



*Secretariat provided by
the United Nations
Environment Programme
(UNEP)*

Agenda item: 12a
AEWA/MOP2.19/Rev.1
27 September 2002
Original: English

SECOND SESSION OF THE MEETING OF THE PARTIES TO THE AGREEMENT ON THE
CONSERVATION OF AFRICAN-EURASIAN MIGRATORY WATERBIRDS (AEWA)
GERMANY, 25-27 SEPTEMBER 2002

Proposal for the IMPLEMENTATION PRIORITIES 2003-2007

Prepared by Wetlands International

INTRODUCTION

The following list of priority activities has been established to assist Contracting Parties, donors and other stakeholders to further the implementation of the Action Plan of the African Eurasian Waterbird Agreement during the period 2003-2007.

At the first Session of the Meeting of the Parties to the Agreement on the Conservation of African-Eurasian Migratory Waterbirds, which took place from 6-9 November 1999 in Cape Town (South Africa), the International Implementation Priorities for 2000-2004 were adopted via Resolution 1.4. Wetlands International was asked by the AEWA secretariat to update the list and to present the priorities for the period 2003-2007.

Implementation Priorities 2000-2004 as the basis

In a separate document (MOP 2.10) the implementation status of the priorities over the period 2000-2004 is presented, focussing on actions undertaken or in progress within the AEWA framework (more may have been undertaken by individual countries or other agencies in a different context). Document MOP 2.10 shows that, although there was considerable progress, many priorities have not yet been implemented, mainly because of a lack of funding. Priorities that have been or are currently implemented do not re-appear in this list of 2003-2007 priorities.

Consultation

In order to identify the most important changes and additions that were needed to the existing implementation priorities, the AEWA secretariat and Wetlands International set up a wide consultation. This updated list is based on an extensive consultation with the Range States and a large expert network, including research institutes, conservation NGO's, Specialist Groups and others. Comments were received from 3 Range States and a number of co-ordinators from Wetlands International Specialist Groups and other experts. The consultation made clear that, although quite a few of the activities from the list as adopted in 1999 have been implemented, the remaining list of activities is still valid.

Nature of suggested changes

The external consultation network has proposed a limited number of **suggestions to change existing priorities**. Most of the suggestions for changes could easily be included in the existing formulation of the priority activities. Several of these suggestions dealt with a more practical or logical way the activities could be organised.

Important suggestions for change of existing priorities, which have been included are: climate change aspect in no.9; by-catch problems in no.24; better use of ringing data in no. 19; aerial surveys in developing countries in no. 29.

Suggestions for additional priority activities are more numerous. They are presented in **Bold Italics** for discussion purposes. In some cases, what was proposed to be an additional priority appeared, on closer examination, to be an extension to existing priorities. These new components have then been included within the existing priority, printed in *italics*.

Order and format of presentation

As in the 2000-2004 version, the presentation of the priorities in this document follows the headings of the Action Plan to the Agreement. The number(s) in parentheses after each priority title refers to the relevant paragraph of the Agreement's Action Plan. The order of presentation does NOT reflect any order of priority.

For each priority, an indicative budget and timescale is presented for guidance, along with the types of activity involved. It should be noted that the budgets are only indicative. Detailed project proposals and budgets to meet each priority will be required at a later stage and should be the basis for the final fundraising.

Discussion

In the consultation, many of the comments included a remark that during AEWA/ MOP2 a discussion on priorities should take place and that the Parties should establish a list of priorities. This document is providing the basis for that discussion.

The priorities include only those requiring international co-operation, and are not intended to reflect national implementation priorities, which must be determined by each Contracting Party and could include more on the ground conservation activities. A number of the comments underlined the importance of on the ground activities. Four types of international co-operation will be appropriate to addressing these priorities:

- Exchange/transfer of information
- Co-operative research
- Exchange/transfer of expertise
- Financial assistance

2004-2007 IMPLEMENTATION PRIORITIES

A. SPECIES CONSERVATION

1. Implement existing international single species action plans (AP 2.2.1)

Prior to the entry into force of the Agreement, a number of international single species action plans relevant to Paragraph 2.2.1 of the Agreement's Action Plan had already been developed (by BirdLife International, Wetlands International and the International Crane Foundation). These include action plans for: *Phalacrocorax pygmeus*, *Pelecanus crispus*, *Botaurus stellaris*, *Anser erythropus*, *Branta ruficollis*, *Marmaronetta angustirostris*, *Oxyura leucocephala*, *Aythya nyroca*, *Polysticta stellerii*, *Grus leucogeranus*, *Crex crex*, *Fulica cristata*, *Numenius tenuirostris*, *Larus audouinii*, and *Sterna dougallii*. (NB. Several of these action plans cover the European part of the range of the species only, and a priority is to extend them to cover their full range within the Agreement area (see next item)). Whilst many of the actions identified for these species will have to be undertaken and financed at national or local level, a budget is required for international coordination and promotion, and to provide small grants for national and local initiatives.

Indicative budget: US\$ 50,000 min. /species / year (for co-ordination / grants)
Duration: Annual, ongoing
Activities: Co-ordination, small grants, evaluation, reporting

2. Develop new international single species action plans (AP 2.2.1, 7.4)

New international single species action plans need to be developed for the populations listed in category 1 of Column A of Table 1 to the Agreement Action Plan as a priority, and for those species listed with an asterisk in Column A of Table 1. Production and format of the action plans should follow the recommendations given in the relevant Conservation Guideline. As soon as the new action plans are prepared for each species, implementation should begin. In view of the large number of action plans to be prepared, it is strongly recommended that the most urgent attention be given to globally threatened species. Furthermore it is recommended that individual range states agree to take the lead on development of individual action plans (as an in-kind contribution to the Agreement), in close co-operation with the other range states for each species (co-ordination of plan development including workshops, drafting, consultation and publication of each plan). Plans should be submitted to the Technical Committee in draft form before final approval, to ensure harmonisation and quality control.

Indicative budget: US\$ 40,000 per species for action plan preparation
Duration: 12 months per plan
Activities: Co-ordination, workshop, planning, publication

B. HABITAT CONSERVATION

3. Identify all sites of international importance for AEW species (AP 3.1.2, 7.4)

A vital piece of information for the conservation of any migratory species is an understanding of the network of key sites required to sustain their populations throughout the year. A large body of information already exists concerning key sites for migratory waterbirds (ie. sites which meet the Ramsar criteria of international importance for waterbirds and IBA's). This information has largely been collected through the International Waterbird Census of Wetlands International, but also through BirdLife International's IBA programme and Endemic Bird Areas programme, wetland inventories (particularly the Directory of Wetlands of the Middle East) and one-off surveys of remote areas. It is proposed to compile from these various existing sources a 'matrix'

of Key Sites X Species, which will show all known internationally important sites for each species covered by the Agreement. This matrix will be made available in database form through the World Wide Web as a planning, conservation and awareness tool.
The successful presentation of the results of this activity depends on the completion of I.P. 4.

Indicative budget: US\$ 125,000
Duration: 2 years
Activities: Desk study, review, database, Web Site

Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/A/Ramsar flyways project that will be submitted end 2002.

4. **Creating an inter-active tool that presents information of important sites for migratory waterbirds.** (AP 3.1.2, 7.4)

Currently large amounts of data exist in databases on migratory waterbirds (IWC) and the sites they depend upon in the AEW/A region (IBA, Ramsar Database). Those data reside with the custodians and are not inter-operable at the moment. This hampers the interactive application of these data for flyway conservation purposes. Development of a web-based portal that can integrate data on sites of critical importance to migratory waterbirds from these dispersed sources and that provides the option of interactive data submission through the web, is a priority.

A condition for increasing the 'inter-operability' of essential databases like the IWC database and the IBA database, but also the Ramsar database, is that they have common geographic references, in the form of digitized boundaries. These do not currently exist to a significant extent and considerable work will need to be done to create these, especially for the IWC database. This will be a key activity in creating the tool.

Indicative budget: US\$ 215,000
Duration: 4 years
Activities: gathering of reliable map data, coordination, data input (digitisation of boundaries); database adaptation, portal development, data management, maintainance

Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/A/Ramsar flyways project that will be submitted end 2002.

5. **Identify priority areas for further survey work** (AP 3.1, 7.4)

Based on the study undertaken in IP 3 (above), a gap analysis should be undertaken to identify sites/regions where migratory waterbirds would particularly benefit from further surveys. This would be achieved by asking species-experts and national focal points to comment on maps based on existing knowledge, and to identify areas of potential importance for migratory waterbirds, but for which survey data are lacking. This would also include identification of areas important for dispersed species (e.g. waders and Anatidae during their breeding season) or very large, complex or composite sites. The results will be used both to stimulate "expedition" work in remote areas, as well as to identify countries which would most benefit from a national wetland inventory programme.

Indicative budget: US\$ 50,000
Duration: 2 years
Activities: Desk study, consultation, review, publication, survey proposals

Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/A/Ramsar flyways project that will be submitted end 2002.

6. **Identify priority areas for better protection** (AP 3.2, 7.4)

Based on the study undertaken in IP 3 (above), the key sites matrix will be examined to ascertain the degree of existing protection of each site under both international and national legislation. At international level, this will be achieved by comparison with existing databases on protected areas (e.g. the Ramsar Sites Database (maintained by Wetlands International), the NATURA 2000/SPA databases of the European Commission, and the Protected Areas Database (maintained by WCMC). At national level, information will also be requested from national focal points for the Agreement. The results will be used to assess whether adequate site protection measures are in place to maintain each species under the Agreement in a favourable conservation status. Specific recommendations will be made for species where the networks of key sites is thought to be inadequately protected. The study will also list those key sites which are shared between two or more countries, and which require special co-operation measures for effective management.

Indicative budget: US\$ 70,000
 Duration: 2 years
 Activities: Desk study, review, publication, and recommendations

Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/Ramsar flyways project that will be submitted end 2002.

7. Habitat Priorities for Waterbirds, particularly in Africa and SW Asia (AP 3.2, 3.3)
 The BirdLife International project *Habitat Action Plans for Birds in Europe*, has made an important contribution to defining habitat conservation priorities for birds in Europe. This now needs to be made much more specific to waterbird habitats and, particularly, to be extended to Africa and SW Asia, where habitat requirements are much less well known. The project should result in a series of habitat action plans containing prioritised recommendations and costed projects for each key habitat type. Severely threatened habitats, and habitats of importance to globally threatened species should be given priority.

Indicative budget: US\$ 200,000
 Duration: 3 years
 Activities: Desk study, review, workshops, publication, project proposals.

8. Restoration/rehabilitation techniques for waterbird habitats, particularly in Africa (AP 3.3)
 There has been significant loss and degradation of waterbird habitats throughout the Agreement Area. Techniques are relatively well developed for the restoration and rehabilitation of wetlands in temperate regions, but are poorly developed / known for wetlands in the tropics. It is therefore proposed to draw together the available information to produce two manuals (one for temperate and one for tropical areas), including information on the sources of available expertise. Close co-ordination will be necessary with existing work under the Ramsar Convention. Because of the paucity of information on restoration of tropical waterbird habitats, a special project will be launched to undertake demonstration restoration measures for a small number of African wetlands. These will also be used as a focus for training activities. Restoration techniques will focus on low-cost, low technology management options.

Indicative budget: US\$ 60,000 per manual
 US\$ 80,000 minimum for each demonstration project
 Duration: 18 months for the manuals
 Activities: Manuals, demonstration projects, training courses

C. MANAGEMENT OF HUMAN ACTIVITIES

9. Evaluation of waterbird harvests in the Agreement Area (AP 4.1, 5.7)

Waterbirds are harvested widely throughout the Agreement Area for sport, trade and subsistence (including by indigenous people). However, little is known of the scale of such taking, particularly in Africa and SW Asia, nor of the impacts that such taking has on waterbird populations. The effects of wounding of waterbirds by hunters remain little-known and would be a valuable subject for study. It is therefore proposed to examine the location, scale (by species), methods and impacts of waterbird harvest throughout the Agreement Area, but with a particular focus on poorly known regions. The project will identify areas, methods or species where harvest may be unsustainable and require intervention, and will feed into the development of future monitoring programmes. The taking of live waterbirds for collections and zoos should be included in this work.

Indicative budget: US\$ 200,000 (can be split into 4-5 sub-projects)
Duration: 3 years
Activities: Reviews, research, survey, publications

10. Review of the use of non-toxic shot for waterbird hunting (AP 4.1.4)

The IWRB (now Wetlands International) workshop on Lead Poisoning in Waterfowl (Brussels, 1991), was a landmark event for actions which have subsequently taken place to reduce the impact of lead poisoning in waterbirds. A follow-up international workshop was organised in 2001 in Central Europe, in close co-operation between the AEWA secretariat, international hunting organisations and others, to share the most up-to-date information on this subject. Wetlands International published an updated report on the implementation of the ban of lead shot. A further workshop is needed in S-Europe and the update review/reports undertaken by Wetlands International should be continued.

*Indicative budget: US\$ 50,000 (workshop); US\$ 50,000 for each review report
Duration: 18 months (workshop); review reports still to be planned 2003
Activities: Workshop, proceedings, 2 triennial review reports*

11. Evaluation of socio-economic impacts of waterbird hunting. (AP 4.2.2)

Sport, market and subsistence hunting of waterbirds have the potential to contribute substantially to sustainable rural development throughout the Agreement Area. Yet, very little is known of the socio-economic benefits of such forms of hunting in different regions and its potential contribution to species and habitat conservation. This project will build on activity 10 (above), and will research the socio-economic benefits of different types of waterbird hunting in different parts of the Agreement Area (e.g. subsistence hunting in arctic / sub-arctic areas (including by indigenous populations), tourist or market hunting in Africa, sport hunting in Europe). Significant work has been undertaken on this subject in North America, and should provide a useful background to this study. The results of the case studies will be presented to a workshop and published to advise future sustainable rural development initiatives.

Indicative budget: US\$ 150,000
Duration: 2.5 years
Activities: Research, socio-economic surveys, workshop, publication.

12. Evaluation of waterbirds as agricultural pests in Africa. (AP 4.3.2, 4.3.3)
A number of migratory waterbird species covered by the Agreement are known to consume and potentially damage agricultural crops or commercial fish stocks (including those at fish-farms). Although the subject is relatively well studied in Europe, where geese, cormorants and herons are implicated, the situation in Africa is less well known. Here, populations of ducks and waders are reported as pests of rice and other crops. This project will work with FAO to review the extent, species involved and location of this problem. The project will involve review of existing knowledge, and a workshop of experts, culminating in a review publication and recommendations on crop protection measures. The need to develop specific action plans for any of the species concerned will also be considered.

Indicative budget: US\$ 100,000
Duration: 2 years
Activities: Review, workshop, publication.

13. Guideline on minimising / mitigating the impacts of infrastructural (and disturbance-related) developments affecting waterbirds. (AP 4.3.5, 4.3.6)
Because many waterbirds occur in dense concentrations on individual sites, their conservation status can easily be threatened or impaired by point infrastructure developments (road or bridge-building, factories, oil terminals, tourist developments) or by the associated disturbance. This project will produce a new Conservation Guideline, recommending the steps to be taken to minimise or mitigate the impacts of such activities.

Indicative budget: US\$ 25,000
Duration: 12 months
Activities: Review, consultation, guideline.

D. RESEARCH AND MONITORING

14. Improving survey and monitoring capacity for migratory waterbirds:
Enhancing survey and monitoring capacity for migratory waterbirds and the sites they use through training and by providing equipment. Analysis of the geographic coverage and the quality of the network for data gathering on waterbirds and the sites they use (IP no. 6) will show that sub-regions within the AEWA region can be identified where capacity is lacking or limiting the data quality. Depending on the need of the specific sub-region, capacity building and field survey work will be performed to enhance the quality of the data. Twinning is a potential implementation mechanism whereby countries with higher capacity adopt countries with less well-developed schemes. In addition, in areas where the economic conditions prevent observers buying their own essential optical equipment, technical resources to support the network of volunteers will be provided.

Indicative budget: based on implementation by experts from the region: per country: US\$ 32,500 in the first year, US\$ 20,000 in the second year
Duration: 5 years in total, 2-3 years per country, depending on the needs
Activities: fieldwork, training, supply of equipment (first year)

Being proposed for matching funding as an activity in the Full Brief of the GEF AEWA/Ramsar flyways project that will be submitted end 2002..

15. Survey work in poorly-known areas (AP 5.1)

17. Publication of an Atlas of Wader Populations (AP 5.4, 7.4)
A knowledge of the migration patterns of each species covered by the Agreement and the networks of sites visited is critical to establishing effective conservation programmes for migratory waterbirds. This project will follow the model of the very successful *Atlas of Anatidae Populations*, prepared by Wetlands International, to develop a similar overview for the wader species in the Agreement Area. The work is currently under implementation, but part of the funds for finalizing it are still lacking. The work is being led by the Wader Study Group and will result in an important review publication. The results will include recommendations for new international site designations, research and surveys. Due to the scale of the project, it will be addressed in a number of phases.

Indicative budget: an additional US\$ 40,000 (excluding the integration of ringing recovery data) is needed (over US\$ 200,000 already secured).
Duration: 3 years
Activities: Co-ordination, review, data analysis, publication.

18. Publication of Flyway Atlases for Gulls, Terns, Herons, Ibises, Storks and Rallidae (AP 5.4, 7.4).
A first flyway atlas has been produced for Anatidae (1996). The Wader Flyway Atlas is under development (see priority 17). These initiatives have been received with great enthusiasm. They lay the basis for the flyway approach in the conservation of these species. The Anatidae atlas needs a second edition. Likewise, the conservation of other species groups of migratory waterbirds would benefit from flyway atlases being produced for them. This can be done species group by group or in an integrated publication. Ideally the use of ringing recoveries should be integrated into these flyway population atlases (see priority 20)

Indicative budget: depending on the number of species in the species group up to US\$ 250,000 (excluding the integration of ringing recovery data) per species group atlas.
Duration: 3 years
Activities: Co-ordination, review, data analysis, drafting and editing text, production of graphics, publication.

19. Pilot study/review of potential from waterbird ringing recovery analyses for the Agreement Area (AP 5.4)
Ringing schemes covering migratory waterbirds exist in many of the countries of the Agreement Area, particularly in Europe. Over the last half-century, these schemes have amassed hundreds of thousands of recoveries of ringed birds, yielding potential new information on migration and life histories of the species concerned. Although EURING has made progress in co-ordinating access to some of these data, there remains a great potential to exploit this information for conservation science. Syntheses have only been undertaken for a few species or countries. However, the task and potential is so great, that in order to prioritise actions, a pilot study should first be undertaken to review the availability of data and the most promising avenues for future research. Thus a desk study should be undertaken, with the input of an advisory group, to summarise the availability of ringing recovery information for waterbirds, and to make recommendations for future projects and analyses, and how ringing programmes can best contribute to the development of the AEW in the future. The study should include possibilities for integrating breeding productivity and survival data derived from ringing studies into waterbird monitoring activity at national and international level.

Indicative budget: US\$ 50,000
Duration: 18 months
Activities: Desk study, review, expert advisory group, publication.

20. Ringling recoveries in Atlases. (AP 5.4)
Ringling recoveries provide the physical evidence for an individual bird to have traveled from a to b. Since in many cases the flyway population to which this individual belongs is known, this contributes greatly to visualizing and understanding the concept and delimitation of flyway populations. Mapping ringling recoveries and providing background statistics with them, are a very valuable addition to census information presented in flyway atlases. Ideally therefore, the publication of these data should be combined. For Gulls, Terns, Herons, Ibises, Storks and Rallidae (the species mentioned in the previous implementation priority) the integration of these data into one publication is still feasible. For Anatidae another solution will have to be found. For waders, when finalizing the atlas (see priority 18) it will worthwhile making an effort to include these data into the work that has already been done.

Indicative budget: US\$ 100,000 (aiming at inclusion in flyway atlases (see IP 19), therefore excluding stand alone publication)
Duration: 18 months
Activities: Coordination, data analysis, review, wide consultation, graphical presentation, text drafting, editing.

21. Coordination of waterbird ringling schemes, particularly in Africa. (AP 5.4)
Ringling studies have contributed greatly to our current understanding of waterbird migration and ecology. Whilst in Europe, the EURING has provided international co-ordination between the various national ringling schemes, no homologue exists for Africa or SW Asia. It is proposed to support the development of an African Ringling Scheme (AFRING), specifically for studies of migratory waterbirds. This will initially be through a co-ordinated study of intra-African migratory waterbirds. The project will have fixed goals and a five-year timetable.

Indicative budget: US\$ 50,000 per annum
Duration: 5 years
Activities: Co-ordination, ringling programmes, review, publication.

22. Guideline on the use of satellite tracking for migratory waterbirds (AP 5.4)
The development of satellite tracking technology for studying animal migrations has advanced substantially in recent years, and has revolutionised our understanding of the migration ecology of some species. The technique has revealed that certain types of information can be gathered with substantially higher quality and cost-effectiveness than from traditional ringling schemes. However, the technique has only been successfully applied to larger species, and there remain important questions regarding animal welfare. The Scientific Council of CMS is co-ordinating work on this subject as a whole, but it is proposed to produce a Conservation Guideline specifically on the use of satellite tracking for migratory waterbirds. In addition, case studies showing the advantages and drawbacks of the technique should be listed, and an assessment of its value in studying globally threatened species should be made.

Indicative budget: US\$ 25,000
Duration: 1 year
Activities: Review, consultation, guideline

23. Telemetry in migratory waterbirds

Besides a guideline on the use of telemetry, a short review of results of tracking methods (other than ringing) would provide essential information for the better understanding of how the technology can be used to provide information on migratory routes, the use of sites by birds during migration and the relation between those and environmental variables – including practical and technical limitations of current technologies, and identification of which groups of birds that could or could not be used as focals for telemetry studies at present. Having this knowledge in hand – a listing of high priority species and/or populations with unknown or uncertain migratory routes, breeding, staging and/or wintering areas could guide future implementation of telemetry studies towards answering questions of higher conservation importance. Compilation of an overview (e.g. into a web-journal) is necessary.

Indicative budget: US\$ 50,000

Duration: 1 year

Activities: desk study, consultation, guideline

24. Report on the Status and Trends of Populations for MOP3 (AP 7.4, 5.2)

The Action Plan to the Agreement calls for a report on the status and trends of populations covered by the Agreement to be prepared at intervals of not more than three years. Such information provides the basic material for operation, updating and evaluation of the Agreement. The report should highlight changes in the population status, range or long-term trend of each species, with recommendations on any changes to Table 1 of the Agreement's Action Plan. The review should also assess whether any changes should be made to the species included in Appendix II to the Agreement, on the basis of a negative or positive change in their conservation status. This project is very closely linked to the regular updating and publication of Waterbird Population Estimates, which provides the basic data for the AEW report. Therefore, this publication (and an associated Web site facility) is also included here as a priority

*Indicative budget: US\$ 100,000 for Waterbird Population Estimates;
US\$25,000 for update report to MOP2*

Duration: 3 years

Activities: Review, analysis, consultation, publications

25. Actions for the conservation of colonial waterbirds (AP 3.1.2, 3.2, 4.2, 5)

A large proportion of the migratory waterbird species covered by the Agreement nest in colonies (particularly of the families: Pelecanidae, Phalacrocoracidae, Ardeidae, Ciconiidae, Threskiornithidae, Phoenicopteridae, Laridae). For different species, coloniality may be an adaptation for avoidance of predators and for efficient exploitation of food resources. One result of this behaviour is that a very significant proportion of the population of a species may be breeding at one or a few localities at one time. This makes the species particularly vulnerable to habitat change, taking (of eggs, young or adults), disturbance or emergency situations at such sites. On the positive side, waterbird colonies provide excellent opportunities for ecotourism, research and monitoring, and can be relatively easily protected.

In order to provide guidance to Contracting Parties, it is recommended that two activities be undertaken: i) preparation of a conservation guideline on national actions to be undertaken for colonial waterbirds (establishment of a sites register, protection, monitoring, ecotourism and avoidance of disturbance, restoration and creation of breeding sites etc.); ii) a desk study to explore options, priorities and costings for co-ordinated international monitoring of colonial

waterbirds during the breeding season, since many of these species are not adequately covered by the existing International Waterbird Census, which is based on non-breeding season surveys.

Indicative budget: US\$ 25,000 (Guideline), US\$15,000 (monitoring study)
Duration: 18 months
Activities: Review, analysis, consultation, publications

26. **Population Trends in migratory waterbirds**

Waterbird population data have been gathered for many years now in the IWC and some of the data have been used in 1999 to calculate trends for migratory waterbird species (up to 1996). A lot of new census information has been gathered since and techniques for calculating trends have been further improved. It is therefore timely to perform a new trend analysis, waterbird species group wide, including data up to at least the year 2000.

Indicative budget: US\$ 75,000
Duration: 1 year
Activities: data analysis, presentation, drafting text, publication

27. **Causes of population changes in migratory waterbirds**

In order to effectively address the conservation of migratory waterbirds, we need to know more about the major threats and mechanisms that drive changes in their population sizes. Many of the species action plans identify those, species by species. By compiling the information from sources such as these into a comprehensive overview of 'causes of population change', it will become more feasible to address some of these causes horizontally, rather than on a species by species basis.

Indicative budget: US\$ 30,000
Duration: 1 year
Activities: desk study, consultation, drafting text, publication

28. **Migratory waterbirds and climatic change**

One of the major topics on the environmental agenda is climate change. This will also have major influence on migratory waterbirds. The way and the extent to which changes in global climate will interact with waterbirds has not been systematically described. A desk study describing these relationships should be undertaken.

Indicative budget: US\$ 25,000
Duration: 1 year
Activities: desk study, consultation, publication

29. **Flyway population catalogue (or register)**

For countries, regions or sites to be able to assess which flyway populations of migratory waterbirds occur in their area, a register or catalogue of flyway populations against countries is a crucial tool. A call for this tool has been heard on several occasions. This will help identifying which population estimate and 1%-criterion to use to assess the importance of sites and to assess which flyway population with unfavorable conservation status occur. This is not in overlap with the flyway atlas initiatives, but it is qualitatively producing a matrix of (regions of) countries against flyway populations.

Indicative budget: US\$ 10,000
Duration: 6 months
Activities: desk study

30. Field guide for Central Asia and adjacent countries
For building sustainable monitoring capacity, the availability of a good field (identification) guide is essential. For Central Asia and adjacent areas like Siberia and other range states of the Central Asian Indian Flyway such a guide, in the appropriate language (Russian) and targeted at the relevant species is not currently available. Both the knowledge, the capacity and even the artwork to make such a guide exist and a guide can be realised in a relatively short time span, if financial resources become available for editing, and publishing.

*Indicative budget: US\$ 50,000
Duration: 1 year
Activities: text drafting, publication (in Russian)*

Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/Ramsar flyways project that will be submitted end 2002.

31. Compiling flyway information (in digital format) for use in conjunction with existing waterbird count data and site information.
For Anatidae an atlas has been produced compiling available flyway information. For waders this is underway, but needs further work. For other migratory waterbird species this needs to still be taken up (n.b. the Anatidae atlas needs a second edition). (see priority 18). The information from sources like these need to be stored in databases (including GIS representation of flyway delimitations), for use in conjunction with census and site information. This will involve expert use of the databases and consultation of expert groups (Specialist Groups). This should also result in project proposals for further research to fill gaps in existing knowledge.

*Indicative budget: US\$ 125,000
Duration: 2 years
Activities: database analysis, information compilation, desk study, review, expert consultation, coordination*

Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/Ramsar flyways project that will be submitted end 2002.

32. The use of wetland sites by migratory waterbirds
Throughout their annual cycle, migratory waterbirds depend on a variety of (wetland) sites. Given the concentration of so many individual waterbirds in these sites, they are of vital importance for their survival. We therefore look at these places as a network of critical sites. But can the role of any of these sites be taken over by another site in case something goes wrong? And what if such a change happens in the far North of the 'network', how will this affect the role of the sites further down along the migratory route? In order to be able to assess this, we need to gather more knowledge about the way birds use these sites, in relation to environmental parameters, and about the flexibility in site use by individual birds. What are the basic ecological requirements of the migratory waterbird species with respect to these sites. This may again differ between the different life-cycle stages (e.g. breeding, moulting, migration, wintering, displaying). The understanding of the importance of sites for the survival and conservation of species should be strongly improved by a study into these factors. There is a strong link to IP 8

*Indicative budget: US\$ 30,000
Duration: 1 year
Activities: desk study, consultation, publication
Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/Ramsar flyways project that will be submitted end 2002.*

33. **Migratory waterbirds as indicators**
Migratory waterbirds react to parameters in and around wetland sites in a way that opens the possibility to use them as indicators of the status of these wetlands and the pressures on them. This is highly relevant to policy makers. By constructing powerful indicators, decisions about measures to be taken (affecting nature conservation) can be facilitated. Currently many of the causal links between numbers of migratory waterbirds and wetland parameters are insufficiently known, and the state of knowledge needs to be improved.

*Indicative budget: US\$ 30,000
Duration: 1 year
Activities: desk study, consultation, publication*

34. **The development of a density-dependent population model for the Dark-bellied Brent Goose**

The development of a population model as required in the Dark-bellied Brent Goose Action Plan to estimate the impact of hunting and other management options on the population level of this subspecies, based on actual survival estimates from resighted marked individuals (using the program MARK), reproduction estimates, age of first-breeding, maximum life-span, predation levels on the arctic breeding grounds, and old data on hunting bag statistics from Denmark from the period before 1972 when the species could still be hunted there. A model will be developed and tested with the above-mentioned real data by an international consortium of modelers, statisticians and biologists. The model itself will also be a very useful tool for other migratory waterbird species.

*Indicative budget: US \$ 400,000 (inclusive VAT)
Duration: 1 year (22 person-months)
Activities: model development and testing, desk study, publication, 2 workshops with members of the AEWA-Dark-bellied Brent Goose working group.*

E. EDUCATION AND INFORMATION

35. **Analysis of training needs for migratory waterbird conservation** (AP 6.1, 6.2)
The levels of know-how in practical techniques for migratory waterbird conservation vary substantially throughout the Agreement Area. Sharing such expertise through training materials and programmes, is an important aspect of international co-operation for the implementation of the Agreement. Using a questionnaire approach, it is proposed to develop an analysis of training needs by sub-region, and also to compile information on appropriate international training institutions and existing materials. The project should focus on sub-regions outside NW Europe, where training opportunities are already adequate.

*Indicative budget: US\$ 30,000 (ca. 50% already available)
Duration: 1 year
Activities: Questionnaire, review, consultation, publication*

Study done in GEF PDF-B Flyways project. Further analysis, development of sub-regional programmes and their implementation in the Full GEF AEWA/Ramsar flyways project that will be submitted end 2002.

36. **Regional training programmes in Africa for implementation of the Agreement** (AP 6.1, 6.2)
Training has been identified at numerous fora as one of the key elements for advancing the implementation of the Agreement, particularly in Africa. Access to modern planning, assessment and management techniques, relevant to local situations, will greatly help under-resourced agencies use their resources most effectively. The regional training programmes in

West Africa, currently organised by Wetlands International and the Office National de la Chasse (France) provide a useful model from which new programmes can be developed. It is strongly recommended that this type of training programme be extended throughout Africa. Cost-effectiveness will be greatest if courses are based on groups of neighbouring countries, and if local expertise can be used for the majority of the training. Courses should target specific groups of professionals and include the following subjects, as appropriate: a general introduction to the work of the Agreement; waterbird identification, assessment and monitoring; waterbird ecology; habitat management for waterbirds; managing human activities; public awareness.

Indicative budget: US\$ 150,000 per year, per regional programme
 Duration: 5 years
 Activities: Co-ordination, training courses, materials, follow-up

Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/A/Ramsar flyways project that will be submitted end 2002.

37. Publication of Waterbird Monitoring Manuals (AP 6.2)

Effective monitoring of migratory waterbirds is essential for the functioning of the Agreement, and it is vital that comparable data are collected between sites, regions and years. The production of manuals to help train co-ordinators and counters will be an important tool for continuous improvement of the monitoring networks. The manuals will be particularly valuable for the relatively new counting networks in Africa and SW Asia, but will also benefit European counters. It will be necessary to publish the manual(s) in a number of languages. Furthermore, it may be necessary to have versions appropriate to the situation in different parts of the Agreement Area. Aerial survey methods for remote, inaccessible and offshore areas throughout the Agreement Area should not be neglected. Preliminary proposals are for one manual for the Western Palearctic and SW Asia, and one for Africa.

Indicative budget: US\$ 40,000 per manual in one language
 US\$ 20,000 for translation/printing/mailling other languages
 Duration: 18 months
 Activities: Drafting, consultation, publication, free distribution

Being proposed for matching funding as an activity in the Full Brief of the GEF AEW/A/Ramsar flyways project that will be submitted end 2002.

38. Establish a Clearing House for training materials for the Agreement (AP 6.2)

A wealth of training materials relevant to the implementation of the Agreement already exists both within the Agreement Area, and also in other parts of the world. The establishment of an internet-based clearing house for such training materials will greatly assist Parties in meeting the obligations of the Agreement. It is suggested that the Agreement Secretariat establishes a contract with an appropriate international organisation to establish and maintain this clearing house.

Indicative budget: US\$ 30,000 to establish clearing house
 US\$ 10,000 per annum for maintenance
 Duration: 5 years
 Activities: Collection of materials, web site development, dissemination

39. Develop and implement a Communications Strategy for the Agreement (AP 6.3, 6.4)
A communications strategy for the Agreement should be developed as a priority. This should plan to communicate the objectives and requirements of the Agreement to appropriate target audiences (decision-makers, conservation professionals, those living around or using key sites, donors). The strategy will be most effective if it can facilitate communications activities at national and local level. Particular attention will need to be given to disseminating materials in appropriate local languages, and at the appropriate level. A top priority will be to translate and disseminate the Conservation Guidelines in Arabic and Russian language versions. The strategy should result in a clear set of costed actions.

Indicative budget: US\$ 10,000 to prepare communications strategy
US\$ 75,000 to implement first trench of actions
Duration: 5 years
Activities: Preparation of strategy, start of implementation

40. Regional workshops for the promotion of the Agreement (AP 6.3)

In order to give the development of the Agreement a strong start throughout the Agreement Area, a number of promotional workshops should be arranged for specific sub-regions. The priority regions identified so far would be (in order): (i) the Central Asian Republics; (ii) the Arab states. These workshops should aim to gather appropriate decision-makers, research biologists, conservation professionals and donors, in order to raise awareness of the Agreement, promote membership, debate regional priorities, stimulate international co-operation and develop project initiatives. Where possible, the workshops should be linked with those of other relevant CMS or partner-Convention / organisation activities, so as to increase synergy and maximise cost-effectiveness.

Indicative budget: US\$ 50,000 per regional workshop
Duration: 1 per year
Activities: Regional workshop and follow-up

Being proposed for matching funding as an activity in the Full Brief of the GEF AEWA/Ramsar flyways project that will be submitted end 2002.

41. Communicating the importance of a network of critical sites for migratory waterbirds
The network of critical sites that will be developed as an interactive and dynamic tool via a web portal, will gain enormously in power and practical applicability if it is published as a convincing book(let). It will serve additional audiences to what the web portal will achieve, such policy makers, who are unlikely to have the time to access the information in the web, and people in areas where internet access is underdeveloped. Having a booklet to browse through will be an effective means of communicating the network of critical sites. In addition, awareness raising is needed, using the network of critical site information to make brochures, posters, flyers and to undertake other PR activities, including organisation of a session at the Global Flyway Conference 2004.

*Indicative budget: US\$ 100,000
Duration: 1 year
Activities: editing, layout, printing, publishing, distribution, coordination, PR activities.*

Being proposed for matching funding as an activity in the Full Brief of the GEF AEWA/Ramsar flyways project that will be submitted end 2002.