CONSERVATION OF WADER HABITATS IN COASTAL WEST AFRICA

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INTRODUCTION

This paper describes the application of international treaties (or conventions) on wildlife conservation to safeguarding coastal sites of importance to Palearctic migrant waders, and draws together information on the present threats to these sites. This review is essentially confined to the West African sector of the East Atlantic flyway (Mauritania to Cameroon), but incorporates some information from southern African coastal areas.

SITE PROTECTION

International wildlife treaties increasingly establish the framework for national legislation designed to protect wildlife and natural resources. No country is obliged to become party to any international convention, but a state which ratifies any one of the major wildlife-oriented multilateral treaties in effect signals it's willing commitment to the principles embodied in that treaty, and to the wildlife protection measures it sets out to achieve.

The five multilateral treaties of relevance to coastal wader site protection in West Africa are shown in Table 1. Not all states are party to each of these conventions (see Figure 1) although most subscribe to at least one. The Ramsar and Bonn Conventions have specific relevance to the protection of Palearctic migrant waders and their habitats (see Smart this volume). Although the Bern Convention might seem to fit somewhat uncomfortably in this group of multilateral treaties, it has provision for adoption by states which have responsibility for "European" species which spend part of their life-cycle outside Europe. Waders are a good example of such species. The African Convention, and its predecessors (see Lyster 1985) to a very large extent has influenced national wildlife legislation throughout Africa. It provides a model set of ground rules for the establishment of national parks, nature reserves and other protected areas.

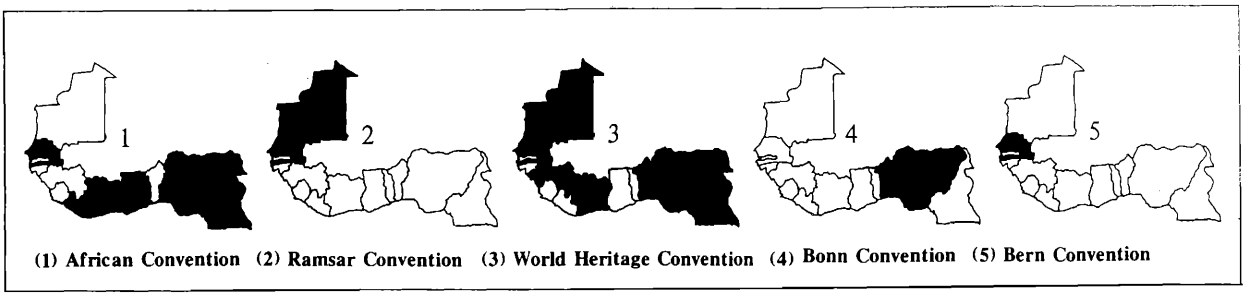

Figure 1. Party states to international wildlife treaties in West Africa.

Table 1. International wildlife treaties adopted by West African states.

1. 'AFRICAN CONVENTION'
   African Convention on the Conservation of Nature and Natural Resources (1968).

2. 'RAMSAR CONVENTION'
   Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971).

3. 'WORLD HERITAGE CONVENTION'
   Convention for the Protection of the World Cultural and Natural Heritage (1972).

4. 'BONN CONVENTION'
   Convention on the Conservation of Migratory Species of Wild Animals (1979).

5. 'BERN CONVENTION'
   Convention on the Conservation of European Wildlife and Natural Resources (1979).

Table 2. Protected areas in West Africa of importance to Palearctic waders*

	area (ha)	designations
MAURITANIA		
1. Banc d'Arguin National Park	1 170 000	Ramsar site
2. Diaouling nature reserve	13 000	
SENEGAL		
3. Djoudj National Park	16 000	Ramsar site, World Heritage site
4. Langue de Barbarie National Park	2 000	
5. Ndiael bird reserve	46 550	Ramsar site
6. Delta du Saloum NationalPark	180 000	Biosphere Reserve, Ramsar site
7. Basse-Casamance National Park	5 000	
IVORY COAST		
8. Azagny National Park	21 500	

* based on IUCN-UNEP (1987), and pers. comm. with staff at IUCN Protected Areas Data Unit, Cambridge, U.K.

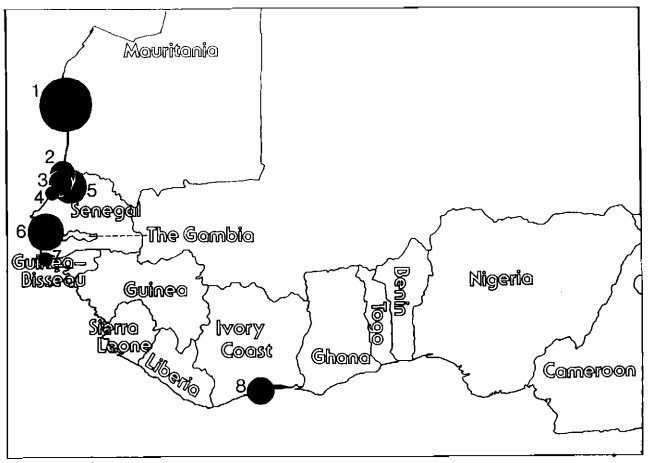

Figure 2. Coastal protected areas of importance to Palearctic waders in West Africa.

Figure 2 shows the distribution of protected areas in West Africa which are of known importance to Palearctic waders. Table 2 indicates the status of these sites. It is clear that while the African Convention is likely to have provided the basis for the legislative mechanism under which these protected areas are established (all are either national parks, bird reserves, or of similar status), the Ramsar Convention has likely played an important role in encouraging the protection of important wader sites. Several states are party to the World Heritage Convention, but this treaty appears not to contribute towards the protection of West African coastal wader sites - the only World Heritage site important for Palearctic waders is the Djoudj National Park in Senegal, which was previously declared a Ramsar site. None of the other six parties to the World Heritage Convention have included wader sites as areas protected under this Convention, although not all are certain to have internationally important coastal wader sites.

Bonn and Bern Conventions are comparatively recent treaties, and their value in protecting key coastal wader sites in West Africa is unproven at present, although the interest shown in the former convention is encouraging: Nigeria ratified the Bonn Convention in September 1986, and both Ivory Coast and Togo have signed but not yet ratified).

Bilateral initiatives to assist and encourage the establishment of protected areas (and conservation actions in general) are becoming increasingly more frequent, and are adopted in particular between governments of developing countries and foreign non-governmental agencies. Two examples of this approach are found in West Africa. The Banc d'Arguin in Mauritania, the most numerically important coastal site for Palearctic waders in the East Atlantic flyway, has received support for technical and other work from both the WWF and the French ministry of the environment. In 1986 the 'Fonds International du Banc d'Arguin' was established to support implementation of the site's management plan and development of the National Park. The principal agencies involved in this initiative are WWF-International and the Mauritanian government.

A similar scheme has been developed between two British-based non-governmental bird protection agencies (the RSPB and the International Council for Bird Preservation) and the Ghana government, in a move to enhance the conservation of seabirds and shorebirds in coastal areas.

One further international mechanism through which coastal wader sites may be protected is the establishment of a UNESCO biosphere reserve, although only one West African coastal wader site (Delta du Saloum National Park in Senegal) bears this designation at present.

THREATS TO COASTAL WADER SITES

The identified threats to coastal sites in West Africa relate largely to changes linked with agricultural developments. In a number of countries, including Guinea-Bissau, Guinea, Sierra Leone and Liberia, there are reports of the loss of coastal mangroves cleared to make way for the cultivation of swamp rice. Rice paddies are favoured by some waders, notably Black-tailed Godwits *Limosa limosa* and Wood Sandpipers *Tringa glareola*, but the loss of mudflats through mangrove clearance may have an impact on other species such as the Bar-tailed Godwit *L. lapponica*. The proposed large-scale developments linked with agricultural intensification appear to offer greater threat to key wader sites. Proposals for the construction of barrages associated with

irrigation schemes in the Senegal delta, and Gambia River basin, are likely to affect intertidal habitats in both Senegal and The Gambia. The precise impacts are difficult to predict without detailed study, but the schemes will almost certainly affect tidal flows and salinity levels.

Industrial developments can have both positive and negative impacts on wader populations. The salt production industry has been responsible for providing good wader habitat in the form of salt pans, but there is evidence from surveys in Ghana that modern management, involving the creation of a small number of relatively large salt pans, is not as attractive to feeding waders as the more intricate pattern of smaller salt pans which had existed previously. The mining of minerals and precious stones in southern Africa, including the development of harbours and ports to facilitate their export, has had a detrimental impact on coastal sites in Namibia and South Africa. Industrial pollution threatens coastal wader sites in Ivory Coast and in southern Africa.

The construction of the Akosombo Dam on the Volta river in Ghana has had a serious, and apparently unpredicted, local impact on the coastal geomorphology of eastern Ghana, Togo and Benin. As a consequence the second most important site for Palearctic waders in Ghana is threatened by coastal erosion (see Ntiamoa-Baidu and Grieve 1987).

At the local scale there are indications that waders may be subjected to high hunting pressure (both for subsistence and for sport purposes) in Senegal, Ivory Coast, Togo and Benin. There is little evidence of the effect this might have on wader populations or their sites. However, indications from one site near Accra in Ghana suggest that hunting can cause some species to abandon areas where the shooting pressure is particularly intense.

FUTURE PROSPECTS: SITE PROTECTION THROUGH INTERNATIONAL TREATIES AND COOPERATION

From the available evidence, it appears that the Ramsar Convention has been the most successful international treaty in encouraging the protection of West African coastal sites important for Palearctic waders. It would be useful to see this convention gain wider acceptance within East Atlantic flyway states. Ghana is preparing to sign both Ramsar and Bonn Conventions (Hepburn 1987). Further, experience from the Banc d'Arguin, where there are apparently few major threats at present (see also Smit, this volume), indicates that a specific bilateral agreement designed to support and implement site management plans encourages effective protection.

The real test of how effective international treaties can be in safeguarding the most important Palearctic wader sites in coastal West Africa is yet to come. Industrial and agricultural developments in this region, frequently supported by multi- and bilateral development agencies, are increasing, and key wader sites are bound to come under direct and indirect threat as a result. Governments will have to balance the urgent needs of economic development with those of wildlife conservation, and the case for the latter can be strengthened especially through involvement in international treaties.

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