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Waterbirds around the world

A global overview of the conservation,
management and research of the
world's waterbird flyways

Edited by G.C. Boere, C.A. Galbraith and D.A. Stroud

*Assisted by L.K. Bridge, I. Colquhoun, D.A. Scott,
D.B.A. Thompson and L.G. Underhill*



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Cover photography: Whooper Swans *Cygnus cygnus* arriving at Martin Mere, England. Photo: Paul Marshall.
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5.4 Integrating waterbird conservation: populations, habitats and landscapes. Workshop Introduction

Jim Kushlan

Smithsonian Environmental Research Centre, PO Box 1930, Edgewater, MD 21037-1930 USA. (email: jkushlan@earthlink.net)

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Orsoya fishpond, Bulgaria. The conservation of such traditional fishponds - which are subject to a low intensity of management - is important to maintain associated waterbirds included the globally threatened Ferruginous Duck *Aythya nyroca*. Photo: Nikolai Petkov.

The long-term conservation of waterbirds requires conservation activities to be undertaken at a wide range of scales and in respect to the different periods of annual life cycles.

Development of strategies and policies for effective conservation and/or management will vary greatly according to the ecology and distribution of different waterbird species. Species which are highly aggregating will occur at high densities at a few sites. The identification, protection and management of these key sites will be an effective means of conserving significant proportions of populations — especially where groups of such sites are managed as networks (as explored by the papers in the preceding section: Building effective ecological networks).

For species that aggregate less densely, wider measures may be necessary to secure their favourable status, especially where these species occur at low densities across wetland or other landscapes. For many species a mix of site-related and wider-countryside measures are needed. This will include species such as some geese and swans which roost at high densities on sites which can be protected as refuges or through similar site-related measures, but during the day then range more widely, at lower densities, to feed on farmland or other habitats. Integrated conservation approaches are needed in such circumstances.

Landscape-scale measures can be of either formal or informal nature. Formal measures include government-led agri-environment policies that seek to deliver environmental benefits through subsidies provided to farmers and other land-managers.

The development of wider policies for waterbird conservation is aided by clarity as to objectives and targets, and in this respect, Johnson *et al.* summarise the US experience in planning for bird conservation at landscape scales.

As with all conservation management, there is a need to monitor the effectiveness of wider conservation measures so that these policies may be adapted or modified in the light of changing circumstances. Such monitoring needs necessarily to be wide-scale, and Bart presents the development of the North American Program for Regional and International Shorebird Monitoring (PRISM) which aims to collect a range of population parameters on shorebirds at continental scales. Austin *et al.* summarise the development by the UK Wetland Bird Survey of a waterbird 'alerts' system. This provides annual feedback to conservation managers and others on the status of sites and species using objective analysis of trends and the application of pre-defined criteria to assess significant declines. The system has already been effective in guiding priority setting by conservationists in the UK.

Wider policies are valuable not just in the context of cropped habitats. Petkov highlights the value of traditional fishponds, managed at low-intensity in some eastern European countries, for the conservation of the threatened Ferruginous Duck *Aythya nyroca*. In this example, policies which might result in either the abandonment of current fish-farming practises on the one hand, or its intensification on the other, might be extremely damaging to the status of Ferruginous Duck.

Straw & Saintilan highlight the importance of tropical open shores for inter-tidal waders and highlight the implications of the loss of this habitat following invasion by mangrove species. This suggests that the development of proposals to afforest shores with mangroves should be approached with caution and always following an environmental impact assessment that considers wider implications such as this.