

AEWA Conservation Guidelines No. 7

Guidelines on the development of ecotourism at wetlands



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 of 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

AEWA Conservation guidelines

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.

Acknowledgements

These conservation guidelines were produced with financial support from the Ministry of Agriculture, Nature Management and Fisheries/ Department of Nature Conservation, the Swiss Agency for the Environment, Forests and Landscape/Division of Nature, and the DLO-Institute for Forestry and Nature Research (IBN-DLO, now Alterra, Wageningen) of the Netherlands.

Guidelines 1 to 9 were drafted by Albert Beintema, the late Dineke Beintema, Allix Brenninkmeijer, Simon Delany and Jeff Kirby and edited by Simon Delany and Derek Scott.

Drafts of five guidelines were discussed in Workshop 2 during the 2nd International Conference on Wetlands and Development in Dakar, November 1998. Many workshop participants gave useful comments.

The following people, in alphabetical order, provided information used for these guidelines, or commented on various drafts: Rachel Adams, Mindy Baha El Din, Sherif Baha El Din, Carlos Bento, Olivier Biber, Gerard Boere, Joost Brouwer, Luit Buurma, John Caldwell, John Clorley, Luis Costa, Earle Cummings, Elijah Danso, Nick Davidson, Bernard Deceuninck, Tim Dodman, Bob Douthwaite, Paul Eagles, Bart Ebbinge, Augustine Ezealor, Lincoln Fishpool, Vincent Fleming, Scott Frazier, Umberto Gallo-Orsi, Mariano Gimenez-Dixon, Andy Green, Patrick Green, Ward Hagemeijer, Elizabeth Halpenny, Jens Haugaard, René Henkens, John Harradine, David Hill, Baz Hughes, Alan Johnson, Tim Jones, Heribert Kalchreuter, Elena Kreuzberg-Mukhina, Namory Keita, Alexander Kozulin, Tony Laws, Yves Lecocq, Vicky Lee, Aivar Leito, Bert Lenten, Peter Leonard, Alison Littlewood, Heidi Luquer, Sonja Macys, Jesper Madsen, Gernant Magnin, Jamshid Mansoori, David Melville, Charles Mlingwa, Jérôme Mokoko Ikonga, Jean-Yves Mondain-Monval, Johan Mooij, Mike Moser, Wim Mullié, Dan Munteanu, Paul Murphy, Stephen Nash, Kike Olsder, John O'Sullivan, Michael Oneka, Dwight Peck, Stephan Pihl, Jim Porter, Crawford Prentice, David Pritchard, Rivo Rabarisoa, Marc van Roomen, Paul Rose, Rui Rufino, Luc Schifferli, Valentin Serebryakov, Marcel Silvius, Jan Willem Sneep, David Stroud, Barry Taylor, Wolf Teunissen, Graham Tucker, Janine van Vessem, Zoltan Waliczky, George Wallace, Rob van Westrienen, Johanna Winkelman, Marja Wren, Henk Zingstra.

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Prepared by Wetlands International

and

Adopted by the Meeting of the Parties to AEWA at its second session
(September 2002, Germany)

Last update 19-4-2005

Step chart

In the development of ecotourism at wetlands, each country should take the following steps:

Step 1: Appoint a governmental committee for ecotourism.

Step 2: Undertake an evaluation of the ecotourism potential of AEWA sites.

Step 3: Prepare a priority list of areas in need of tourism management.

Step 4: Decide on the type of management plan required at each site.

Step 5: Conduct a feasibility study at each site.

Step 6: Assess the vulnerability of the waterbirds at each site.

Step 7: Assess tools for the management of ecotourism.

Step 8: Install local ecotourism management committees.

Step 9: Draft ecotourism management plans.

Step 10: Implement the ecotourism management plans and revise as necessary.

Introduction

Tourism is an important source of income for many countries. Nature-related tourism is a world-wide phenomenon that is expanding rapidly. Nature-related tourism is only profitable in the long run if it is managed in a sustainable way. If the people benefiting from tourism come to realise this, tourism becomes a stimulus for nature conservation. As is said in park management in East Africa: "Wildlife pays, so wildlife stays".

Ecotourism may be defined as nature tourism that contributes to nature conservation. In a well-managed area with ecotourism, the right balance is struck between use and preservation.

Ecotourism is the only form of tourism acceptable in most AEWA sites. Many countries have yet to make full use of the possibilities for ecotourism at their important wetlands, and it is here that the development of ecotourism should be promoted.

If ecotourism is to succeed in the long term, the following principles should be adopted:

- Ecotourism should lead to nature conservation.
- Culturally and economically sensitive community development is necessary.
- Ecotourism should be designed in such a way that local communities become less dependent on non-sustainable forms of land use. This will also increase awareness of the importance of nature conservation.
- Ecotourism companies in both the public and private sectors should have an environmental strategy. Well-educated staff are essential.
- Tour operators and tourists demand high environmental standards from their associates, hotels, transportation providers and destinations.
- High-quality information and services are essential.
- Planning and management capabilities are essential for long-term success.
- Environmental protection is based upon the financial viability of management, both in the public and private sectors.

Usually, protected area managers, especially in less developed countries, lack the technical, economic and organisational resources required to manage and develop tourist activities effectively. In most cases, it is more appropriate to let out concessions to individuals, companies or local communities for specific tourist activities. This implies having a sound management plan for the site, and also the need for good enforcement of the relevant regulations. Concessions, along with entrance fees, contribute to self-financing mechanisms.

Improper management of ecotourism often results in damage to the environment, problems with visitor satisfaction, group conflicts and problems with funding.

The government should recognise that tax-based budgets should, as far as possible, fund resource management, and the private sector should recognise its role in providing some of the required funding, especially for tourist management and research on tourism. Both the government and the private sectors should be involved in and may benefit financially from ecotourism. In some countries, such as Kenya and Canada, parts or all of the national park service have been converted into parastatal self-funding corporations, with the ability to set fees, provide services and operate with the same flexibility as operators in the private sector. These corporations earn the money they need for park management from their visitors and the wider community.

Step 1: Appoint a governmental committee for ecotourism

Many countries already have an inter-departmental body dealing with tourism and another body dealing with nature conservation and the management of protected areas. In the latter body, the sector responsible for visitor management is often weakly developed (see Box 1).

Box 1: Ecotourism in Africa

Within Africa, there is a contrast between Western and Eastern Africa in the management of ecotourism in national parks. Levels of tourism in Eastern Africa are much higher than the levels in Western Africa, although the latter also has significant natural resources.

The reasons for this are:

- more visible wildlife concentrations in Eastern Africa
- more highly developed national transportation networks
- better hotel facilities
- better trained tourism staff
- stronger marketing
- better tourism infrastructure in the parks

The development and monitoring of sustainable ecotourism projects should be co-ordinated by a special committee. For countries that do not have special governmental structures dealing with tourism and nature conservation, a first step should be the appointment of a governmental development and monitoring committee for ecotourism.

Many different government departments will have to be involved to cover all of the issues involved, *e.g.*:

- tourism
- nature conservation
- economic affairs
- transport and infrastructure
- agricultural affairs
- water management
- justice (legislation and law enforcement).

The committee should further include:

- an expert on ecotourism
- an expert on wetlands and migratory waterbirds
- an expert on sustainable building design and infrastructure
- representatives of the non-profit (NGO) and academic sectors.

These may have access to resources and specialised information or they may have a direct connection with the local people that the government and the private sector do not have.

If foreign experts are to be called in, national counterparts should be appointed, to be trained in evaluation and management of natural resources, environmental impact and ecotourism. Eventually, these national experts will be able to evaluate other projects by themselves.

In some countries, it may not be possible to do everything at once, but ideally the tasks of the committee should be:

AEWA Conservation guidelines

- Developing insight into the present situation and the future potential of ecotourism in the country.
- Designing a strategy for developing sustainable ecotourism.
- Promoting national legislation that provides a legal framework for ecotourism activities in both the public and private sectors. The World Conservation Union-IUCN maintains an office in Bonn in Germany that specialises in environmental law and assessment, and could provide assistance in this regard.
- Preparing a national inventory of sites appropriate for the development of ecotourism, and a priority list of sites that are in most urgent need of ecotourism management (see Steps 2 and 3).
- Facilitating the preparation and implementation of management plans for these sites by helping to find the necessary funds and technical assistance for the parts concerning ecotourism (see Step 9, section 14).
- Promoting ecotourism, planning facilities and programmes related to ecotourism, encouraging public and private investment in facilities for ecotourists, and co-ordinating activities in all sectors of the ecotourism industry.
- Providing information on ecotourism.
- Serving as a liaison between countries about ecotourism.
- Evaluating the initiatives of others concerning ecotourism in protected and unprotected AEWA sites.
- Preparing national guidelines for handling ecotourism plans involving third parties. These should address:
 - fairness and a stable administrative environment for concessionaires;
 - a fair market value and reimbursement of costs to the government;
 - public safety and health;
 - assurances that tourism facilities and services offered to the public are satisfactory;
 - periodic inspection of concessions.
- Collecting data on national ecotourism.
- Monitoring and regulating ecotourism activities in the country.

Step 2: Undertake an evaluation of the ecotourism potential of AEWA sites

The potential for ecotourism should be evaluated at each site in the AEWA site inventory (see Guidelines No.3: *Guidelines on the preparation of site inventories for migratory waterbirds*).

For each site, the evaluation should consist of:

- Part 1: A description of the present situation regarding tourism and recreation.
- Part 2: An indication of the ecotourism potential, and a prognosis of:
 - the carrying capacity of the site, *i.e.* the maximum number of tourists that the site can accommodate on a sustainable basis;
 - the types of recreational activity possible in the area depending on the species of waterbirds occurring in the area, how the area is used by waterbirds, and the sensitivity of the habitats (see also Steps 6 and 7).

An expert on ecotourism and an expert on wetlands and migratory waterbirds should undertake the evaluation. Experts should visit sites for which the required information is not readily available. A draft of the resulting evaluation should be circulated to as many specialists as possible, and improvements made as necessary. The evaluation might then form the basis for one or more fundable projects.

Step 3: Prepare a priority list of areas in need of tourism management

Highest priority should be given to important waterbird sites in danger of becoming degraded by uncontrolled tourism. These will be the sites where tourism is intensive (Part 1 of the evaluation) and the carrying capacity is low (Part 2).

When a management plan is prepared for an AEWA site (see Guidelines No.4: *Guidelines on the management of key sites for migratory waterbirds*), all possibilities for sustainable ecotourism should be taken into consideration, especially if there is high potential for ecotourism.

Priority should also be given to protected areas for which management plans have already been prepared, and which seem suitable, according to information obtained in Part 2, for higher or more varied use by ecotourists than is presently the case (as established in Part 1). The management plan should then be updated with special regard to the development of a strategy for ecotourism.

If funds are already available to develop facilities for ecotourism at a particular site, this may be a reason to move the site higher up the priority list.

A draft of the resulting priority list should be circulated to as many specialists as possible, and improvements made as necessary.

Step 4: Decide on the type of management plan required at each site

The initiative to develop ecotourism at a specific site may be taken either by the government (through the governmental committee for ecotourism), or by other bodies such as:

- officials of a local, regional or national park;
- a local, regional, national or international nature conservation NGO;
- a local, regional, national or international tourism organisation or tour operators;
- other organisations or individuals, such as hotel owners and operators of craft shops;
- a local community as a whole.

It is recommended that in each case a complete management plan be prepared (see Guidelines No.4: *Guidelines on the management of key sites for migratory waterbirds*). If this is not possible at the time, a special ecotourism plan could be prepared first. However, a comprehensive management plan should be developed as soon as possible.

The public sector, landowners, the private sector service providers and the local community as a whole have a responsibility to guide commercial development in an appropriate direction. In many instances, it will be necessary to adopt an integrated approach to regional planning throughout a much larger area than the site itself.

The public sector (local, regional or national government) is responsible for:

- environmental protection;
- the limits of acceptable change;
- monitoring of impacts and evaluation of quality;
- infrastructure (roads, airports, railway lines, electricity, sanitation);
- security and law enforcement;
- the resolution of conflicts.

The public or private sector, together with the local community as a whole, could provide:

- personal services (accommodation, food);
- transportation (buses, boats, motor vehicles, aircraft);
- information (guides, films, books, videos);
- site promotion and advertising;
- consumer products (clothes, souvenirs, equipment).

Step 5: Conduct a feasibility study at each site

Before embarking on a detailed ecotourism management plan, a feasibility study should be carried out by a group of key persons including individuals who are involved or may have a future interest in management of ecotourism at the site. This study should include the environmental, socio-cultural and financial aspects.

If a nation-wide evaluation of the tourism potential of AEWA sites has already been undertaken by the governmental committee (see Step 2), this may be used as the basis for a site-specific feasibility study. The preparation of this feasibility study might form a fundable project.

The group of persons carrying out the study should, as a minimum, include:

- the owner of the site;
- representatives of local communities;
- an expert on ecotourism;
- an expert on waterbirds and wetland habitats;
- an expert in sustainable building design and infrastructure.

It is important that an experienced professional from the ecotourism sector is involved at this early stage.

The group should prepare a detailed outline of the potential of the site for ecotourism by exploring the possibilities for tourists to observe waterbirds without causing undue disturbance (see Step 6), the available management tools (see Step 7) and the possibilities for establishing facilities for ecotourists (see Step 9). Taking socio-cultural aspects into consideration, the group should assess the financial viability of ecotourism at the site. If the results of the feasibility study are positive and a decision is taken to go ahead with the development of ecotourism, the group may itself form the nucleus of the ecotourism management committee for the site (see Step 8).

Step 6: Assess the vulnerability of the waterbirds at each site

The feasibility of developing sustainable ecotourism at an important site for migratory waterbirds will depend on how the birds use the site. Information on where, when and how each species uses the site should be gathered from the literature, waterbird experts and the local people. Special attention should be given to the requirements of globally threatened and near-threatened species using the area.

The site may be used by waterbirds as:

- a breeding site for dispersed species;
- a breeding site for colonial species;
- a moulting area;
- a staging area;
- a wintering area.

Different measures and precautions have to be taken for each of these different types of use.

A detailed study of the effects of disturbance on breeding birds in The Netherlands came up with a number of general conclusions that are applicable elsewhere in the AEWA area.

- A walking individual is more threatening to birds than are people in a vehicle or on horseback.
- The disturbance caused by a group of people is comparable to that caused by a single person.
- The level of disturbance is linear to the logarithm of recreational intensity; thus, as the intensity of recreation increases, the additional disturbance caused becomes relatively less important.
- Sensitivity to disturbance is a combination of the level of 'shyness' of a bird and its risk of exposure to the disturbing factors.
- The level of 'shyness' is different for each species.
- Birds are more sensitive to disturbance in open habitats.
- The closer a bird nests to the ground, the more likely it is to be affected by disturbance.
- The greater the intensity of recreation, the lower the density of breeding birds, because birds move away from the disturbed areas to find alternative nesting sites elsewhere.
- The longer the breeding season, the greater the effects of disturbance. This is especially the case in Western Europe, because of the increase in recreation as the spring progresses. In this region, species with synchronised breeding early in the season are less sensitive to disturbance than species with protracted or late breeding seasons.
- Flocks of birds are more easily disturbed than solitary birds.
- Nidifugous birds can walk away from disturbance and therefore are less vulnerable to disturbance than nidicolous birds.
- The more closely a species is tied to a specific habitat, the more sensitive it is to disturbance of that habitat.
- The more obvious and visible the species, the more sensitive it is to disturbance.

The breeding birds of Europe were divided into sensitivity classes, and waterbirds were generally found to belong to the more sensitive groups (see Box 2).

Much research has been carried out on the effects of disturbance on waterbirds wintering and staging in estuarine habitats in Western Europe and the results may be applicable elsewhere in the AEWA area. The most important requirement for migratory waterbirds on their staging and wintering areas is to secure enough energy (food) to reach their wintering grounds or their breeding grounds, to lay eggs and to raise their young. They need enough time to do this. In general, human disturbance adds to disturbance from natural causes, e.g. disturbance caused by birds of prey or the rising of the tide. At critical stages, this extra disturbance may be just too much. If the birds are disturbed, they have less time left for feeding, and also waste energy escaping from the disturbance. Furthermore, the density of feeding birds is highest in the best

feeding areas and, as with breeding birds, groups of birds are more easily disturbed than solitary individuals.

Box 2: Vulnerability of some European breeding waterbird species to disturbance from recreation

Class 1: Very vulnerable to disturbance

Ardea purpurea
Casmerodius albus
Ixobrychus minutus
Botaurus stellaris
Ciconia nigra
Platalea leucorodia
Anas penelope
Anas acuta
Somateria mollissima
Grus grus
Recurvirostra avosetta
Eudromias morinellus
Numenius arquata
Philomachus pugnax
Larus melanocephalus
Sterna nilotica
Sterna sandvicensis
Sterna hirundo
Sterna paradisaea
Sterna albifrons
Chlidonias leucopterus
Chlidonias niger

Class 2: Vulnerable to disturbance

Podiceps grisegena
Anser anser
Tadorna tadorna
Anas strepera
Anas crecca
Anas querquedula
Anas clypeata
Netta rufina
Aythya ferina
Aythya fuligula
Porzana parva
Pluvialis apricaria
Charadrius hiaticula
Gallinago media
Gallinago gallinago
Limosa limosa
Tringa totanus
Tringa glareola
Tringa hypoleucos
Calidris alpina

Class 3: Fairly vulnerable to disturbance

Ciconia ciconia
Cygnus olor
Anas platyrhynchos
Bucephala clangula
Mergus serrator
Porzana pusilla
Fulica atra
Charadrius dubius
Charadrius alexandrinus
Vanellus vanellus
Tringa ochropus

(Source: Henkens, 1998).

Disturbance is especially damaging at certain critical stages in the birds' annual cycle, when the energy demand is highest.

- Immediately after the breeding season, when the birds need to fatten up for migration.
- Immediately after migration, when they arrive at a staging or wintering area, and are still in poor condition.
- Immediately before the start of migration back to the breeding grounds and during stop-overs on or at the end of this migration. In these cases, the effects of insufficient food intake on individuals or populations may not be visible in the wintering or staging areas, but become apparent on the breeding grounds later in the season.
- During periods of extreme cold weather in winter.
- During the moult.

Step 7: Assess tools for the management of ecotourism

Powerful tools for the management of ecotourism at sites with important waterbird populations include:

- zoning in space;
- zoning in time;
- planning and mapping of the infrastructure;
- planning and mapping of other ecotourism facilities;
- informing ecotourists and tour operators and marketing a site.

Zoning in space

This tool may be used to disperse visitors by opening up large parts of the area, or to concentrate use in certain parts by offering access possibilities there and limiting the possibilities elsewhere. Thus, a whole range of visitor densities in different parts of the area may be created. In addition, different types of visitors may be separated by providing different opportunities for recreation in different parts of the area, without imposing limitations on access. If necessary, parts of the area might be closed to the public, or declared open only for the purposes of scientific research.

Zoning in time

Waterbirds often use an area differently at different times of the year. In open areas, it is difficult to shield approaching visitors from the birds' view. It may be necessary to limit the number of visitors during certain times of the year, or to close down certain roads and paths so that a large proportion of the area (in the middle or at one corner) remains undisturbed. Seasonal restrictions on boating activities may be required at water bodies which support large concentrations of feeding or roosting waterbirds during the migration seasons and/or in winter. Moulting birds are especially vulnerable to disturbance, and visitors should be kept out of moulting areas during the moulting season.

In some cases, a little disturbance may not be too harmful. It may then be possible to satisfy the demands of two types of tourists by allowing them access at different times of the day. For example, in the morning visitors might be given access in slow-moving vehicles. This would give visitors an opportunity to see flocks of birds at close range. In the afternoon, access could be restricted to visitors on foot. The birds would move further away, but the visitor would have more of an outdoor experience.

Planning and mapping of the infrastructure

If possible, the existing infrastructure should be used as a starting point in the establishment of a network of trails, roads, boardwalks *etc.*, to prevent any unnecessary damage to the environment. The design should indicate the way the route is meant to be used (driving, walking, cycling). A trail can:

- lead visitors to observe and experience special features and spectacular localities;
- point out less obvious characteristics that most visitors would normally fail to notice;
- guide people away from places that the site managers do not want them to visit;
- confine visitors to specific points and narrow corridors in vulnerable areas.

Planning and mapping of other ecotourism facilities

- No facilities should be planned in open areas important for waterbirds, unless these are very large.
- In wooded areas, well-maintained hides or observation towers with carefully hidden access paths can be constructed to enable visitors to obtain close views of concentrations of waterbirds, *e.g.* breeding colonies of waterbirds.
- In sites that are used as wintering and staging areas, special attention could be given to constructing facilities (*e.g.* an open observation tower with a bench) for people to watch the daily movements of certain species between feeding areas and roosts, both inside and

outside the protected area. Such flights can be very spectacular, and many visitors enjoy standing or sitting at a strategic spot to see these at sunrise and/or sunset. It is often possible to find a good location for viewing these flights that does not cause any disturbance to the birds.

- Facilities such as benches and picnic tables encourage visitors to remain in one area for a considerable period of time, and should only be provided in areas where there is a low risk of disturbing birds. It may be advisable to plan clusters of such facilities at well-hidden sites, and provide only single benches or tables in more open areas, if at all.
- The planning of other facilities will depend on the numbers of visitors that are acceptable in the area. Large and attractive facilities will encourage large numbers of visitors; a lack of facilities will tend to keep numbers down.
- Facilities such as visitor centres and lodges, if advisable at all, must be situated well away from the areas important for the birds, and are often best planned outside the actual AEWA site. The capacity of lodges, hotels and campgrounds must be adapted to the carrying capacity of the site.

Informing ecotourists and tour operators and marketing a site

- Visitors should be well informed about the measures that have been taken and the reasons for them. Ecotourists will appreciate good information, and are more likely to obey the rules if they understand them.
- Visitors should be given information on why the site exists, what there is to see, how they can see it, how to behave, and what there is to attract them back again. The objective is not to restrict user behaviour, but to modify it through improved understanding. There should be pre-trip information, information on arrival, and on-site information, given by guides, by leaflets or by signs along self-guided tours.
- Marketing and the distribution of accurate information may be a tool to attract more of the intended type of visitors, both nationally and internationally.

The feedback from tourists and other visitors may also be used as a management tool.

Step 8: Install local ecotourism management committees

A local committee should be established to manage the development of ecotourism at an AEWA site. The extent to which the governmental committee (Step 1) should be involved will depend on the stage of implementation of an ecotourism management strategy for the country as a whole.

The local committee should manage the development of ecotourism at the site from the very beginning, and should have the authority to enforce the rules and regulations of the management plan it is to develop.

The ecotourism management committee may consist of the following:

- ecotourism experts;
- experts on waterbirds and their wetland habitats;
- experts in building design and infrastructure;
- resource managers and park officers (public, private);
- guides, if already available;
- local and regional politicians and administrators;
- subsistence farmers, local hunters and fishermen;
- commercial 'safari' hunters;
- commercial tourist operators;
- owners of hotels, lodges and campgrounds;
- service personnel;
- local vendors;
- other individuals who have an interest in the area.

It may be practical to begin with a number of sub-committees to analyse the different aspects of the work.

The tasks of the committee will be to:

- supervise collection and analysis of data on natural resources, visitor use and local use of the area;
- identify possible resource conflicts (*e.g.* between ecotourism and fishing);
- determine objectives for each tourist zone;
- design an ecotourism management plan (Step 9);
- evaluate the financial viability of each part of the plan.

If financial viability of the essential parts of the plan is secured, the committee will then take responsibility for:

- implementation of the plan (Step 10);
- monitoring, reviewing and revising the plan.

The implementation plan should be a gradual, phased plan that can accommodate limited numbers of tourists and low finances in the early phases, and can be expanded in later phases as the need arises (*i.e.* as more tourists become interested in the site). Such a step-wise approach should be planned from the start. An additional advantage of this approach is that it is easier to incorporate modifications into the plan if the need for these becomes apparent from monitoring. A phased approach also provides better opportunities to measure success in implementation, and therefore better opportunities to demonstrate that the project is worthwhile and worthy of further investment. It may be difficult to obtain political support for a project if there are enormous initial capital costs but only long-term expectations.

Step 9: Draft ecotourism management plans

Many examples of outlines for management plans can be found in the literature. The model used here is based on Guidelines No.4: *Guidelines on the management of key sites for migratory waterbirds*.

The ecotourism management plan should consist of the following:

1. Description of the site.
2. Ecotourism strategy.
3. Involvement of the local community.
4. Facilities inside the protected area.
5. Facilities that may be constructed inside or outside the area.
6. Facilities in the wider region.
7. Information material.
8. Marketing plan.
9. Education plan.
10. Monitoring plan.
11. Management strategies.
12. Co-operation in the public and private sectors.
13. Projects, programmes and work plans.
14. Financial plan.
15. Review plan.
16. Additional information.

As was emphasised in Step 5, a gradual step-wise approach should be adopted in the development and implementation of the management plan. The plan should accommodate limited numbers of tourists and low finances in the early stages, but should be designed to be expandable as the need arises (*i.e.* as more tourists visit the area).

1. Description of the site

Natural resources:

- Many countries have aerial photographs and land-use maps. Standardised data sheets can be used for the following:
 - a description of the habitats;
 - information on existing infrastructure and human activities (*e.g.* roads, docks, fishing, agriculture) that can serve as a starting point for the development of infrastructure for ecotourism;
 - an inventory of the species of waterbirds in the area and the way they use it (see Step 6).Much of this information may already be available as a result of the implementation of other AEWA guidelines.
- The relationship of the site to other ecosystems (*e.g.* the presence of important wildlife corridors) should be documented at all seasons.
- The possibility of twinning the site with one or more related areas in another country should be considered (see Box 5 in Guidelines No.4: *Guidelines on the management of key sites for migratory waterbirds*).

Visitors:

- Data on the use of the area by visitors in different parts of the year and the day should be collected and analysed.

Local use:

- Data on the use of the site by the local population should be collected and analysed, to identify possible resource conflicts.

2. Ecotourism strategy

- Establish goals for the maintenance of environmental integrity, and determine limits of acceptable change.
- Determine the various types of zones for ecotourism in the protected area in both space and time, and delineate these on a map.
- Decide which types of activity are acceptable (hiking, cycling, rowing, driving off-road), in which zones and in which period of the year.
- Decide on the 'recreational carrying capacity' of the site, *i.e.* the number of people that the site can absorb at different times of the year.
- Develop ideas for guided tours, nature walks, self-guiding tours *etc.*
- Decide on procedures for allocation of access. Alternatives include:
 - First-come, first-served at the gate.
 - First-come, first-served at pre-registration. Pre-registration should guarantee visitors access to campgrounds, hotels, special tours and other facilities that may be limited. Pre-registration will depend on the availability of simple computer systems and on good marketing.
 - A combination of both. A proportion of the available places is allocated at the gate, and the remainder at pre-registration. The proportions may vary at different times of the year according to holiday seasons.
 - Limit the length of stay by limiting the amount of time visitors can spend in the area, at the campgrounds or in the lodges or hotels.
 - Ensure that no exceptions are made to the rules, to prevent irritation amongst visitors.
- Decide on access fees for tourists and tour operators. In some cases, the fees are higher for foreign tourists than for domestic tourists.
- Formulate guidelines for visitor behaviour and use. The Ecotourism Society has produced strict guidelines to govern all aspects of the ecotourism experience.
- Formulate guidelines for tour operators.
- Formulate guidelines for other user groups, *e.g.* local fishermen and hunters (see also Guidelines No.5: *Guidelines on sustainable harvest of migratory waterbirds*).
- Formulate contracts for concessionaires (tour guides, operators of hotels, lodges, campgrounds *etc.*).

3. Involvement of the local community

- Any restrictions on resource use indicated in the ecotourism strategy for the site should be taken into consideration. Implementation of other AEWA guidelines can provide information in this respect (sustainable harvest, crop damage, *etc.*).
- The main objectives of community involvement should be increased employment opportunities, diversification of the local economy, increased markets for local products and improved infrastructure for transportation.
- In some cases, the entire community can be involved in the management of ecotourism (community-based ecotourism).

A forum should be created with the local community to discuss local involvement in ecotourism activities.

- An inventory should be made of other local 'resources' of interest to ecotourists, *e.g.* historical sites, sites of architectural or archaeological interest, local crafts, local produce and folklore. This inventory should include not only the site itself but also the surrounding areas.

AEWA Conservation guidelines

- Discuss which areas or buildings tourists should not visit for religious or social reasons.
- Decide on possibilities for 'ethnic' tourist accommodation in the villages.
- Decide on the types and numbers of shops (souvenirs, local produce) and tours that will be permitted in and around the area.
- Discuss local involvement in bicycle and/or canoe rental or guided tours in the area.

Ecotourists require no special luxuries. Facilities should be well positioned and well adapted to the environment, and preferably constructed in the local building style. Basic requirements include clean drinking water, good sanitation and good waste disposal facilities. These should be clearly sign-posted. The local surroundings should be kept as authentic, traditional, attractive and clean as possible.

It is possible that not all facilities and services can be owned and operated by local people from the outset, because of a lack of money and/or expertise. However, this could be a goal for the future.

4. Facilities inside the protected area

The type and number of facilities will depend on the habitats, the way the waterbirds use the area, and on the ecotourism strategy. They may include:

- Roads. A network of well-defined viewing roads should be developed if appropriate, and a strict policy against off-road driving should be enforced.
- Boardwalks, walking paths, nature trails and other interpretative trails.
- Cycling paths.
- Observation towers and hides, and, if necessary, screens along roads, paths and entrances to hides to shield approaching visitors from view.
- Rest areas and picnic areas; for most ecotourists, a simple bench or picnic table will suffice.
- Boat ramps or piers for embarking on boat trips.
- Explanatory panels, signs, directions *etc.* These should not spoil the landscape.
- Facilities for clean drinking water.
- Electricity.
- Facilities for sanitation and waste disposal.

5. Facilities that may be constructed in or outside the site

Depending on the ecotourism strategy, these may include:

- An education centre, with information and programmes for:
 - ecotourists;
 - guides and guards;
 - the local population.
- Guard posts in or along the edges of the site.
- Hotels and lodges.
- Campgrounds.
- Accommodation in or near people's homes.
- Cafes and restaurants.
- Restrooms.
- Bicycle rental facilities.
- Canoe rental facilities.
- Souvenir shops, local craft shops and shops selling local produce.
- Other shops, *e.g.* an outfitting company with specialised books, other relevant information, specialised equipment (binoculars, cameras, film *etc.*), appropriate clothing and food.

These facilities may be privately or publicly funded and/or managed. If they are privately constructed, a standard outline for a 'Tourism Concession Operational Plan' (see Box 3) and a

set of standard conditions should be used, to ensure that the facility is developed in accordance with the ecotourism strategy for the site. It is important to ensure that even if the facility is not locally owned, local people are involved as much as possible in the running of the facility. Private guides (local or otherwise) should be required to operate within the framework of a pre-designed contract or concession.

Above all:

- Use a sensitive design for facilities that fits in well with the authentic local style. Fancy modern buildings should not be erected near attractive local villages.
- Construct facilities with a minimum of environmental impact. If possible, use local materials.
- Use low quantities of water.
- Use low quantities of electricity. Whenever possible, use water, wind or solar energy to generate electricity on site.
- Implement an appropriate system for the treatment of solid waste and wastewater.

Box 3: Concessions for tourist facilities

A report on the assessment of ecotourism in Bao Bolon and Kiang West National Park in Gambia (USAID, 1994) contains an example of an outline for a Tourism Concession Operational Plan. This could provide a useful model for the management of tourist facilities in other areas.

The main contents of the operational plan are as follows:

- I. Brief description of concession size and facilities
- II. Visitor management
 - A. Rules and regulations
 1. Storage areas
 2. Vehicle and boat parking
 3. Roads and traffic
 4. Beach and boat use
 5. Day use
 6. Length of stay
 7. Number of people
- III. Facility management
 - A. Hours of operation
 1. Yearly
 2. Seasonally
 3. Weekly
 4. Holidays
 - B. Reservation and refund policy
 - C. Services
 1. Scope
 2. Quality
 3. Rates
 4. Public comments
 - D. Safety and sanitation
 1. Inspections
 2. Signs
 3. Garbage
 4. Fire detection
 5. Fire suppression
 6. Accident reporting

IV.	Staffing and employment practices
A.	Number of employees
B.	Training
V.	Public information
A.	Signs
B.	Literature
C.	Advertising

6. Facilities in the wider region

The regional and/or national government should take responsibility for providing adequate infrastructure in the surrounding area. If the ecotourism strategy allows for many more visitors than are currently using the area, it is important to ensure that the road network and public transportation services in the surrounding area are sufficient to cope with the predicted increase in numbers.

7. Information material

A variety of information materials should be made available to ecotourists and tour operators.

- Information on the natural resources of the site, especially the waterbirds. Books, a periodically published magazine or newsletter, posters, postcards and audio-visual materials might be prepared in co-operation with commercial publishers, with some of the profits going to the site.
- Interpretative trails. Information on signs in the area or in pre-recorded audio devices located at significant points along the trails. This information may also be available in brochures, nature trail guides and trail maps.
- Information on what is going on in the park, *e.g.* guided tours and programmes, such as slide shows, nature talks and campfire programmes.
- Information on other natural and cultural resources in the area.
- Practical information on accommodation (hotels, lodges, campgrounds), restaurants, shops *etc.*
- Practical information on access, restrictions, the range of opportunities for different experiences, the transportation network, prices *etc.*
- General information on the site that is available at other places within and outside the country, and can be sent out to visitors who book in advance. Good technical information should be available to assist visitors in planning their trips (*e.g.* information on whether or not they will require a 4-wheel drive vehicle).
- Information on how the facilities have been constructed and are run with minimum impact on the environment. This makes good advertising. If part or all of the visitor fees are being used in the management of the site, this fact should be made clear to the visitors.
- Information materials (slides, films, exhibits) for display in the visitor centre.
- Materials for training courses for reserve personnel and local guides (see section 9, below).

8. Marketing plan

Marketing materials should not only consist of information about the site itself, but also include information about other biological, cultural, historical and archaeological features of the area. In this way, it can be made clear that a visit to the region is worthwhile.

- National marketing can be carried out in combination with other sites in the country. Obtain expert advice on the best ways of advertising the opportunities for ecotourism, and decide how widely these opportunities should be advertised internationally.
- Develop a plan for the distribution of information materials.
- Develop a plan for the distribution of guidelines for ecotourists and tour operators.

9. Education plan

Education should be provided for all people working at the site. In several parts of the AEWA area, there are training possibilities for the employees of nature reserves. Some of the available courses include visitor management.

In many cases, training will have to be arranged at the site, with experts brought in from outside to run the training courses. Training is required for:

- Site managers.
- Guides (reserve personnel, local people).
- Guards.
- Personnel of visitor centres and education centres.
- Personnel of hotels, lodges, campgrounds and shops.
- Local volunteers.
- Tour guides and tour operators.

As many of the reserve personnel as possible should be fluent in one or more foreign languages. Environmental education programmes should also be organised for the local people (e.g. school children and people not directly employed in ecotourism).

10. Monitoring plan

Monitoring programmes, using standard data sheets, should be designed to measure:

- The impact of tourist use on environmental quality.
- Visitor numbers at different times of the year and in different parts of the site, group size, type and duration of visits, interactions between visitors, crowding *etc.*
- The quality and adequacy of the facilities (erosion of paths, development of undesirable paths *etc.*).
- The adequacy of the programmes offered to visitors, employees and the local population.
- Social impacts on local residents.
- Visitor satisfaction, and the extent to which the expectations of visitors (from oral and written pre-trip information) have been fulfilled. High visitor satisfaction is very important to promote the site.
- The financial results.

11. Management strategies

Strategies should be designed to manage:

- Environmental impact (trail maintenance programmes *etc.*). The maintenance of hides and screens, for example, is very important to prevent disturbance to the waterbirds.
- Tourist numbers and problems with over-crowding.
- Water resources, energy and human waste.
- Law enforcement. A small number of badly behaved visitors can have a large negative impact on the natural and social environment.

12. Co-operation in the public and private sectors

Good management is dependent, in the long run, on regular feedback from all people involved. This is the only way to prevent conflict between different interest groups. The local ecotourism committee should meet regularly at or near the site, and experts should be invited to attend these meetings as necessary.

13. Projects, programmes and work plans

All proposed ecotourism activities at the site should be formulated in well-defined projects, programmes and work plans. These should describe exactly what should be carried out and when, who will be involved, and how much it will cost.

14. Financial plan

The aim of financial management should be to make the area self-financing. Funding is required for:

- construction of facilities;
- maintenance of facilities;
- management personnel;
- education and interpretation;
- monitoring;
- research.

The government will be responsible for some elements of the funding, while the private sector may be largely responsible for others (see Step 4). Private entrepreneurs should cover a proportion of the costs of construction and maintenance of those public facilities that benefit private enterprise.

The national government may ask for a small part of the revenues derived from ecotourism at the site, for example to develop and maintain the infrastructure in the region. As far as possible, however, the bulk of the profits should be used for management of the park itself and the economic, social and ecological development of the surrounding area.

Implementation of the plan should not be started until funding for the essential parts of the plan has been secured.

15. Review of the plan

Review of the plan is a continuous process. Reports reviewing progress with projects, programmes and work plans should be produced at frequent intervals.

16. Additional information

The ecotourism plan can also include:

- a list of references (literature);
- a list of resource persons (experts) and organisations;
- a list of tour operators who could be involved;
- a timetable for the implementation of the plan;
- a timetable for the associated projects, programmes and work plans;
- the budget.

A draft of the ecotourism plan should be circulated to experts in all relevant fields for comments and improvement.

Step 10: Implement the ecotourism management plan and revise as necessary

In the development of ecotourism at a site, initial financial investments are required before any revenues can be generated. Implementation of the ecotourism plan should not be started until financing of all essential parts of the plan (as formulated in projects, programmes and work plans) is assured. Otherwise, in the long run the costs, in terms of damage to the natural environment and other resources, may forever exceed the profits.

For implementation and revision procedures, see Guidelines No.4: *Guidelines on the management of key sites for migratory waterbirds*.

References and useful web sites

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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>

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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/piesteria/>

<http://www.whoi.edu/redtide/>

Lead poisoning

<http://www.unep->

[aewa.org/publications/other_publications.htm](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>

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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>

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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>

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- 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

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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

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- 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.
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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

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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

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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>

AEWA Conservation guidelines

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>

AEWA Conservation guidelines

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Environment Conservation and Management Division
Palais de l'Europe
Avenue de l'Europe
67075 Strasbourg Cedex
France
Tel.: +33-3-88412253
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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
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Fax: +41-22-999-0169

AEWA Conservation guidelines

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
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B-1030 Brussels
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WWW: <http://www.face-europe.org/>

Trade

TRAFFIC International
219c Huntingdon Road
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Tel: (44) 1223 277427
Fax: (44) 1223 277237
E-mail: traffic@WCMC.org.uk

TRAFFIC Europe
Waterloosteenweg 608
1060 Brussels
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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
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Ecotourism

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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/>

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:

AEWA Conservation guidelines

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

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Hermann-Ehlers-Str. 10
53113 Bonn
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www.unep-aewa.org