Important sites: Table 4.8 lists those estuaries in England which support in excess of 10,000 wildfowl or 20,000 waders. The number of waterfowl species supported in internationally important numbers and the current SPA status of each estuary are also given.

Table 4.8 The most important English estuaries for birds

Estuary	Wildfowl	Waders	IIP	Status
Wash	51,600	228,700	12	SPA
Morecambe Bay	27,000	174,800	11	pSPA
Ribble	69,500	122,000	13	part SPA
Thames	34,600	94,900	11	pSPA
Humber	19,300	103,600	10	pSPA
Solway*	43,000	79,000	10	SPA
Dee**	25,700	92,100	10	SPA
Severn**	22,400	63,000	6	pSPA
Mersey	28,400	36,000	5	pSPA
Alt	1,700	59,500	2	SPA
Lindisfarne	29,700	28,000	6	pSPA
Swale	25,000	32,600	4	part SPA
N Norfolk Marshes	34,400	21,900	4	SPA
Medway	14,700	39,200	8	pSPA
Langstone Harbour	12,300	41,000	3	SPA
Chichester Harbour	16,900	35,900	7	SPA
Blackwater	17,700	26,900	3	pSPA
Stour	9,300	27,000	3	pSPA
Poole Harbour	24,800	11,000	2	pSPA
Colne	10,800	22,900	2	pSPA
Duddon	4,700	26,000	2	pSPA
Hamford Water	19,000	11,500	3	SPA
Dengie	3,500	20,700	2	pSPA
Alde Complex	10,800	11,900	0	pSPA
Crouch/Roach	10,100	11,800	1	pSPA

* Shared with Scotland

** Shared with Wales

IIP The number of species for which the site supports internationally important populations (based on average maxima over the five-year period 1986/87-1990/91).

Note: The numbers of wildfowl and waders are rounded to the nearest 100 and are based on average maxima over the five-year period 1986/87-1990/91 (Kirby *et al* 1991).

In addition, a further nine estuaries in England support internationally important populations of one or more species; Exe (SPA), Tees, Orwell, Deben, Portsmouth Harbour, Pagham Harbour (SPA), Breydon Water, NW Solent, Thanet.

Implementation: A large proportion of the estuaries in England that support internationally important waterfowl populations have yet to be notified as SPAs. English Nature will continue to produce detailed submissions for Government on the agreed list of proposed sites.

Priorities for research should include an investigation of the impacts of disturbance (including the value of disturbance-free refuges) and piecemeal losses of intertidal habitats and saltmarsh on estuary bird populations, both locally and at a wider scale. Case studies of low tide usage on important estuaries are urgently required in this context. There is also a need for further studies on population turnover during wader migration to enable key sites for different species during spring and autumn to be identified. New work is also needed to increase our understanding of the ecology of non-waterfowl species wintering on saltmarsh. Priorities should be identified within an Estuary Strategy or in Estuary Management Plans.

The ornithological significance of England's estuaries is largely reliant upon migratory waterfowl which often breed at higher latitudes and over vast areas, and use our estuaries during the winter or on migration. It is therefore essential that estuaries in England are viewed as part of a network of wintering and staging areas within the East Atlantic Flyway, and that the waterfowl that make use of our estuaries can only be effectively conserved through international co-operation. The UK commitment to the *Western Palaerctic Waterfowl Agreement* under the Bonn Convention on Migratory Species should help facilitate this co-operation between states on the conservation of flyway populations.

Key bibliography: Allport *et al* (1986), Baillie *et al* (1986), Bell & Fox (1991), Cadbury *et al* (1987), Davidson *et al* (1991), Evans *et al* (1984), Ferns (1992), Kirby (1991), Moser (1987), Owen *et al* (1986), Prater (1981), Prater (1987).

4.9 Other coastal habitats and marine areas

Definition: This habitat category includes all coastal and marine areas other than estuaries and saltmarsh which are covered separately. It consists of sand dunes, shingle beaches, coastal lagoons, rocky coasts and cliffs, and marine areas to the limit of territorial waters (12 miles offshore).

Significance: Many species of national and international significance are supported by these habitats, ranging from the breeding seabirds of coastal cliffs and shingle banks, the breeding and wintering waterfowl of coastal lagoons and offshore areas, and the grassland and scrub birds of sand dunes. The shingle beaches which fringe much of the English coast supports internationally important breeding populations of Sandwich and Little Tern, and large numbers of breeding Common Tern, gulls, Oystercatcher and Ringed Plover. English coastal cliffs and islands contribute to Britain's international significance for other breeding seabirds, such as Storm Petrel, Razorbill and Guillemot. Marine foraging areas are crucial to seabirds in both the breeding and non-breeding season. The marine environment also provides feeding areas for large numbers of divers, grebes and seaducks in the non-breeding season. England's coastal cliffs also provide nest sites for a significant part of Britain's internationally important Peregrine population, with perhaps over one third of

England's breeding pairs nesting on the coast (Ratcliffe 1984). Much of England's Raven population also nests on coastal cliffs.

The non-estuarine coastline supports large numbers of wintering waders. The bulk of the wintering populations of Ringed Plover, Sanderling, Purple Sandpiper and Turnstone are supported by rocky coasts, sandy shores or coastal lagoons. Coastal lagoons support breeding waders (including all of Britain's Avocets), as well as wintering and breeding wildfowl. Sand dunes support large numbers of the more abundant grassland and scrub birds in their sequence of vegetation communities, including ground-nesting Skylark, Meadow Pipit and Grey Partridge. All these coastal habitats provide important hunting grounds for diurnal raptors, including Hen Harrier, Merlin and Peregrine, and Short-eared Owls in winter, and stop-overs for migrant passerines and waders in the spring and autumn.

Special protection: A total of 35 *Red Data Birds* and five candidate *Red Data Birds* are supported in significant numbers by the habitats within this category during the breeding and/or non-breeding season (Table 4.9). Seventeen breeding species are of high priority, of which three are included on 'List 1' (Avocet, Sandwich Tern and Little Tern) and a further eight species are of medium priority. Nine breeding species are listed on 'Annex I' of the EC Birds Directive, and five species are contained within Schedule 1 of the 1981 Act. Twenty-one high priority species are supported in the non-breeding season, all of which are included in 'List 2'. Four of these are listed on 'Annex 1'. A further five medium priority species are present in the non-breeding season.

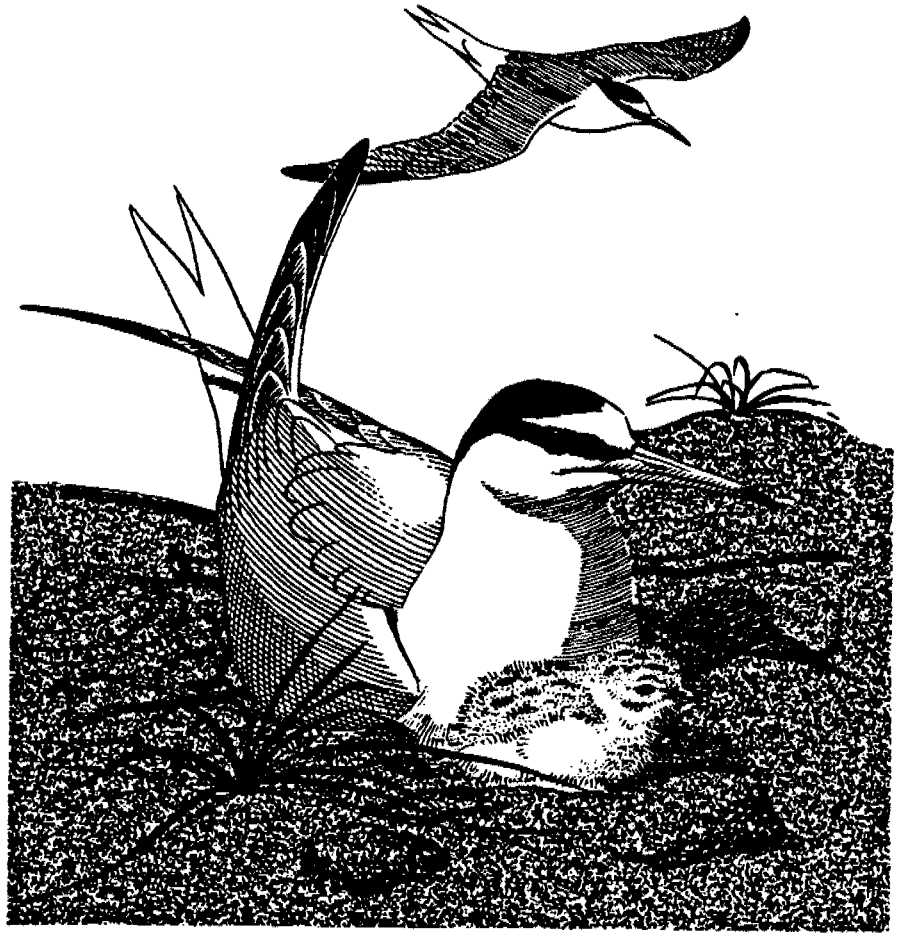

Table 4.9 Important coastal and marine birds in England

Species	EN priority	Annex I	Schedule 1	Population trend
Red-throated Diver	High (2)	*	(1)	Stable
Black-throated Diver	High (2)	*	(1)	Stable
Great Northern Diver	High (2)	*		Stable
Red-necked Grebe	Medium			Stable
Slavonian Grebe	Low	*	(1)	Stable
Black-necked Grebe	High (2)		(1)	Stable
Manx Shearwater	High (2)			Stable
Storm Petrel	High (2)	*		Declining
Gannet	High (2)			Increasing
Shelduck	High (2)			Increasing
Teal	High (2)			Increasing
Pintail	High (2)			Increasing
Shoveler	High (2)			Increasing
Pochard	High (1)			Declining
Scaup	High (2)		(1)	Declining
Long-tailed duck	High (2)		(1)	Uncertain
Common Scoter	High (2)		(1)	Declining
Velvet Scoter	High (2)			Declining
Goldeneye	Low			Stable
Peregrine	High (2)	*	1	Increasing
Oystercatcher	High (2)			Increasing
Avocet	High (1)	*	1	Increasing
Ringed Plover	High (2)			Increasing
Kentish Plover	Low	*	1	Extinct
Sanderling	High (2)			Fluctuating
Purple Sandpiper	Low		(1)	Uncertain
Dunlin	High (1)			Increasing or stable
Curlew	High (2)			Increasing
Redshank	High (2)			Increasing
Turnstone	High (2)			Stable
Mediterranean Gull	Medium	*	1	Increasing
Herring Gull	Medium			Declining
Kittiwake	Medium			Increasing
Sandwich Tern	High (1)	*		Increasing
Roseate Tern	High (2)	*	1	Declining
Common Tern	Medium	*		Stable
Arctic Tern	High (2)	*		Stable
Little Tern	High (1)	*	1	Increasing
Guillemot	High (2)			Increasing
Razorbill	High (2)			Increasing
Puffin	Medium			Increasing
Rock Dove	Medium			Declining
Stonechat	Medium			Declining
Raven	Medium			Differing regional trends

(1) Listed on Schedule 1 but occurs in winter only.

Threats and opportunities: The main threats to marine birds continue to be chemical pollution (especially oil), commercial over-fishing and the use of synthetic gill-nets. Recreation poses an additional threat to marine birds in inshore waters. Cliff-nesting seabirds face some threats at their nest sites from recreation and built developments. Cliff-top burrow nesters such as Manx Shearwater, Storm Petrel and Puffin are also threatened by rats, particularly on the Isles of Scilly and Lundy where mammalian predators would probably not occur naturally. Shingle-nesting seabirds and waders are most threatened by natural processes, sand and gravel extraction, built developments, recreation and predation. Extreme summer storms, for example, can cause mass nest-failure on tern colonies. Recreation can cause nest-desertion by terns, although successful fencing and wardening schemes have been set up at many sites. Excessive nest losses due to both mammalian and avian predators pose a much more serious and increasing threat to tern colonies. This may have arisen as persecution of predators in the surrounding countryside has relaxed. This appears to be a particular problem for Sandwich Terns, whose large colonies have been shown to completely fail as a result of predation pressure and the associated disturbance from just a few foxes.

There could be major gains for some coastal habitats as a result of managed coastal retreat. However, some bird habitats on the coast are also threatened by coastal retreat. For example, significant losses would occur if the coastline were to retreat at a faster rate than new coastal saline and fresh water habitats were created.

Knowledge of status and population trends: Our knowledge of the distribution, numbers and population trends of species in this habitat category is generally very good, but with some notable exceptions such as wintering and moulting divers, grebes and seaducks. In common with other habitats, we have most information on species which tend to concentrate during the breeding or non-breeding season, or on those that are rare.

The counting of colonial seabirds has a long tradition in Britain. However, it was not until 1969-70 that 'Operation Seafarer', organised by the Seabird Group and reported in Cramp *et al* (1974), carried out the first complete survey of coastal seabird colonies and hence provided the baseline for future comparison. In 1984, the Seabird Colony Register was established by the Seabird Group and NCC, and a repeat survey organised between 1985-87. The results of this survey and the changes that have occured since 1969-70 form the basis of our thorough knowledge of the distribution, abundance and trends of breeding seabirds in England (Lloyd *et al* 1991). In 1989, the NCC's Seabird Monitoring Programme expanded to include monitoring of breeding productivity (Walsh 1990; Walsh *et al* 1991; Walsh *et al* 1992; Walsh *et al* 1993). The 'Seabirds at Sea' project, begun in 1979, was designed to identify key areas of the North Sea of importance for seabirds at different times of the year. It has since been extended to other marine birds, and to the west and south coasts of Britain (Tasker *et al* 1987; Webb *et al* 1990; Aspinall & Tasker 1992). This research has contributed much to our understanding of the distribution and ecology of marine birds.

Concentrations of wintering waterfowl on the coast are similarly well covered by national monitoring schemes, as discussed at greater length in other sections. The National Waterfowl Counts includes many coastal lagoons in the site network and counts large numbers of seaducks at several locations (see, for example, Salmon 1988). A review of the status and distribution of wintering seaducks has recently been completed which has collated data from a variety of sources (Kirby *et al in press*). In addition, the Birds of Estuaries Enquiry now monitors around 60 non-estuarine sites. In the winter of 1984-85, the *Winter Shorebird Count* was the first complete

survey of wintering waders on the non-estuarine coast of the United Kingdom (Moser & Summers 1987). The survey found some of the highest wader densities on the coast of NE England, although very low densities were recorded for much of S and SE England. When added to the results of the BoEE, this enabled revised population estimates to be calculated for wintering waders (Moser 1987). These are still employed today.

A number of rare coastal breeding species are monitored annually by the Rare Breeding Birds Panel, including Avocet, Pochard, Mediterranean Gull and Roseate Tern, with several recent reviews (for example, Cadbury *et al* 1989; Fox 1991). With few exceptions, information on the distribution of other species breeding on the coast is limited to the BTO atlas of breeding birds. Similarly, the BTO atlas of wintering birds provides information on the distribution and abundance of birds on the coast in winter. Little information is available on numbers or population trends.

Ecological knowledge: Our knowledge of the ecological requirements of coastal birds is most complete for breeding seabirds, wintering waterfowl and rare breeders. Research into the breeding success, diet and foraging areas of seabirds has contributed greatly to our understanding of the ecological needs and population changes of these often highly specialised bird species. The Seabirds at Sea programme, for example, has identified areas of greatest susceptibility to marine pollution in the North Sea, Solent and to the west of Britain (Tasker *et al* 1987; Webb *et al* 1990; Aspinall & Tasker 1992).

Autecological studies have investigated the ecology and habitat requirements of rare breeders, such as Avocet (Cadbury *et al* 1989; Hill 1989) and Roseate Tern (Avery & del Nevo 1991), and wintering waterfowl, such as Turnstone (Metcalfe & Furness 1985), Curlew (Bainbridge & Milton 1978) and Sanderling (Evans *et al* 1980).

As a result of considerable reserve-based research, mostly by the RSPB, we can provide detailed management prescriptions for the creation and maintenance of brackish and saline lagoons on the coast (see, for example, Axell, 1982; Sills 1988; Becker & Sills 1988; Burgess & Hirons 1990). Key management factors include the manipulation of water levels to obtain a diversity of water depths and an appropriate salinity gradient.

Research into bird communities on sand dunes is very limited (Morgan 1978) and information concerning the ecological requirements of coastal passerines in winter is scant.

Important sites: A large number of designated and proposed SPAs have been identified wholly or partly for their coastal bird populations. These are listed as follows:

Lindisfarne SPA
Farne Islands SPA
Coquet Islands SPA
Northumberland Coast pSPA
Teesmouth & Cleveland Coast pSPA
Flamborough Head & Bempton Cliffs SPA
North Norfolk Coast SPA
Great Yarmouth North Denes SPA
Minsmere-Walberswick SPA

Orfordness-Havergate part SPA
Hamford Water SPA
Mid-Essex Coast pSPA
Chesil Beach & The Fleet SPA
Southampton Water & Solent Marshes pSPA
Chichester & Langstone Harbours SPA
Dungeness to Pett Levels pSPA
Thames Estuary & Marshes pSPA
Medway Estuary & Marshes pSPA
Thanet Coast pSPA
The Swale part SPA
Isles of Scilly pSPA

Sites of importance for colonially-nesting seabirds and wintering wildfowl are well represented in the above, which includes a number of estuarine sites. In contrast, more dispersed wintering species, such as the waders of rocky coasts, and divers, grebes and seaducks feeding in inshore waters are poorly covered within the network of protected sites. Similarly, whilst the nest sites of seabirds are included there is little or no provision for protection of their equally critical marine foraging areas. As a result, other mechanisms for protecting the extensive feeding areas for all these species must be implemented.

Implementation: A number of rare, threatened or vulnerable bird species are concentrated in coastal habitats during the breeding and/or non-breeding season. English Nature will continue to produce detailed submissions for Government on the agreed list of proposed sites. However, a site-based approach is not an appropriate conservation mechanism for many coastal and all marine species. This is because of their often dispersed nature and the lack of a legal and practical mechanism for protecting areas of the open sea. Furthermore, many concentrated species, such as colonially nesting seabirds, are dependent on wider environment measures in order to safeguard their foraging areas and habitats outside of the breeding season. It is therefore essential that the year-round ecological needs of coastal and marine birds are given full recognition during the development of any new approaches to the strategic management of inshore and offshore areas. Much of the success of such initiatives will rely on effective communication between the various interest groups and their recognition of the important wildlife communities that are present around the English coastline. Campaigns such as English Nature's 'Campaign for a Living Coast' will play a vital role in the conservation of coastal and marine areas in the future. Furthermore, a review of marine areas important for seabirds, under the terms of the EC Birds Directive, is currently being undertaken by JNCC at the request of the government. The designation of such areas under this Directive could provide a means of protecting marine areas for birds until any other mechanisms that may be necessary can be put into place.

Key bibliography: Aspinall & Tasker (1992), Avery & del Nevo (1991), Burgess & Hirons (1990), Cadbury *et al* (1989), Cramp *et al* (1974), English Nature (1992), Evans *et al* (1984), Ferns (1992), Kirby *et al* (1991), Kirby *et al* (*in press*), Harrison & Robbins (1992), Lloyd *et al* (1991), Moser & Summers (1987), Owen *et al* (1986), Prater (1989), Salmon (1988), Tasker *et al* (1987), Walsh *et al* (1993), Webb *et al* (1990).

4.10 The built environment

Definition: This category includes all artificial habitats within the built environment. It consisits of all buildings, communication infrastructures, derelict land, roads and railway embankments, parks, gardens, recreation grounds and landscaped areas within urban, suburban and industrial areas. It does not include isolated areas of semi-natural habitats within built landscapes, such as woods, or certain man-made features which often occur near centres of population, such as gravel pits and reservoirs. These distinct habitats are dealt with in other sections.

Significance: There is only one *Red Data Bird* which is clearly associated with the built environment: the Black Redstart. In addition, a significant proportion of the breeding population of the Pochard is supported by the London Parks. A number of medium priority species breed fairly widely in these habitats, including Swallow, Spotted Flycatcher, Lesser Whitethroat and Linnet, with several others breeding more locally, such as Kingfisher.

Arguably, the greatest significance of birds in the built environment is bringing urban dwellers in contact with nature. This undoubtably has benefits for bird conservation outside of the built environment. Much of this contact with birds is in gardens, which in 1980, covererd twice the area of all NNRs in Britain. The BTO's garden bird surveys provide new volunteers with relatively undemanding systematic observation and recording, from which they may graduate to more demanding surveys which make up the bulk of BTO's work.

Special protection: The Black Redstart is listed on Schedule 1 of the 1981 Act. Although the entire British breeding population of this *Red Data Bird* occurs in England, the species is regarded as of medium priority since there is no perceived threat to its population. Its population has steadily increased since the Second World War and now numbers some 120 pairs, located mainly in south-east, east and central England.

Threats and opportunities: Apart from localised threats as a result of habitat loss or modification, their are few threats to bird populations in the built environment (most threats occur on the individual due to predation by cats or traffic). Likewise, due to the highly modified, highly disturbed and ever changing nature of the artificial habitats, there are relatively few opportunities for birds in the built environment apart from the common, generalist species which are well adapted to the character of these areas.

Knowledge of status and population trends: With few exceptions, our knowledge of the status and population trends of birds in the built environment is limited to the reports of bird clubs which partly operate in urban areas, such as the annual report of the West Midlands Bird Club and the London Bird Report. The Black Redstart is however monitored annually by the Rare Breeding Birds Panel. There is a growing amount of information on the use of gardens by birds (BTO 1982; Thompson *in press*).

Ecological requirements: From studies of birds within the built environment, we can distinguish two broad groups of species; those that are dependent upon isloated areas of semi-natural and other habitats within the built environment, and those which are adapted to the special, highly artificial character of urban and industrial habitats. Examples of the latter group of species include Black Redstart, Feral Pigeon, House

Sparrow, Starling, Kestrel, Magpie and Black-headed Gull. A number of studies on garden birds, in particular by BTO, have shown the comparitively high diversity and numbers of birds supported by these habitats, especially in winter.

Important sites: Whilst, not surprisingly, there are no sites of international importance for the birds of built environments, a number of pSPAs occur within or near to centres of populations or industrial sites. Greater London, for example, contains parts of the 'Lee Valley' and 'South-west London Reservoirs and Gravel Pits' pSPAs. Indeed, a number of gravel pits and reservoirs are located within urban areas. These very often support important populations of Red Data wildfowl. The signifcance of these habitats are detailed in section 4.6.

Implementation: No added special conservation or protection measures are considered necessary for birds within the built environment. The Black Redstart is already afforded protection against disturbance during the nesting season.

Key bibliography: BTO (1992), Thompson (*in press*).

5. PRIORITIES FOR BIRD CONSERVATION IN ENGLAND: A HABITAT APPROACH

Action for any single species or group of bird species is likely to affect the populations of other birds and other taxa. For example, action to conserve Stone Curlew may well have impacts on a number of other bird species, such as Nightjar, Woodlark, Lapwing, Grey Partridge, Quail, Barn Owl, Short-eared Owl and Wheatear, ie all species associated with dry grass heaths. The flora and invertebrates would also certainly be affected. In view of this, we believe that action for a single species in isolation should only be taken in certain cases, in particular, where measures for a single species are urgently required to facilitate recovery (for example, Stone Curlew and Cirl Bunting) and subsequently allow an integrated species and based habitat approach to be adopted. Much new conservation action should however be focussed at the habitat level, recognising the specific needs of the suites of bird species that are supported and the likely impacts of implementation on other taxa have been assessed.

Action for birds is likely to be most effective as part of multi-disciplinary campaigns targeted on particular habitats, suites of species, natural areas or larger geographical areas. To make the best use of limited resources, and to ensure that the most urgent cases are tackled first, it is essential that we determine which habitats (and their associated species) are of highest priority for conservation action for birds. In this chapter, we attempt this exercise using a simple approach. The nine broad habitat groups discussed in Chapter 4 have been sub-divided into 24 bird habitats (following Housden *et al* 1991) to allow conservation action to be more clearly focussed on priority areas. For each of these we have calculated an index of conservation action priority, presented here as a priority rating (see Table 5.1). This is a function of the area of available habitat, the proportion lost since 1945, the predicted loss and the number of high priority bird species associated with the habitat. The latter factor contains an in-built bias towards species of particular importance in an English context (High Priority 'List 1' birds). Full details of the derivation of the indices are presented in Appendix V, and a summary is given as Table 5.1.

The 24 habitats clearly break down into three priority groupings, based on the index score; those with the largest index being the highest priority for conservation action for birds. Habitats of highest priority are lowland wet grasslands, swamps/fen/carr, intertidal flats, saltmarsh and lowland heath. In contrast, low priority habitats include built up areas, conifer plantations, sea cliffs and rocks, rivers and streams, and oligo/mesotrophic freshwaters.

Whilst this approach is open to criticism for being too simplistic, it does provide a pragmatic prioritization of bird habitats which is in accord with the general perception of the present situation. A number of bird habitats have, however, been assiged an unexpectedly low or high rating. Marine and inshore waters have a low priority rating because of the large area they occupy and lack of apparent past or predicted losses of habitat, despite the fact that they support a large number of high priority species. Arable and improved pastures and leys have medium priority ratings. This is because they support a large number of high priority species, a high proportion of which are 'List 1' birds. No account is taken of the fact that these species are often highly dispersed or localised, and supported at much higher densities in semi-natural habitats. Our methods have not been further refined since this is the function of Species Action Plans. These will focus more closely on the particular parts of habitats which require safeguarding and the land management needed to conserve species with them and within wider Natural Areas.

Table 5.1 Prioritization of bird habitats in England

Bird habitat	Area	Past losses	Predicted losses	'List 1' score	High Priority score	Priority Rating
Montane	3	2	2	1	7	Low
Upland heaths	3	3	3	2	12	Medium
Upland mires	3	3	3	2	8	Medium
Uplands grasslands	3	1	2	1	9	Low
Broad leaved woods/scrub	3	3	1	4	7	Medium
Lowland heath	3	4	3	5	8	High
Dry grassland	3	4	3	3	8	Medium
Swamps/fen/carr	3	3	2	11	21	High
Lowland wet grassland	3	4	3	8	21	High
Marine	1	1	1	3	18	Low
Inshore waters	1	1	1	4	19	Low
Sea cliffs and rocks	3	1	1	2	14	Low
Intertidal flats	2	2	3	7	23	High
Saltmarsh	3	2	3	7	26	High
Shingle & sand	3	3	3	3	7	Medium
Coastal lagoons	3	3	2	6	11	Medium
Oligo/mesotrophic waters	3	1	1	2	7	Low
Eutrophic waters	3	2	2	4	13	Medium
Rivers & streams	3	2	2	2	2	Low
Plantations	3	1	1	3	5	Low
Extraction pits and reservoirs	3	1	1	3	9	Low
Arable	2	1	2	7	20	Medium
Improved pastures & leys	2	2	2	6	19	Medium
Built up areas	2	1	1	2	2	Low

Notes: (1) Area refers to the proportion of England's land and sea covered by the habitat, based on the following classes: 1 = >40%, 2 = 10-40%, 3 = <10%.
(2) Past losses refers to the proportion of habitat lost since World War II, and predicted losses to the proportion of the existing areas at risk over the next 25 years. Both are based on the following classes: 1 = 0-10%, 2 = 11-40%, 3 = >40%.
(3) 'List 1' score = (number of 'List 1' species) + 1, and High Priority score = 'List 1' score + number of 'List 2' species.
(4) Priority Rating: High = >1000, Medium = 100-1000, Low = <100.

Sources: Habitat data based on Bibby et al 1989 (sumarised in Housden et al 1991)
Details of the high priority species occurring in each habitat are given in Appendix V.

6. CONCLUSIONS

This document provides detailed information on one element of the wildlife resource of England which English Nature seeks to conserve. It places particular emphasis on the conservation of rare, threatened and vulnerable bird species and those we support in internationally important numbers. The information has then been used to determine national priorities for bird conservation action at the species and at the bird-habitat level. Examples of work in progress towards our goals are given in Appendix VI, together with proposals for new initiatives which we present in order to stimulate discussion within and outside of English Nature.

We hope that this account of national priorities will help local teams determine characteristic, indicator and priority species for conservation action in the natural areas of England. Local conservation objectives and targets need to reflect national priorities.

There are many groups and individuals within and outwith English Nature who are involved, directly or indirectly, with bird conservation work. There are many others who could be. We need both to encourage them and to coordinate the efforts of all those who work towards bird conservation so that their actions are as effective as possible. Two developments may facilitate this.

Species Action Plans are a means of informing others about the activities necessary for effective species conservation and a means of coordinating these activities. They are currently being prepared by the RSPB in association with the statutory conservation agencies (and the Wildfowl and Wetlands Trust for appropriate species). Eachof the 177 *Red Data Birds* is to be included within the programme. Each of these documents consists of a clear statement of the conservation and legal status of each species, a summary of our knowledge of distribution, numbers, ecology, population trends, threats and limiting factors; a summary of the conservation action taken to date; and a list of possible actions with acompanying priority statements for policy, site safeguard and management, species management, protection and licensing, advisory, international, future research and monitoring and communications and publicity. They set objectives, identify the actions necessary to achieve them and establish management and implementational responsibilities. They will be subject to review as targets are achieved or situations change.

We need to ensure that the needs of birds are integrated into all our conservation efforts, as appropriate. Local delivery of conservation action will therefore usually be for suites of bird species, perhaps associated with particular habitats or particular natural areas, and only after consideration of the consequences and the opportunities for other wildlife have been fully evaluated. A strategic framework is clearly needed. We hope that this document, in providing an objective context for birds in England, contributes to the development of English Nature's Conservation Strategy for the 1990's.