www.cites.org>

<http://international.fws.gov/cites/cites.html>

EU wildlife trade regulations

http://europa.eu.int/comm/environment/cites/legislation_en.htm

<http://www.wcmc.org.uk/species/trade/eu/>

7. DEVELOPMENT OF ECOTOURISM

References and further reading

Claridge, G. & B. O'Callaghan (eds.) 1997. *Community involvement in wetlands management: lessons from the field*. Incorporating the Proceedings of Workshop 3, Wetlands, Local People and Development, of the International Conference on Wetlands and Development, October 1995. Wetlands International, Kuala Lumpur, Malaysia.

Davidson, N. & P. Rothwell (eds.) 1993. Disturbance to waterfowl on estuaries. *Wader Study Group Bulletin* 68, Special Issue.

Eagles, P.F.J. 1997. *International Ecotourism Management: Using Australia and Africa as Case Studies*. IUCN World Commission on Protected Areas, Albany, Australia.

Henkens, R.J.H.G. 1998. *Ecologische capaciteit natuuroeltypen I: methode voor bepaling effect recreatie op broedvogels*. IBN-rapport 363. Wageningen, The Netherlands.

Holt-Biddle, D. 1996. Vision of wildlife, ecotourism and the environment in southern Africa. In: *The Endangered Wildlife Trust, 1996 Annual*. Johannesburg, South Africa

IUCN 1992. *Proceedings of the IV World Congress of National Parks and Protected Areas*. Caracas, Venezuela.

- Kusler, J.A. (ed.) 1991. *Ecotourism and Resource Conservation*. 2 vols. Association of Wetland Managers, Berne, New York, USA.
- Lindberg, K., M. Epler Wood & D. Engeldrum (eds.) 1998. *Ecotourism: a guide for planners and managers*. 2 vols. The Ecotourism Society, North Bennington, Vermont, USA.
- Lindberg, K. & D.E. Hawkins (eds.) 1993. *Ecotourism: A Guide for Planners and Managers*. The Ecotourist Society, North Bennington, Vermont, USA.
- The Ecotourist Society (TES) 1993. *Ecotourism guidelines for nature tour operators*. North Bennington, Vermont, USA.
- Tourism Research and Education Centre 1990. *Towards Serving Visitors and Managing Our Resources*. Proceedings of a North American Workshop on Visitor Management in Parks and Protected Areas. University of Waterloo, Ontario, Canada
- UNEP IE Tourism Programme. Focus numbers and technical reports, e.g.
- Focus No.1, 1995: National Ecotourism Strategy, Australia.
 - Focus No.8, 1997: (Recreational) Carrying Capacity.
 - Technical Report No.29, 1995: Environmental Codes of Conduct for Tourism.
- U.S. Agency for International Development 1994. *An assessment of ecotourism associated with Bao Bolon and Kiang West National Park in the Gambia*. Office of Operations and New Initiatives, Africa Bureau, US-AID. Labat-Anderson Incorporated.
- WTO/UNEP 1992. *Guidelines: Development of National Parks and Protected Areas for Tourism*. WTO/UNEP Joint Publication, UNEP-IE/PAC Technical Report Series No.13, second printing 1994. Madrid, Spain.

Useful web sites

- The International Ecotourism Society TES
<http://www.ecotourism.org>
- The World Travel & Tourism Council WTTC
<http://www.wttc.org>
- The World Tourism Organisation WTO
<http://www.world-tourism.org>
- United Nations Environment Programme, Industry and Environment, UNEP-IE: Tourism
<http://www.unepie.org/tourism>

8. REDUCING CROP DAMAGE, DAMAGE TO FISHERIES, BIRD STRIKES AND OTHER FORMS OF CONFLICT

References and further reading

- Allan, R. 1996. *The grain-eating birds of sub-Saharan Africa. Identification, biology and management*. University of Greenwich, Natural Resources Institute.
- Birkan, M., J. van Vesseem, P. Havet, J. Madsen, B. Trollet & M. Moser (eds.) 1996. *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5-9 December 1994*. Gibier Faune Sauvage, Game and Wildlife 13.
- Blokpoel, H. In prep. *Review on bird strikes*. Canada.
- Ezealor, A.U. & R.H. Giles Jr. 1997. *Wintering Ruffs Philomachus pugnax are not pests of rice Oryza spp. in Nigeria's Sahelian wetlands*. Wildfowl 48: 202-209.
- Fox, T., J. Madsen & J. van Rhijn (eds.) 1991. *Western Palearctic Geese*. Proc. IWRB Symp. Kleve, Germany, February 1989. Ardea 79 (2).
- Linell, M.A., M.R. Conover & T.J. Ohashi 1996. *Analysis of bird strikes at a tropical airport*. Journal of Wildlife Management 60: 935-945.
- Meinzingen, W.F. 1993. *A guide to migrant pest management in Africa*. FAO, Rome.
- Monaghan, P., C.B. Shedden, K. Ensor, C.R. Fricker & R.W.A. Girdwood 1985. *Salmonella carriage by Herring Gulls in the Clyde area of Scotland in relation to their feeding ecology*. Journal of Applied Ecology 22: 669-680.
- Murton, R.K. & E.N. Wright (eds.) 1968. *The problems of birds as pests*. Academic Press, London.
- Piersma, T. & A. Koolhaas 1997. *Shorebirds, shellfish(eries) and sediments around Griend, Western Wadden Sea, 1988-1996: single large-scale exploitative events lead to long-*

- term changes of the intertidal birds – benthos community*. NIOZ-Report 1997-7. Netherlands Institute for Sea Research, Den Burg, The Netherlands.
- Pimentel, D. 1991. *CRC Handbook of pest management in agriculture II*. CRC Press, Boca Raton, Ann Harbour, London, Tokyo.
- Tréca, B. 1990. *Régimes et préférences alimentaires d' Anatidés et de Scolopacidés dans le delta du Sénégal*. Thesis, Paris, France.
- Tréca, B. & S. Manikowski 1998. *Bird pests*. CTA, Wageningen, The Netherlands. (In French).
- Van Dam, C., A.D. Buijse, W. Dekker, M.R. van Eerden, J.G.P. Klein Breteler & R. Veldkamp 1995. *Cormorants and commercial fisheries*. Report IKC Nature Management, Wageningen, The Netherlands.
- Van Eerden, M.R. 1997. *Patchwork. Patch use, habitat exploitation and carrying capacity for water birds in Dutch freshwater wetlands*. Report RIZA, Lelystad and thesis State University Groningen, Groningen, The Netherlands.
- Van Roomen, M. & J. Madsen 1992. *Waterfowl and agriculture: review and future perspective of the crop damage conflict in Europe*. IWRB Special Publication No.21. IWRB, Slimbridge, U.K.

Useful web sites

Bird strikes

<http://www.birdstrike.org/birds.htm>
www.airsafe.com

Conflict between fisheries and waterbirds

<http://www.cormorants.info/pdfs/WM14.pdf>
http://banchory.ceh.ac.uk/conflict/case_studies/case%20studies.htm

Costs and benefits of managing wild geese in Scotland

<http://www.scotland.gov.uk/cru/kd01/purple/cbmwgs-05.asp>

9. WATERBIRD MONITORING PROTOCOL

References and further reading

- Aubrecht, G. & H. Winkler 1997. *Analyse der internationalen Wasservogelzählungen (IWC) in Österreich 1970-1995 - trends und Bestände*. (Analysis of the international waterbird census (IWC) in Austria 1970-1995 - trends and numbers). Österreichische Akademie der Wissenschaften.
- Bibby, C.J., D.A. Hill, N.D. Burgess & S. Mustoe 2000. *Bird Census Techniques*. 2nd edition Academic Press, U.K.
- Colhoun, K. 2001. *The Irish Wetland Bird Survey 1998-99: Results from the fifth winter of the Irish Wetland Bird Survey*. BWI/NPW/WWT Dublin, Ireland.
- Boer, P. de, B.J. Koks, M.W.J. van Roomen, & E.A.J. van Winden. 2001. *Watervogels in de Nederlandse Waddenzee in 1997/98 en 1998/99*. SOVON Monitoringrapport 2001/04. SOVON Vogelonderzoek Nederland, Beek-Ubbergen.
- Delany, S.N., C. Reyes, E. Hubert, S. Pihl, L. Haanstra, E. Rees & A. van Strien 1999. *Results from the International Waterbird Census in the Western Palearctic and Southwest Asia, 1995 and 1996*. Wetlands International, Wageningen, The Netherlands.
- Dodman, T., H.Y. Beibro., E. Hubert & E. Williams 1999. *African Waterbird Census, 1998*. Wetlands International, Dakar, Senegal.
- Dodman, T. & Diagana, C.H. *African Waterbird Census / Les Dénombrements d'Oiseaux d'Eau en Afrique 1999, 2000 & 2001*. Wetlands International Global Series No. 16, Wageningen, The Netherlands.
- Ecoscope Applied Ecologists. In press. *A species and habitats monitoring handbook*.
- Gilbert, G., D.W. Gibbons & J. Evans 1998. *Bird Monitoring Methods: a manual of techniques for key UK species*. RSPB, Sandy, U.K.
- Gillissen, N., Haanstra, L., Delany, S., Boere, G., & Hagemeyer, W. 2002. *Numbers and distribution of wintering waterbirds in the Western Palearctic and Southwest Asia in*

- 1997, 1998 and 1999. Results from the International Waterbird Census. Wetlands International Global Series No. 11, Wageningen, The Netherlands.
- Komdeur, J., J. Bertelsen & G. Cracknell (eds.) 1992. *Manual for aeroplane and ship surveys of waterfowl and seabirds*. IWRB Special Publication No.19. IWRB, Slimbridge, U.K.
- Madsen, J., G. Cracknell & A. Fox 1999. *Goose Populations of the Western Palearctic: A Review of Status and Distribution*. Wetlands International Publication No.48. National Environment Research Institute, Denmark and Wetlands International, Wageningen, The Netherlands.
- Meltofte, H., J. Blew, J. Frikke, H.-U. Rösner & C.J. Smit 1994. *Numbers and distribution of waterbirds in the Wadden Sea. Results and evaluation of 36 simultaneous counts in the Dutch-German-Danish Wadden Sea 1980-1991*. IWRB Special Publication No.34; Wader Study Group Bulletin No.74, Special Issue. IWRB, Slimbridge, U.K.
- Perennou, C., T. Mundkur, D.A. Scott, A. Follestad & L. Kvenild 1994. *The Asian Waterfowl Census 1987-91: Distribution and Status of Asian Waterfowl*. AWB Publication No.86, Kuala Lumpur, Malaysia. IWRB Publication No.24, Slimbridge, UK.
- Pettifor, R.A. 1997. Population behaviour in response to anthropogenic change in wetland habitats: the use of long-term datasets as tools in conservation. Pp 103-115 in: J.D. Goss-Custard, R. Rufino & A. Luis, *Effect of habitat loss and change on waterbirds. Proc. 10th International Waterfowl Ecology Symposium, Aveiro, Portugal, 18-21 September 1995*. ITE Symposium No.30; Wetlands International Publication No.42. London.
- Pollitt, M.S., Cranswick, P.A., Musgrove, A.J., Hall, C., Hearn, R.D., Robinson, J.A. & Holloway, S.J. 2000. The Wetland Bird Survey 1998-99: Wildfowl & Wader Counts. BTO/WWT/RSPB/JNCC, Slimbridge, UK.
- Poot, M., L.M. Rasmussen, M. van Roomen, H.-U. Rösner & P. Sudbeck 1996. *Migratory Waterbirds in the Wadden Sea 1993/94*. Wadden Sea Ecosystem No.5. Common Wadden Sea Secretariat, Trilateral Monitoring and Assessment Group & Joint Monitoring Group of Migratory Birds in the Wadden Sea, Wilhelmshaven, Germany.
- Scott, D.A. & P.M. Rose 1996. *Atlas of Anatidae Populations in Africa and Western Eurasia*. Wetlands International Publication No.41. Wetlands International, Wageningen, The Netherlands.
- Serra, L., Magnani, A., Dall'Antonia P. & Baccetti, N., 1997. Risultati dei censimenti degli uccelli acquatici svernanti in Italia, 1991-1995. Biol. Cons. Fauna, 101: 1-312.
- SOVON Ganzen-en Zwanenwerkgroep 2000. *Ganzen- en zwanentellingen in Nederland in 1998/99*. SOVON monitoringrapport 2000/03, RIZA-rapport BM99.15, Expertisecentrum LNV coproductie 336. SOVON Vogelonderzoek Nederland, Beek-Ubbergen
- Ter Braak, C.J.F., A.J. van Strien, R. Meijer & T.J. Verstrael 1994. Analysis of monitoring data with many missing values: which method? Pp 663-673 in: E.J.M. Hagemeyer & T.J. Verstrael (eds), *Bird Numbers 1992. Distribution, monitoring and ecological aspects*. Proc. 12th International Conf. of IBCC and EOAC, Noordwijkerhout, The Netherlands.
- Underhill, L.G. & R.P. Prys-Jones 1994. Index numbers for waterbird populations. I: Review and methodology. *J. Appl. Ecology* 31: 463-480.
- Voslamber, B., E van Winden & M. van Roomen 2000. *Midwintertelling van Watervogels in Nederland, januari 1999*. SOVON monitoringrapport 2000/02. RIZA-rapport BM99.14. Expertisecentrum LNV coproductie C31. SOVON Vogelonderzoek Nederland, Beek-Ubbergen.
- Voslamber, B., E. A.J. van Winden 1999. *Watervogels in de Zoete Rijkswateren in 1997/98*. SOVON monitoringrapport 99/07, RIZA-rapport BM98.10. SOVON Vogelonderzoek Nederland, Beek-Ubbergen.
- Wetlands International. 2002.. *Waterbird Population Estimates, Third Edition*. Wetlands International Global Series No 12. Wetlands International, Wageningen, The Netherlands

Useful Web Sites

Wetlands International - International Waterbird Census

IWC brochure (global): <http://www.wetlands.org/IWC/about.htm>

Manuals for IWC coordinators and counters: <http://www.wetlands.org/IWC/Manuals.htm>

African Waterbird Census, reports, news, recording forms:

<http://www.wetlands.org/IWC/africa/africa.html>

Western Palearctic and Southwest Asia Waterbird Census, Background information and reports: <http://www.wetlands.org/IWC/wpal&swa/wpal.htm>

IWC publications: <http://www.wetlands.org/IWC/wpal&swa/output/about.htm>

Census procedures and recording forms for Africa, Western Palearctic and Southwest Asia: http://www.wetlands.org/IWC/docs/census_proc.htm

Western Palearctic and Southwest Asia, national site lists (clickable map):

<http://www.wetlands.org/IWC/wpal&swa/output/sites.htm>

Western Palearctic and Southwest Asia, national coverage history, 1967-1996 (clickable map):

<http://www.wetlands.org/IWC/wpal&swa/output/coverage.html>

Western Palearctic and Southwest Asia: National Coordinators of waterbird monitoring:

<http://www.wetlands.org/IWC/wpal&swa/partner/WPaINC.htm>

Asian waterbird Census, information, Coordinators, reports, news:

<http://www.wetlands.org/IWC/awc/awcmain.html>

Avian Demography Unit, University of Cape Town

<http://www.uct.ac.za/depts/stats/adu/>

Patuxent Wildlife Research Center: Colonial Waterbird Inventory and Monitoring

<http://www.pwrc.usgs.gov/>

US Fish & Wildlife Service, Division of Migratory Bird Management, Bird Monitoring

<http://migratorybirds.fws.gov/statsurv/mntrtbl.html>

Useful contacts

General

African-Eurasian Waterbird Agreement
UNEP/AEWA Secretariat
UN-Premises, Martin-Luther-King-Str. 8
53175 Bonn, Germany
Tel: (+49) 228 815 2413
Fax: (+49) 228 815 2450
E-mail: aewa@unep.de
WWW: <http://www.unep-aewa.org>

Bern Convention Secretariat (Secretariat of the Convention on the Conservation of European Wildlife and Natural habitats)
Environment Conservation and Management Division
67075 Strasbourg Cedex
France
Tel.: +33-3-88413559/2256
Fax: +33-3-88413751
E-mail: gill.steimer@coe.int
WWW: <http://www.nature.coe.int/english/cadres/bern.htm>

BirdLife International
Wellbrook Court
Girton
Cambridge CB4 3QX
United Kingdom
Tel.: +44-1223-277318
Fax: +44-1223-277200
E-mail: birdlife@birdlife.org
WWW: <http://www.birdlife.org/>

CBD Secretariat - Secretariat for the Convention on Biological Diversity
World Trade Centre
393 St. Jacques Street
Office 300
Montréal, Québec H2Y 1N9
Canada
Tel.: +1-514-2882220
Fax: +1-514-2886588
E-mail addresses: <http://www.biodiv.org/secretariat/contact.asp>
WWW: www.biodiv.org

Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
UNEP/CMS Secretariat
United Nations Premises in Bonn
Martin-Luther-King Straße 8
53175 Bonn
Germany
Tel.: +49-228-815-2401 and +49-228-815-2402
Fax: +49-228-815-2449
E-mail: secretariat@cms.int

WWW: <http://www.cms.int>

Council of Europe
Environment Conservation and Management Division
Palais de l'Europe
Avenue de l'Europe
67075 Strasbourg Cedex
France
Tel.: +33-3-88412253
Fax: +33-3-88413751
E-mail: infopoint@coe.int
WWW: <http://www.coe.int>

EC - European Commission
Wetstraat 200
1049 Brussels
Belgium
Tel.: +32-2-2351111
E-mail: europawebmaster@cec.eu.int
WWW: www.europa.eu.int/comm/index.htm

ECNC - European Centre for Nature Conservation
PO Box 1352
5004 BJ Tilburg
The Netherlands
Tel.: +31-13-4663240
Fax: +31-13-4663250
E-mail: ecnc@ecnc.org
WWW: www.ecnc.nl

International Council for Game and Wildlife Conservation (C. I. C)
PO Box 74
H - 2092 Budakeszi
Hungary
Tel: 0036 60 444 647
Fax: 0036 60 444 648
E-mail: budapestoffice@cic-wildlife.org
WWW: <http://www.cic-wildlife.org/>

IUCN - the World Conservation Union
28, rue Mauverney
1196 Gland
Switzerland
Tel.: +41-22-9990001
Fax: +41-22-9990002
WWW: www.iucn.org
E-mail addresses at: <http://www.iucn.org/wl/db/sitefeedback.cfm>

IUCN/ELC - Environmental Law Centre
Adenauerallee 214
53113 Bonn
Germany
Tel.: +49-228-2692231
Fax: +49-228-2692250
E-mail: <http://www.iucn.org/themes/law/elc01.html>

Ramsar Convention Bureau
28, rue Mauverney
1196 Gland
Switzerland
Tel.: +41-22-999-0170
Fax: +41-22-999-0169
E-mail: ramsar@ramsar.org
WWW: www.ramsar.org

UNEP - United Nations Environment Programme
PO Box 30552
Nairobi
Kenya
Tel.: +254-2-621234
Fax: +254-2-226890 and +254-2-215787
E-mail addresses: <http://www.unep.org/Contacts/>
WWW: www.unep.org

UNESCO/MAB - Man and Biosphere Programme
Ecological Sciences Division
1, rue Miollis
75732 Paris Cedex 15
France
Tel.: +33-1-45684151
Fax: +33-1-40659897
E-mail: mab@unesco.org
WWW: <http://www.unesco.org/mab/>

UNESCO/WHC - World Heritage Centre
Place de Fontenoy 7
75352 Paris Cedex 07
France
Tel.: +33-1-45681443
Fax: +33-1-40569570
E-mail: wh-info@unesco.org
WWW: www.unesco.org/whc

UNEP - WCMC - World Conservation Monitoring Centre
219, Huntingdon Road
Cambridge CB3 0DL
United Kingdom
Tel.: +44-1223-277314
Fax: +44-1223-277136
E-mail: info@unep-wcmc.org
WWW: <http://www.unep-wcmc.org/>

Wetlands International
PO Box 471
6700 AL Wageningen
The Netherlands
Tel.: +31-317-478854
Fax: +31-317-478850
E-mail: post@wetlands.org
WWW: www.wetlands.org

WWF-International - World Wide Fund for Nature

Avenue du Mont-Blanc
1196 Gland
Switzerland
Tel.: +41-22-3649111
Fax: +41-22-3642926
E-mail addresses: http://www.panda.org/about_wwf/who_we_are/offices/offices.cfm
WWW: www.panda.org

Species Action Plans

IUCN Species Survival Commission
c/o IUCN (see under **General**)

Wetlands International Specialist Group Co-ordinators
c/o Wetlands International (see under **General**)
<http://www.wetlands.org/networks/SGroups.htm>

BirdLife International (see under **General**)

Emergency situations

No specific addresses. See under **General**, according to circumstances.

Site inventories

MedWet Coordination Unit
Villa Kazouli, Kifissias & Gr. Lambraki 1
14561 Kifissia
Greece
Tel.: +30-210-8089270
Fax: +30-210-8089274
E-mail: info@medwet.org
WWW: www.medwet.org

Ramsar Convention Bureau (see under **General**)

Site management

EUROSITE - European Network of Site Management Organizations
PO Box 1366
5004 BJ Tilburg
The Netherlands
Tel.: +31-13-4678638
Fax: +31-13-4634129
E-mail: eurosite@kub.nl
WWW: www.eurosite-nature.org

Ramsar Convention Bureau (see under **General**)

Sustainable harvest

International Council for Game and Wildlife Conservation (C. I. C) (see under **General**)

FACE - Fédération des Associations de chasseurs de l'EU

82 Rue F. Pelletier

B-1030 Brussels

Belgium

Tel: +32-2-732.69.00

Fax: +32-2-7327072

E-mail: face.europe@infoboard.be

WWW: <http://www.face-europe.org/>

Trade

TRAFFIC International

219c Huntingdon Road

Cambridge CB3 0DL

UK

Tel: (44) 1223 277427

Fax: (44) 1223 277237

E-mail: traffic@WCMC.org.uk

TRAFFIC Europe

Waterloosteenweg 608

1060 Brussels

Belgium

Tel.: +32-2-3470111

Fax: +32-2-3440511

WWW: www.traffic.org

UNEP/CITES Secretariat (Convention on International Trade of Endangered Species,
Washington Convention)

PO Box 456

Geneva Executive Centre

1219 Châtelaine (Geneva)

Switzerland

Tel.: +41-22-9799139 and 9799140

Fax: +41-22-7973417

E-mail addresses: <http://www.cites.org/eng/disc/sec/index.shtml>

WWW: <http://www.cites.org/>

Ecotourism

The Ecotourism Society TES

PO Box 755

North Bennington

VT 05257

USA

Tel: +1-802-447-2121

Fax: +1-802-447-2122

E-mail: ecomail@ecotourism.org

WWW: <http://www.ecotourism.org>

Bird damage

FAO - Food and Agriculture Organization
Forest Resources Division
Viale delle Terme di Caracalla
00100 Rome
Italy
Tel.: +39-06-57053589
Fax: +39-06-57055137
WWW: www.fao.org/fo

IBSC - International Bird Strike Committee
C/o National Bird Strike Committee
Royal Netherlands Airforce Airstaff
P.O.Box 20703
2500 EB The Hague
The Netherlands
Tel: +31-70-3396911

Waterbird Monitoring

International Waterbird Census (IWC) & African Waterbird Census (AfWC)
Waterbird Conservation Officer
c/o Wetlands International (see under **General**)

SOVON
Rijksstraatweg 178
6573 Beek-Ubbergen
The Netherlands
Tel: 024 684 81 11
Fax: 024 684 81 88
WWW: <http://www.sovon.nl/>

The Wildfowl & Wetlands Trust
Slimbridge
Gloucester
GL2 7BT
UK
Tel: +44 1453 890333
Fax: +44 1453 890827
E-mail addresses: <http://www.wwt.org.uk/contact/>
WWW: <http://www.wwt.org.uk/>

British Trust for Ornithology
The Nunnery
Nunnery Place
Thetford
Norfolk
IP24 2PU
UK
Tel: +44-1842-750050
Fax: +44-1842-750030
E-mail: info@bto.org
WWW: <http://www.bto.org/>

The Avian Demography Unit
Department of Statistical Sciences
University of Cape Town
Rondebosch 7701
South Africa
Tel: +27 (021) 650 3219
Fax: +27 (021) 650 7578
E-mail addresses: http://web.uct.ac.za/depts/stats/adu/staff/p_staff.htm
[WWW. http://www.uct.ac.za/depts/stats/adu/](http://www.uct.ac.za/depts/stats/adu/)

The European Bird Census Council
WWW: <http://zeus.nyf.hu/~szept/ebcc.htm>

Training facilities

Within the AEWA region, there are many facilities for training at different levels, ranging from three-day courses on various environmental topics for people with no prior knowledge, to Ph.D. level at universities. Many universities and institutes offer courses of varying lengths on wildlife management, site management, wetland ecology, sustainable development, ecotourism development, and many other related topics. UNEP maintains a database listing hundreds of courses. The Ramsar Convention Bureau maintains a list of environmental courses specifically aimed at wetland management. For information contact:

UNEP Directory on Environmental Education and Training Opportunities worldwide:
<http://www.unep.org/unep/products/publicat/education/index.htm>

The Ramsar Convention Bureau
Rue Mauverney 28, CH-1196 Gland, Switzerland
Tel: +41-22-999-0170; fax: +41-22-999-0169
E-mail: ramsar@ramsar.org
WWW: <http://www.ramsar.org>

There are several schools in Africa that specifically offer education in wildlife management and site management. These are attended by wardens and reserve managers from all over the continent. The most important are:

Ecole de Faune de Garoua
B.P. 271, Garoua, Cameroun
Tel/fax: +237-273135

College of African Wildlife Management
Mweka, P.O. Box 3031, Moshi, Tanzania
Tel/fax: +255-55-51113
E-mail: ulgtan@eoltz.com
WWW: <http://www.mwekawildlife.org/>

Kenya Wildlife Training Institute
P.O. Box 842, Naivasha, Kenya
Tel: +254-0311-20267/21329
Fax: +254-0311-20577
E-mail: kwsti@users.africaonline.co.ke

Southern African Wildlife College
Private Bag X3015, Hoedspruit, 1380, South Africa
Tel/fax: +27-15-7932621
E-mail: sawc@iafrica.com
WWW: <http://www.wildlifecollege.org.za/>

Special wetland courses for managers from developing countries and countries with economies in transition are given by the Wetland Advisory and Training Centre (WATC) of the Institute for Inland Water Management and Waste Water Treatment (RIZA) of the Netherlands Ministry of Transport, Public Works and Water Management. For information contact:

WATC
P.O. Box 17, 8200 AA Lelystad, The Netherlands
Tel: +31-320-298346; fax: +31-320-298339
E-mail: watc@riza.rws.minvenw.nl

IUCN also regularly organises short courses on wetland management at different levels, both for managers with little prior education and for decision makers at higher levels. These courses are given in the region (*e.g.* in West Africa). For information contact:

IUCN
Rue Mauverney 28, CH-1196 Gland, Switzerland
Tel: +41-22-999-0001; fax: +41-22-999-0002

Appendix I

POPULATIONS OF WATERBIRDS REQUIRING NATIONAL SINGLE SPECIES ACTION PLANS

National Single Species Action Plans are required for all populations listed in Column A of Table 1 in the AEWA Action Plan (Paragraph 2.2.2 of the Action Plan). Populations are listed in Column A in one of three Categories:

- Category 1:**
- (a) Species that are included in Appendix I to the Bonn Convention.
 - (b) Species that are listed as threatened in the IUCN Red List of Threatened Animals.
 - (c) Populations that number less than around 10,000 individuals.
- Category 2:** Populations numbering between around 10,000 and around 25,000 individuals.
- Category 3:** Populations numbering between around 25,000 and around 100,000 individuals and considered to be at risk as a result of:
- (a) concentration onto a small number of sites at any stage of their annual cycle;
 - (b) dependence on a habitat type which is under severe threat;
 - (c) showing significant long-term decline; or
 - (d) showing extreme fluctuations in population size or trend.

Species listed include those included in the Action Plan by MoP 1 in Cape Town (November 1999) and MoP 2 in Bonn (September 2002). Categories are assigned on the basis of recent information on population sizes and trends, as summarised in the *AEWA Report on the Conservation Status of Migratory Waterbirds in the Agreement Area* (2002).

Species/subspecies	Population	Category
SPHENISCIDAE		
<i>Spheniscus demersus</i>	- Southern Africa	1b
GAVIIDAE		
<i>Gavia immer</i>	- Europe (win)	1c
<i>Gavia adamsii</i>		
	- Northern Europe (win)	1c
PODICIPEDIDAE		
<i>Podiceps cristatus cristatus</i>	- Caspian & South-west Asia (win)	2
<i>Podiceps grisegena grisegena</i>	- Caspian (win)	2
<i>Podiceps cristatus infuscatus</i>	- Eastern Africa (Ethiopia to N Zambia)	1c
	- Southern Africa	1c
<i>Podiceps auritus auritus</i>	- North-west Europe (large-billed)	1c
	- Caspian & South Asia (win)	2
<i>Podiceps nigricollis gurneyi</i>	- Southern Africa	2

PELECANIDAE		
<i>Pelecanus onocrotalus</i>	- Southern Africa	2
	- Europe & Western Asia (bre)	1a, 3c
<i>Pelecanus crispus</i>	- Black Sea & Mediterranean (win)	1a, 1c
	- South-west Asia & South Asia (win)	1a, 2
SULIDAE		
<i>Sula (Morus) capensis</i>	- Southern Africa	1b
PHALACROCORACIDAE		
<i>Phalacrocorax coronatus</i>	- Coastal South-west Africa	1c
<i>Phalacrocorax neglectus</i>	- Coastal South-west Africa	1b, 1c
<i>Phalacrocorax carbo lucidus</i>	- Coastal Southern Africa	2
<i>Phalacrocorax nigrogularis</i>	- Gulf & Arabian Sea	1b
ARDEIDAE		
<i>Egretta ardesiaca</i>	- Sub-Saharan Africa	3c
<i>Egretta vinaceigula</i>	- South-central Africa	1b, 1c
<i>Egretta gularis schistacea</i>	- South-west Asia & South Asia	2
<i>Egretta dimorpha</i>	- Coastal Eastern Africa	2
<i>Ardea purpurea purpurea</i>	- West Europe & West Mediterranean/West Africa	2
<i>Casmerodius albus albus</i>	- W, C & SE Europe/Black Sea & Mediterranean	2
<i>Bubulcus ibis ibis</i>	- East Mediterranean & South-west Asia	2
<i>Ardeola ralloides ralloides</i>	- Medit., Black Sea & N Africa/Sub-Saharan Africa	3c
<i>Ardeola idae</i>	- Madagascar & Aldabra/Central & Eastern Africa	1b, 1c
<i>Botaurus stellaris stellaris</i>	- Europe (bre)	3c
	- South-west Asia (win)	2
<i>Botaurus stellaris capensis</i>	- Southern Africa	1c
CICONIIDAE		
<i>Ciconia nigra</i>	- Southern Africa	1c
	- South-west Europe/West Africa	1c
	- Central & Eastern Europe/Sub-Saharan Africa	2
<i>Ciconia ciconia ciconia</i>	- Southern Africa	1c
	- Iberia & North-west Africa/Sub-Saharan Africa	3b
	- Western Asia/South-west Asia	2
BALAENICIPITIDAE		
<i>Balaeniceps rex</i>	- Central Tropical Africa	1c
THRESKIORNITHIDAE		
<i>Plegadis falcinellus falcinellus</i>	- Black Sea & Mediterranean/West Africa	3c
<i>Geronticus eremita</i>	- Morocco	1a, 1b, 1c
	- South-west Asia	1a, 1b, 1c
<i>Threskiornis aethiopicus aethiopicus</i>	- Iraq & Iran	1c

<i>Platalea leucorodia leucorodia</i>	- West Europe/West Mediterranean & West Africa	1c
	- Cent. & SE Europe/Mediterranean & Tropical Africa	2
<i>Platalea leucorodia archeri</i>	- Red Sea & Somalia	1c
<i>Platalea leucorodia balsaci</i>	- Coastal West Africa (Mauritania)	1c
<i>Platalea leucorodia major</i>	- Western Asia/South-west & South Asia	2
<i>Platalea alba</i>	- Sub-Saharan Africa	2*
PHOENICOPTERIDAE		
<i>Phoenicopterus ruber roseus</i>	- West Africa	3a
	- Eastern Africa	3a
	- Southern Africa (to Madagascar)	3a
<i>Phoenicopterus minor</i>	- West Africa	2
	- Southern Africa (to Madagascar)	3a
ANATIDAE		
<i>Thalassornis leuconotus leuconotus</i>	- West Africa	1c
	- Eastern & Southern Africa	2*
<i>Oxyura leucocephala</i>	- West Mediterranean (Spain & Morocco)	1a, 1b, 1c
	- Algeria & Tunisia	1a, 1b, 1c
	- East Mediterranean, Turkey & South-west Asia	1a, 1b, 1c
<i>Oxyura maccoa</i>	- Eastern Africa	1c
	- Southern Africa	1c
<i>Cygnus cygnus</i>	- Iceland/UK & Ireland	2
	- N Europe & W Siberia/Black Sea & E Mediterranean	2
	- West & Central Siberia/Caspian	2
<i>Cygnus columbianus bewickii</i>	- Western Siberia & NE Europe/North-west Europe	3c
	- Northern Siberia/Caspian	1c
<i>Anser albifrons albifrons</i>	- Western Siberia/Central Europe	3c*
	- Northern Siberia/Caspian & Iraq	2
<i>Anser albifrons flavirostris</i>	- Greenland/Ireland & UK	3a
<i>Anser erythropus</i>	- N Europe & W Siberia/Black Sea & Caspian	1a, 1b, 2
<i>Branta leucopsis</i>	- Svalbard/South-west Scotland	2
<i>Branta bernicla hrota</i>	- Svalbard/Denmark & UK	1c
	- Canada & Greenland/Ireland	2
<i>Branta ruficollis</i>	- Northern Siberia/Black Sea & Caspian	1a, 1b, 3a
<i>Alopochen aegyptiacus</i>	- West Africa	2
<i>Tadorna ferruginea</i>	- North-west Africa	1c
	- East Mediterranean & Black Sea/North-east Africa	2
<i>Tadorna tadorna</i>	- Black Sea & Mediterranean	3c
<i>Nettapus auritus</i>	- West Africa	1c
<i>Anas capensis</i>	- Eastern Africa (Rift Valley)	1c
	- Lake Chad basin	1c
<i>Anas erythrorhynchos</i>	- Madagascar	2
<i>Anas hottentota</i>	- Lake Chad Basin	1c
<i>Marmaronetta angustirostris</i>	- West Mediterranean/West Medit. & West Africa	1a, 1b, 1c
	- East Mediterranean	1a, 1b, 1c
	- South-west Asia	1a, 1b, 2
<i>Netta rufina</i>	- Black Sea & East Mediterranean	3c

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<i>Aythya nyroca</i>	- West Mediterranean/North & West Africa	1a, 1c
	- Eastern Europe/E Mediterranean & Sahelian Africa	1a, 3c
	- Western Asia/SW Asia & NE Africa	1a, 3c
<i>Polysticta stelleri</i>	- Western Siberia/North-east Europe	1a
<i>Melanitta fusca fusca</i>	- Black Sea & Caspian	1c
<i>Bucephala clangula clangula</i>	- Western Siberia & North-east Europe/Black Sea	2
	- Western Siberia/Caspian	2
<i>Mergellus albellus</i>	- North-west & Central Europe (win)	3a
	- Western Siberia/South-west Asia	3c
<i>Mergus serrator serrator</i>	- Western Siberia/South-west & Central Asia	1c
<i>Mergus merganser merganser</i>	- North-east Europe/Black Sea	1c
	- Western Siberia/Caspian	2
GRUIDAE		
<i>Balearica pavonina pavonina</i>	- West Africa (Senegal to Chad)	2
<i>Balearica pavonina ceciliae</i>	- Eastern Africa (Sudan to Uganda)	3c
<i>Balearica regulorum regulorum</i>	- Southern Africa (N to Angola & S Zimbabwe)	1c
<i>Balearica regulorum gibbericeps</i>	- Eastern Africa (Kenya to Mozambique)	3c
<i>Grus leucogeranus</i>	- Iran (win)	1a, 1b, 1c
<i>Grus virgo</i>	- Black Sea (Ukraine)/North-east Africa	1c
	- Turkey (bre)	1c
<i>Grus paradisea</i>	- Extreme Southern Africa	1b, 2
<i>Grus carunculatus</i>	- Central & Southern Africa	1b, 1c
<i>Grus grus</i>	- Eastern Europe/Turkey, Middle East & NE Africa	3c
	- Turkey & Georgia (bre)	1c
RALLIDAE		
<i>Sarothrura boehmi</i>	- Central Africa	1c
<i>Sarothrura ayresi</i>	- Ethiopia and Southern Africa	1a, 1b, 1c
<i>Crex crex</i>	- Europe & Western Asia/Sub-Saharan Africa	1b
<i>Porzana pusilla intermedia</i>	- Europe (bre)	2
<i>Aenigmatolimnas marginalis</i>	- Sub-Saharan Africa	(2)
<i>Fulica cristata</i>	- Spain & Morocco	1c
DROMADIDAE		
<i>Dromas ardeola</i>	- North-west Indian Ocean, Red Sea & Gulf	3a
HAEMATOPODIDAE		
<i>Haematopus moquini</i>	- Coastal Southern Africa	1c
RECURVIROSTRIDAE		
<i>Himantopus himantopus himantopus</i>	- Southern Africa (' <i>meridionalis</i> ')	2
<i>Recurvirostra avosetta</i>	- Southern Africa	2
	- South-east Europe, Black Sea & Turkey (bre)	(3c)

	- West & South-west Asia/Eastern Africa	2
BURHINIDAE		
<i>Burhinus senegalensis senegalensis</i>	- West Africa	(2)
<i>Burhinus senegalensis inornatus</i>	- North-east & Eastern Africa	(2)
GLAREOLIDAE		
<i>Pluvianus aegyptius aegyptius</i>	- Eastern Africa	(2)
<i>Glareola pratincola pratincola</i>	- Western Europe & NW Africa/West Africa	2
	- Black Sea & E Mediterranean/Eastern Sahel zone	2
<i>Glareola nordmanni</i>	- SE Europe & Western Asia/Southern Africa	3b, 3c
<i>Glareola ocularis</i>	- Madagascar/East Africa	(2)
<i>Glareola nuchalis liberiae</i>	- West Africa	(2)
<i>Glareola cinerea cinerea</i>	- SE West Africa & Central Africa	(2)
CHARADRIIDAE		
<i>Pluvialis apricaria apricaria</i>	- Britain, Ireland, Denmark, Germany & Baltic (bre)	3c*
<i>Charadrius pallidus pallidus</i>	- Southern Africa	2
<i>Charadrius pallidus venustus</i>	- Eastern Africa	1c
<i>Charadrius alexandrinus alexandrinus</i>	- West Europe & West Mediterranean/West Africa	3c
	- Black Sea & East Mediterranean/Eastern Sahel	3c
<i>Charadrius marginatus meadowi</i>	- Southern & Eastern Africa	2
	- West to West-central Africa	2
<i>Charadrius leschenaultii columbinus</i>	- Turkey & SW Asia/E. Mediterranean & Red Sea	1c
<i>Charadrius asiaticus</i>	- SE Europe & West Asia/E & South-central Africa	3c
<i>Eudromias morinellus</i>	- Europe/North-west Africa	(3c)
<i>Vanellus lugubris</i>	- Southern West Africa	2
	- Central & Eastern Africa	3c
<i>Vanellus melanopterus minor</i>	- Southern Africa	1c
<i>Vanellus coronatus coronatus</i>	- Central Africa	(2)
<i>Vanellus superciliosus</i>	- West & Central Africa	(2)
<i>Vanellus gregarius</i>	- SE Europe & Western Asia/North-east Africa	1a, 1b, 1c
	- Central Asian Republics/NW India	1a, 1b, 1c
<i>Vanellus leucurus</i>	- SW Asia/SW Asia & North-east Africa	2
SCOLOPACIDAE		
<i>Limosa limosa islandica</i>	- Iceland/Western Europe	3a*
<i>Numenius phaeopus alboaxillaris</i>	- South-west Asia/Eastern Africa	1c
<i>Numenius tenuirostris</i>	- Central Siberia/Mediterranean & SW Asia	1a, 1b, 1c
<i>Numenius arquata orientalis</i>	- Western Siberia/SW Asia, E & S Africa	3c
<i>Numenius arquata suschkini</i>	- South-east Europe & South-west Asia (br e)	2
<i>Calidris tenuirostris</i>	- Eastern Siberia/SW Asia & W Southern Asia	1c
<i>Calidris alpina schinzii</i>	- Britain & Ireland/SW Europe & NW Africa	2

	- Baltic/SW Europe & NW Africa	1c
<i>Calidris alpina arctica</i>	- NE Greenland/West Africa	3a
<i>Limicola falcinellus falcinellus</i>	- Northern Europe/SW Asia & Africa	3c
LARIDAE		
<i>Larus leucophthalmus</i>	- Red Sea & nearby coasts	1a, 2
<i>Larus audouinii</i>	- Mediterranean/N & W coasts of Africa	1a, 3a
<i>Larus armenicus</i>	- Armenia, Eastern Turkey & NW Iran	3a
<i>Larus ichthyaetus</i>	- Black Sea & Caspian/South-west Asia	3a
<i>Larus genei</i>	- West Africa (bre)	2
<i>Sterna nilotica nilotica</i>	- Western Europe/West Africa	2
	- Black Sea & East Mediterranean/Eastern Africa	3c
	- West & Central Asia/South-west Asia	2
<i>Sterna caspia caspia</i>	- Southern Africa (bre)	1c
	- Europe (bre)	1c
	- Caspian (bre)	2
<i>Sterna bengalensis par</i>	- Red Sea/Eastern Africa	3a
<i>Sterna bengalensis emigrata</i>	- S Mediterranean/NW & West Africa coasts	1c
<i>Sterna bergii bergii</i>	- Southern Africa (Angola – Mozambique)	2
<i>Sterna bergii enigma</i>	- Madagascar & Mozambique/Southern Africa	1c
<i>Sterna bergii thalassina</i>	- Eastern Africa & Seychelles	1c
<i>Sterna bergii velox</i>	- Red Sea & North-east Africa	3a
<i>Sterna sandvicensis sandvicensis</i>	- Black Sea & Mediterranean (bre)	3a, 3c
<i>Sterna dougallii dougallii</i>	- Southern Africa	1c
	- East Africa	3a
	- Europe (bre)	1c
<i>Sterna dougallii arideensis</i>	- Madagascar, Seychelles & Mascarenes	2
<i>Sterna dougallii bangsi</i>	- North Arabian Sea (Oman)	1c
<i>Sterna vittata vittata</i>	- P. Edward, Marion, Crozet & Kerguelen/South Africa	1c
<i>Sterna vittata tristanensis</i>	- Tristan da Cunha & Gough/South Africa	1c
<i>Sterna albifrons albifrons</i>	- Eastern Atlantic (bre)	3b
	- Black Sea & East Mediterranean (bre)	3c
	- Caspian (bre)	2
<i>Sterna albifrons guineae</i>	- West Africa (bre)	1c
<i>Sterna balaenarum</i>	- Namibia & South Africa/Atlantic coast to Ghana	2
<i>Chlidonias hybridus hybridus</i>	- Western Europe & North-west Africa (bre)	3c
<i>Chlidonias hybridus sclateri</i>	- Eastern Africa (Kenya & Tanzania)	1c
	- Southern Africa (Malawi & Zambia to South Africa)	(2)
RYNCHOPIDAE		
<i>Rynchops flavirostris</i>	- Coastal West Africa & Central Africa	2
	- Eastern & Southern Africa	2

Footnotes:

1. Suffixes (breeding) or (wintering) in population listings are solely aides to population identification. They do not indicate seasonal restrictions to actions in respect of these populations under the Agreement and Action Plan.
2. *Vanellus gregarius* is listed under the name *Chettusia gregaria* in Appendix I to the Bonn Convention.

Appendix II

GLOBALLY THREATENED MIGRATORY WATERBIRD SPECIES IN AEWA RANGE STATES

The occurrence of globally threatened species of migratory waterbirds in AEWA Range States, based on BirdLife International 2000 *Threatened Birds of the World*, the official source for birds in the 2000 IUCN *Red List of Threatened Species*. Breeding species are indicated with a 'B'; species occurring only as passage migrants and winter visitors are indicated with a 'W'. No attempt has been made to indicate relative numbers, and in some instances, the numbers of birds involved may be very small. Codes followed by an asterisk * mark species not included in *Threatened Birds of the World* but known nevertheless to occur in the country.

	Slaty Egret	Waldraap	White-headed Duck	Lesser White-fronted Goose	Red-breasted Goose	Marbled Teal	Siberian Crane	Blue Crane	Wattled Crane	Sociable Lapwing	Slender-billed Curlew	Total Number of species
Algeria			B			B					W	3
Armenia						B						1
Azerbaijan			W	W	W	B						4
Botswana	B								B			2
Bulgaria			W	W	W						W	4
Chad						W						1
Democratic Republic of Congo	B								B			
Eritrea										W		1
Estonia				W								1
Ethiopia									B			1
Finland				B								1
Greece			W	W	W						W	4
Hungary				W	W						W	3
Iran			B			B	W			W		4
Iraq			W			B				W		3
Israel			W			W				W		3
Italy											W	1
Jordan						W						1
Kazakhstan			B	W	W	B				B	W	6
Lithuania				W								1
Malawi									B			1
Mali						W						1
Morocco		B				B					W	3
Mozambique	B								B			2
Namibia	B							B	B			1
Netherlands					W							1
Nigeria						W						1
Norway				B								1
Oman										W		1
Poland				W								1
Romania			W	W	W						W	4

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Russia			B	B	B	B	B			B	B	7
Saudi Arabia										W		1
Senegal						W						1
	Slaty Egret	Waldrapp	White-headed Duck	Lesser White-fronted Goose	Red-breasted Goose	Marbled Teal	Siberian Crane	Blue Crane	Wattled Crane	Sociable Lapwing	Slender-billed Curlew	Total Number of species
South Africa	B							B	B			3
Spain			B			B						2
Swaziland								B				1
Sweden				B								1
Syria		B	W			W				W		4
Tunisia			B			B					W	3
Turkey			B	W		B				W	W	5
Turkmenistan			B	W*		B				W		4
Ukraine				W*	W						W	3
Uzbekistan			B	W*		B				W	W*	4
Serbia & Montenegro											W	1
Zambia	B								B			2
Zimbabwe	B								B			2



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