

Review article:

Recent British publications on habitat management for lowland breeding waders

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Lowland wet grasslands are amongst the most threatened wetland habitats in Britain and Europe. The twin impacts of CAP incentives to abandon lowland mixed or pastoral farming in favour of intensive cereals, and ever more elaborate river engineering and field drainage, has meant that traditional farming of regularly flooding, wet meadows is a thing of the past over much of Britain.

It is unsurprising, therefore, that as in many other north-west European countries (Hötcker 1991) there have been dramatic declines of breeding wader populations in Britain. This has led to considerable conservation research to seek the best means by which to maintain and restore wet grassland habitats for waders.

The last year or so have seen a minor spate of UK publications particularly giving advice on management for breeding waders in lowland agricultural landscapes, principally lowland wet grasslands and river valleys. In particular, RSPB's recent management handbooks for gravel pits (Andrews & Kinsman 1990), farmland (Andrews & Rebane 1994) and rivers (RSPB, NRA & RSNC 1994), with the Wildfowl & Wetland Trust's volume on industrial wetlands (Merritt 1994) give those with opportunities to maintain restore or create wetlands a wealth of practical experience. All of these have considerable wider relevance than just for British waders.

The thrust of all these handbooks is generally on 'advising the advisors' rather than necessarily reaching land managers directly. The price and size of these volumes will mean that, unfortunately, they are unlikely to be read over the farmhouse breakfast table. Thus, *Farming and wildlife: a practical management handbook* (Andrews & Rebane 1994) is targeted primarily at agricultural colleges and agricultural/ land-use advisors, whilst *The new rivers and wildlife handbook* (RSPB, NRA & RSNC 1994) is aimed at river engineers and managers, especially in the statutory agencies (National Rivers Authority and River Purification Boards) as well as the private water companies.

The earlier RSPB manual on *Gravel pit restoration for wildlife* (Andrews & Kinsman 1990) was written especially for managers of mineral extraction sites and focused on the planning needed to optimise benefits for wildlife when taking active mineral workings out of production. It also addressed the issue of how best to manage abandoned flooded workings, albeit noting that many options are effectively foreclosed by failure to consider habitat creation at an earlier stage.

The manual has short sections on the ecology and requirements for habitat creation and management for Redshank *Tringa totanus*, Lapwing *Vanellus vanellus*,

Ringed Plover *Charadrius hiaticula* and Little Ringed Plover *Charadrius dubius*.

Farming and wildlife: a practical management handbook (Andrews & Rebane 1994) is precisely what it says it is. It is comprehensive and lengthy (358 pages), although so well structured and indexed that this never provides a problem for the reader wishing to be selective in reading. It summarises a vast wealth of practical and academic expertise in the management of farmland for wildlife (the acknowledgements of contributors runs to four pages of close packed type).

Of specific note in the context of breeding waders are the chapters on pastures and meadows, hill and rough grazings, and machair. Each chapter is structured in sections with an initial outline of those factors influencing the abundance and distribution of wildlife, a section on options in planning management and then a 'how to do it' section related to the relevant management activities. Finally, the chapters each conclude with references and further reading, illustrated features on specific points, a 'real-life' case study, and a photographic summary of the main points of the chapter. The volume is packed with photographs, drawings and clear graphics to illustrate and illuminate, and is a delight to read.

Summary information on habitat requirements and conservation management is given for Redshank, Lapwing, Snipe *Gallinago gallinago*, Curlew *Numenius arquata*, Dunlin *Calidris alpina*, Golden Plover *Pluvialis apricaria*, Oystercatcher *Haematopus ostralegus* and Ringed Plover.

Birds on lowland farms (Lack 1994) summarises analyses undertaken on the vast data archive of the BTO/JNCC Common Bird Census. Although intended to be a source of practical advice to the farmer in highlighting management systems that are beneficial to birds (and those that are not) it is unlikely to succeed in this aim. In contrast to RSPB's *Farming and wildlife handbook* the layout is uninspired and the text reads as though it was written by scientists for scientists. It does not invite a browsing reader as do the RSPB handbooks.

That said, the book is an excellent and up-to-date summary of current scientific knowledge of those factors influencing bird populations on lowland farms. The volume will be of greatest value to researchers and those agricultural advisors who wish a greater depth of background material than is given in the *Farming and wildlife handbook*.

Birds on lowland farms contains sections on grassland management for birds with specific section on wet grassland management for waders. This draws in large part on published and unpublished RSPB studies.

The new rivers and wildlife handbook (RSPB, NRA & RSNC 1994) mainly considers the aquatic environment of the river, structural aspects of river engineering and requirements for maximising wildlife interest of river banks. Specific consideration of breeding waders is brief, although there is highly summarised information on the requirements of Common Sandpiper *Actitis hypoleucos* on upland river courses, and Lapwing, Redshank and Snipe on lowland river systems. There is a short section giving a recommended methodology for riverine bird surveys (based on the BTO's Waterways Bird Survey).

Over the last two years WWT have been running a project concerned with the restoration and management of 'industrial' wetlands sponsored by British Coal (Opencast). This welcome focus on the positive contributions that industry can make to wetland conservation has recently resulted in the publication of *Wetlands, Industry and Wildlife: a manual of principles and practises* (Merritt 1994).

As with the RSPB handbooks, the WWT manual is attractively designed and uses plain non-technical English. This, a comprehensive index, technical glossary, and frequent use of information boxes and clear graphics makes the volume very 'user-friendly' and results in easy access to the wealth of information contained.

The volume is ordered into three main parts covering general background; the principles of wetland ecology, design, creation and management; and in the third part, a series of chapters outlining different 'industrial' wetland types, from water storage reservoirs, through wet grasslands, to silt and ash storage lagoons. Substantial appendices give details of the ecology and management requirements of a wide range of wetland plants and birds.

Whilst the focus of the volume is on creation of artificial wetlands, and the restoration and management of degraded wetlands, there is also summary information on the management of wetlands of existing nature conservation value. For example, there is a particularly useful summary of the management of lowland wet grasslands for waders and wildfowl.

This volume deserves to be widely circulated amongst industrial ecologists and conservation practitioners. It would also make an excellent general introduction to wetlands and their management at sixth form level.

Two papers in the 1994 *RSPB Conservation Review* summarise firstly, the status of breeding waders on wet grassland (O'Brien & Self 1994), and secondly, RSPB's long experience in hydrological management on some of

their key reserves for waterfowl (Self, O'Brien & Hirons 1994).

O'Brien & Self (1994) review recent changes in numbers of breeding waders in the UK drawing on recent surveys, especially results from the most recent UK breeding bird atlas, RSPB surveys and monitoring schemes run by BTO and others. They highlight the importance of several key RSPB reserves in holding and maintaining concentrations of breeding waders. The potential of Environmentally Sensitive Areas (ESAs) as a 'wider countryside' conservation policy that may benefit wet grassland wader habitats in the UK is discussed together with analysis of initial successes and failures at two contrasting ESAs: the Somerset Moors and Levels ESA and the Broads Grazing Marshes ESA.

The paper is a useful summary of the current declining status of many populations of breeding wader in the UK, as well as making recommendations for better application of some wider countryside policies which affect lowland wet grasslands.

The section on "*Results from Equivalent Schemes in Europe*" however, amounts to a scant four short sentences! A typically British parochial outlook (or should that be 'inlook'?) characterises most of the publications reviewed here, with relevant international experience rarely summarised adequately, if at all.

Self, O'Brien & Hirons (1994) consider management needs at the level of the site - principally on nature reserves where fine control over management, especially hydrology, is possible. The paper summarises hydrological management needs not only for waders, but also for wildfowl, and covers the winter as well as the breeding season drawn from RSPB's own experience of managing flood meadows and coastal grazing marshes.

Unlike Ward (1994), the paper has clear illustrations which illuminate discussion of field water table management in different seasons.

Diana Ward's paper in *British Wildlife* (Ward 1994) draws on much of the same basic RSPB research to give a general summary of the principles underlying wet grassland management for breeding waders, especially for Lapwing, Redshank, Snipe and Black-tailed Godwit *Limosa limosa*. It highlights the two major management activities - relating to hydrological and sward management (by grazing or cutting for hay), and how these interact. The differences in management needs between grasslands on peat soils and clay/silt soils are emphasised.

The article is targeted principally at the naturalist or nature reserve warden, rather than the farmer or those without scientific backgrounds.

The spring 1995 edition *enact* - English Nature's quarterly magazine for nature reserve wardens and other land managers is devoted to wet grasslands. The introductory article by Thomas, José & Hirons (1995) summarises the problems facing the conservation of wet grasslands in the context of UK land-use policies, especially for agriculture. They conclude by setting an aspirational target of at least five major new wet grassland sites to be restored or rehabilitated by the end of the century, through a combination of site acquisition and benign wider countryside policies. Their shopping list of possible areas include the (former) East Anglian fens, in the inland catchments of the rivers Thames and Severn, and alongside rivers in north-west England, the lower Trent, Norfolk and Suffolk Broads and associated river valleys, the Hampshire Avon, Pevensy Levels, Arun Valley, the Suffolk, Essex and Kent coastal marshes, Somerset Levels and the lower Yorkshire Derwent.

Coleshaw (1995) outlines drainage problems and solutions at Motte Meadows National Nature Reserve, whilst Harold (1995) describes the extraordinarily successful restoration of drained coastal grazing marshes at Holkham NNR in north Norfolk. Through appropriate hydrological and grassland management the total number of breeding waterfowl has increased from 120 pairs of 10 species in 1986, to 795 pairs of 26 species in 1994. The response of wintering wildfowl has been equally dramatic, with total numbers of four species increasing from 1,215 in 1983/84, to 17,305 in 1993/94. The long-term management objectives for the site of the Nature Conservancy Council and now English Nature are outlined, together with a frank summary of the problems encountered and solutions adopted. It is to be hoped that this case-study will, in due course, be written up in greater detail.

Concluding the wet grassland issue of *enact*, Hoodless (1995) briefly outlines some of the issues relating to grassland management for breeding Snipe in a short non-technical article drawing on recent Game Conservancy research.

Last year, JNCC published a number of papers from a BTO workshop on the ecology and conservation of Lapwing as a volume in its *UK nature conservation* report series (Tucker, Davies & Fuller 1994; see details of special offer elsewhere in this *Bulletin*). Most of the volume is devoted to a lengthy (33 page) review paper by Hudson, Tucker & Fuller (1994) summarising knowledge on Lapwing populations in relation to agricultural change. As well as reviewing the potential factors affecting breeding success, from habitat suitability through to post-breeding and post-fledging success, there are useful sections on future research requirements and strategies for Lapwing conservation.

The volume contains a number of other short papers or abstracts relating to Lapwings, their habitat and conservation.

The Orkney Farming and Wildlife Group have tackled the provision of advice on all aspects of sympathetic farming through the recent publication of an attractive handbook distributed free to all farmers in the islands (Charter 1995). This publication is a model of clarity. Material is arranged in a series of thematic chapters, the main habitat divisions concerning arable, grassland, wetlands and moorlands. Further chapters tackle the use and abuse of pesticides and fertilisers. Colour illustrations and photographs throughout, a detailed index, clear graphics all make the handbook particularly easy to read, and and some excellent cartoons by Bill McArthur (see below) make telling points. Waders feature prominently in many chapters with the emphasis firmly on whole farm planning. The handbook is highly targeted to the Orkney islands, although the general habitat management advice will be relevant through much of Scotland.

Finally, worthy of mention is the paper by Cook, O'Dowd & Durdin (1994) summarising a comprehensive survey of breeding Redshank on the saltmarshes of Essex in 1993. Although dealing with saltmarsh habitats, rather than freshwater grasslands, and published in a county bird report, the paper is a model summary of a regional survey and provides much information on Redshank habitat selection and optimum saltmarsh management that will be a value to others beyond Essex.

The significant number of publications noted above reflects the growing appreciation of the parlous state of British wet grasslands and their wader populations. A recent RSPB campaign has raised the profile of these habitats and highlighted their conservation importance not just for their breeding and wintering waterfowl, but for other fauna and flora. What is needed now is governmental commitment to wide-scale habitat restoration and creation through the appropriate reform of national and European agricultural policies and development of suitable incentive packages. The publications summarised here highlight that, broadly, the ecological understanding exists to formulate such a programme of habitat restoration: what is lacking is generally the political will to undertake it on a wide enough scale.

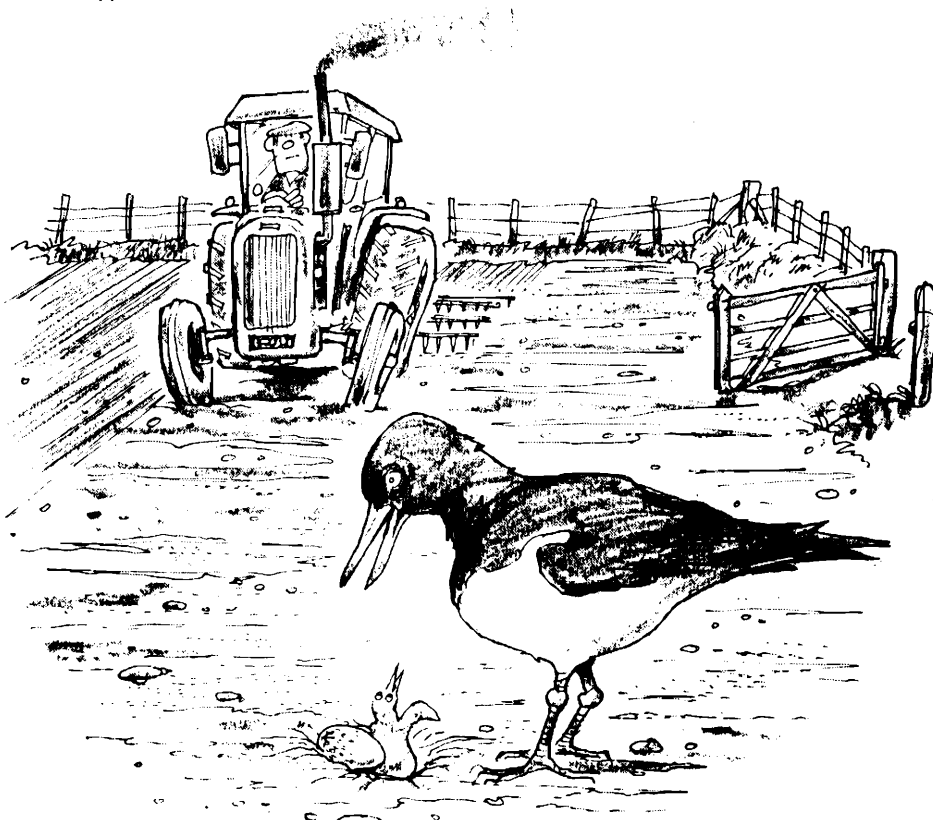
If the tide of wet grassland habitat loss and degradation could be turned, there can no doubt that the conservation benefits would be enormous. In the meantime, there is a great need to maintain and further develop population monitoring programmes for breeding waders.

International overviews such as those of Piersma (1986) and Hötter (1991) are crucial to place national conservation initiatives in a wider European context as well as to disseminate information internationally. The proposed WSG project to re-assess European breeding wader populations, and the initiative outlined by Bignal & Pienkowski (1994) to develop closer links between related programmes seeking to maintain traditional forms of pastoral agriculture are both urgently needed. In all these areas WSG has a crucial rôle in maintaining the

information base on which conservation decision makers depend.

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"They call this harrowing, son..... and believe me, it is !"