# **Information Sheet on Ramsar Wetlands** (RIS)

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

#### Notes for compilers:

- 1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
- 2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
- 3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1.	Name and address	s of the compiler of this form:	FOR OFFICE USE ONLY.	
	Joint Nature Co	nservation Committee	DD MM YY	
	Monkstone Hous	e		
	City Road		Designation date	Site Reference Number
	Peterborough			
	Cambridgeshire UK	PE1 1JY		
	Telephone/Fax:	+44 (0)1733 - 562 626 / +44 (0)	1733 – 555 948	
	Email:	RIS@JNCC.gov.uk		
2.	Date this sheet wa	as completed/updated:		
	Designated: 05 J			
3.	Country:			
	UK (England)			
4.	Name of the Ram	sar site:		
	Minsmere-Wa	lberswick		
5.	Designation of ne	w Ramsar site or update of existi	ng site:	
Thi	s RIS is for: Updat	ed information on an existing Ram	sar site	
6.	For RIS updates	only, changes to the site since its	designation or earlie	r update:
a) §	Site boundary and a	area:		

\*\* Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

Ramsar Information Sheet: UK11044 Page 1 of 11 Minsmere-Walberswick
---

#### 7. Map of site included:

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

- a) A map of the site, with clearly delineated boundaries, is included as:
  - i) hard copy (required for inclusion of site in the Ramsar List): yes  $\checkmark$  -or- no  $\square$ ;
  - ii) an electronic format (e.g. a JPEG or ArcView image) Yes
  - iii) a GIS file providing geo-referenced site boundary vectors and attribute tables  $yes \checkmark$  -orno  $\Box$ ;

#### b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

#### **8.** Geographical coordinates (latitude/longitude):

52 18 55 N

01 38 02 E

#### 9. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Southwold

Composite site situated on the coast of Suffolk, between Southwold in the north and Sizewell in the south.

**Administrative region:** Suffolk

#### 10. Elevation (average and/or max. & min.) (metres): 11. Area (hectares): 2018.92

Min. -1 Max. 24 Mean 9

#### 12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

This composite, Suffolk coastal site contains a complex mosaic of habitats, notably, areas of marsh with dykes, extensive reedbeds, mudflats, lagoons, shingle and driftline, woodland and areas of lowland heath. The site supports the largest continuous stand of reed in England and Wales and demonstrates the nationally rare transition in grazing marsh ditch plants from brackish to fresh water. The combination of habitats create an exceptional area of scientific interest supporting nationally scarce plants, British Red Data Book invertebrates and nationally important numbers of breeding and wintering birds.

#### 13. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1, 2

#### 14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 1

The site contains a mosaic of marine, freshwater, marshland and associated habitats, complete with transition areas in between. Contains the largest continuous stand of reedbeds in England and Wales and rare transition in grazing marsh ditch plants from brackish to fresh water.

#### Ramsar criterion 2

This site supports nine nationally scarce plants and at least 26 red data book invertebrates. Supports a population of the mollusc *Vertigo angustior* (Habitats Directive Annex II; British Red Data Book Endangered), recently discovered on the Blyth estuary river walls.

An important assemblage of rare breeding birds associated with marshland and reedbeds including: Botaurus stellaris, Anas strepera, Anas crecca, Anas clypeata, Circus aeruginosus, Recurvirostra avosetta, Panurus biarmicus

## **15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

#### a) biogeographic region:

Atlantic

#### b) biogeographic regionalisation scheme (include reference citation):

Council Directive 92/43/EEC

#### 16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	acidic, neutral, shingle, sand, peat, nutrient-poor, mud,
	alluvium
Geomorphology and landscape	lowland, coastal, valley, floodplain, shingle bar, intertidal
	sediments (including sandflat/mudflat), open coast
	(including bay), estuary, lagoon
Nutrient status	mesotrophic
рН	circumneutral
Salinity	brackish / mixosaline, fresh, saline / euhaline
Soil	no information
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Lowestoft, 1971–2000)
	(www.metoffice.com/climate/uk/averages/19712000/sites
	/lowestoft.html)
	Max. daily temperature: 13.0° C
	Min. daily temperature: 7.0° C
	Days of air frost: 27.8
	Rainfall: 576.3 mm
	Hrs. of sunshine: 1535.5

#### General description of the Physical Features:

Minsmere – Walberswick comprises two large marshes, the tidal Blyth estuary and associated habitats. This composite coastal site contains a complex mosaic of habitats, notably areas of marsh with dykes, extensive reedbeds, mudflats, lagoons, shingle, woodland and areas of lowland heath. It supports the largest continuous stand of common reed *Phragmites australis* in England and Wales, and demonstrates the nationally rare transition in grazing marsh ditch plants from brackish to fresh water.

#### 17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

Minsmere – Walberswick comprises two large marshes, the tidal Blyth estuary and associated habitats. This composite coastal site contains a complex mosaic of habitats, notably areas of marsh with dykes, extensive reedbeds, mudflats, lagoons, shingle, woodland and areas of lowland heath.

#### 18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

No special values known

#### 19. Wetland types:

Marine/coastal wetland

Code	Name	% Area
Other	Other	30
U	Peatlands (including peat bogs swamps, fens)	30
G	Tidal flats	12.9
Е	Sand / shingle shores (including dune systems)	12.4
Н	Salt marshes	7.2
M	Rivers / streams / creeks: permanent	4
F	Estuarine waters	2.5
J	Coastal brackish / saline lagoons	1

#### 20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

This composite Suffolk coastal site contains a complex mosaic of habitats notably, areas of marsh with dykes, extensive reedbeds, mud flats, lagoons, shingle, woodland and areas of lowland heath. The site supports the largest continuous stand of reed *Phragmites australis* in England and Wales and nationally rare transition in grazing marsh ditch plants from brackish to fresh water. The combination of habitats create an exceptional area of scientific interest supporting nationally scarce plants, RDB invertebrates and nationally important numbers of breeding and wintering birds.

Ecosystem services

#### 21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.* 

Nationally important species occurring on the site.

**Higher Plants.** 

Ramsar Information Sheet: UK11044 Page 4 of 11 Minsmere–Walberswick

This is one of few sites nationally for red-tipped cudweed Filago lutescens (RDB2) which occurs on light, sandy soils.

The nationally rare species Corynephorus canescens (RDB3) occurs on coastal dune habitat.

The site supports a range of nationally scarce plant species characteristic of heathland, wetland and coastal habitats, and the transitions between them. Althaea officinalis, Myriophyllum verticillatum, Ruppia cirrhosa, Sium latifolium, Sonchus palustris, Ceratophyllum submersum, Ranunculus baudotii, and Carex divisa (all nationally scarce) are associated with reedbeds, grazing marsh or ditches. Hordeum marinum occurs on sea-walls, Lathyrus japonicus on coastal shingle, and Crassula tillaea on heathland.

#### 22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. Do not include here taxonomic lists of species present - these may be supplied as supplementary information to the RIS.

#### **Birds**

Species currently occurring at levels of national	importance:
<b>Species regularly supported during the breeding</b> Eurasian marsh harrier, <i>Circus aeruginosus</i> , Europe	season: 16 pairs, representing an average of 10.5% of the GB population (5 year mean 1993-1997)
Mediterranean gull , <i>Larus melanocephalus</i> , Europe	2 apparently occupied nests, representing an average of 1.8% of the GB population (Seabird 2000 Census)
Black-headed gull , $Larus \ ridibundus$ , N & C Europe	2558 apparently occupied nests, representing an average of 1.9% of the GB population (Seabird 2000 Census)
Little tern , <i>Sterna albifrons albifrons</i> , W Europe	20 apparently occupied nests, representing an average of 1% of the GB population (Seabird 2000 Census)
Species with peak counts in spring/autumn:	
Great bittern, Botaurus stellaris stellaris, W Europe, NW Africa	3 individuals, representing an average of 3% of the GB population (5 year peak mean 1998/9- 2002/3 - spring peak)

Eurasian teal, Anas crecca, NW Europe

Ruff, Philomachus pugnax, Europe/W Africa

Black-tailed godwit, Limosa limosa islandica, Iceland/W Europe

Spotted redshank, Tringa erythropus, Europe/W Africa

Common greenshank, Tringa nebularia, Europe/W Africa

#### **Species with peak counts in winter:**

Greater white-fronted goose, Anser albifrons albifrons, NW Europe

3083 individuals, representing an average of 1.6% of the GB population (5 year peak mean 1998/9-2002/3)

10 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9-2002/3)

846 individuals, representing an average of 5.4% of the GB population (5 year peak mean 1998/9-2002/3 - spring peak)

15 individuals, representing an average of 11% of the GB population (5 year peak mean 1998/9-2002/3)

9 individuals, representing an average of 1.5% of the GB population (5 year peak mean 1998/9-2002/3)

212 individuals, representing an average of 3.6% of the GB population (5 year peak mean for 1996/7-2000/01)

Gadwall, Anas strepera strepera, NW Europe 261 individuals, representing an average of 1.5%

of the GB population (5 year peak mean 1998/9-

2002/3)

Northern shoveler ,  $\it Anas \, clypeata, \, NW \, \& \, C$ 

Europe

238 individuals, representing an average of 1.6% of the GB population (5 year peak mean 1998/9-

2002/3)

Hen harrier, Circus cyaneus, Europe 15 individuals, representing an average of 2% of

the GB population (5 year peak mean 1985/6-

1989/90)

Water rail, Rallus aquaticus, Europe 5 individuals, representing an average of 1.1% of

the GB population (5 year peak mean 1998/9-

2002/3)

Pied avocet, Recurvirostra avosetta,

Europe/Northwest Africa

329 individuals, representing an average of 9.6% of the GB population (5 year peak mean 1998/9-2002/3)

European golden plover ,  $Pluvialis \ apricaria$  apricaria, P. a. altifrons Iceland & Faroes/E

Atlantic

4503 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-

2002/3)

Common redshank, *Tringa totanus totanus*, 1386 individuals, representing an average of 1.1%

of the GB population (5 year peak mean 1998/9-

2002/3)

Lesser black-backed gull , Larus fuscus graellsii, 905 individuals, representing an average of 1.4%

of the GB population (5 year peak mean 1998/9-

2002/3)

#### **Species Information**

Nationally important species occurring on the site.

#### Invertebrates.

Ethmia bipunctella, Aleochara inconspicua, Philonthus dimidiatipennis, Deltote bankiana, Cephalops perspicuus, Erioptera bivittata, E. meijerei, Gymnancycla canella, Pisidium pseudosphaerium, Archanara neurica, Heliothis viriplaca, Pelosia muscerda, Photedes brevilinea, Senta flammea, Herminea tarsicrinalis, Haematopota grandis, Tipula marginata, Podalonia affinis, Arctosa fulvolineata, Eucosma catroptana, E.maritima, Melissoblaptes zelleri, Pima boisduvaliella, Acrotophthalmus bicolor, Limonia danica, Telmaturus tumidulus, Vertigo angustior (a Habitats Directive Annex II species (S1014)).

#### 23. Social and cultural values:

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic

Aquatic vegetation (e.g. reeds, willows, seaweed)

Environmental education/interpretation

Livestock grazing

Non-consumptive recreation

Scientific research

**Tourism** 

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

### 24. Land tenure/ownership:

Ownership category	On-site	Off-site
Non-governmental organisation	+	+
(NGO)		
Local authority, municipality etc.	+	
National/Crown Estate	+	
Private	+	+
Other	+	

#### 25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	
Cutting of vegetation (small-	+	
scale/subsistence)		
Permanent arable agriculture		+
Grazing (unspecified)	+	
Flood control	+	
Transport route	+	+
Non-urbanised settlements	+	+

Ramsar Information Sheet: UK11044 Page 7 of 11 Minsmere–Walberswick

## 26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Explanation of reporting category:

- 1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
- 2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Erosion	2	Coastal squeeze within the Blyth Estuary	+		+
Recreational/tourism disturbance (unspecified)	2	Trampling damage to vegetated shingle and driftline communities, and disturbance of little tern nesting habitat	+		+

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors? Erosion - English Nature provides advice to the Environment Agency and coastal local authorities in relation to flood and coastal protection management. This will inform the development of the Suffolk Estuaries strategies and the second generation shoreline management plan.

Recreational/tourism disturbance (unspecified) - English Nature to work with owners/occupiers and regulatory authorities to develop a strategy to manage visitor pressure on Suffolk vegetated shingle. These measures are likely to include temporary fencing and provision of boardwalks as well as measures to increase visitor awareness about the sensitivity of the shingle habitat, for example by interpretation, wardening.

Is the site subject to adverse ecological change? YES

#### 27. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest	+	
(SSSI/ASSI)		
National Nature Reserve (NNR)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation	+	
for nature conservation		
Management agreement	+	
Site management statement/plan implemented	+	

Ramsar Information Sheet: UK11044 Page 8 of 11 Minsmere–Walberswick

Area of Outstanding National Beauty (AONB)	+	+
Environmentally Sensitive Area (ESA)	+	+
Special Area of Conservation (SAC)	+	

#### **b)** Describe any other current management practices:

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

#### 28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

#### 29. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

#### Fauna.

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

#### Flora.

NVC and vegetation monitoring, bird and invertebrate surveys/monitoring carried out on EN's NNRs, NT, SWT, RSPB reserves.

## 30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Facilities at National Trust and Royal Society for the Protection of Birds reserves.

#### 31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

#### **Activities, Facilities provided and Seasonality.**

A popular area for tourists as it is an AONB and contains Minsmere bird reserve and Dunwich heath, both with toilets/shop/cafe. There are more visitors in the summer, however it well used throughout the year by walkers and bird watchers.

#### 32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs, European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol, BS1 6EB

#### 33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House, Northminster Road, Peterborough, PE1 1UA, UK

#### 34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

#### Site-relevant references

- Axell, HE (1977) Minsmere: portrait of a bird reserve. Hutchinson, London
- Barne, JH, Robson, CF, Kaznowska, SS, Doody, JP, Davidson, NC & Buck, AL (eds.) (1998) *Coasts and seas of the United Kingdom. Region 7 South-east England: Lowestoft to Dungeness*. Joint Nature Conservation Committee, Peterborough. (Coastal Directories Series.)
- Batten, LA, Bibby, CJ, Clement, P, Elliot, GD & Porter, RF (1990) Red Data Birds in Britain. Action for rare, threatened and important species. Poyser, London, for Nature Conservancy Council and Royal Society for the Protection of Birds
- Bratton, JH (ed.) (1991) British Red Data Books: 3. Invertebrates other than insects. Joint Nature Conservation Committee, Peterborough
- Burgess, N, Evans, C & Sorensen, J (1990) Heathland management for nightjars. RSPB Conservation Review, 4, 32-35
- Council of Europe (1980) *Minsmere Nature Reserve, United Kingdom.* Council of Europe, Strasbourg (European Diploma Series, No. 18)
- Covey, R (1998) Chapter 6. Eastern England (Bridlington to Folkestone) (MNCR Sector 6). In: *Benthic marine ecosystems of Great Britain and the north-east Atlantic*, ed. by K. Hiscock, 179-198. Joint Nature Conservation Committee, Peterborough. (Coasts and Seas of the United Kingdom. MNCR series)
- Cranswick, PA, Waters, RJ, Musgrove, AJ & Pollitt, MS (1997) *The Wetland Bird Survey 1995–96: wildfowl and wader counts.* British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge
- Day, JCU & Wilson, J (1978) Breeding bitterns in Britain. British Birds, 71, 285-300
- Doody, JP, Johnston, C & Smith, B (1993) *Directory of the North Sea coastal margin*. Joint Nature Conservation Committee, Peterborough
- ESL (1997) National Vegetation Classification Survey of Walberswick NNR. ESL, Lincolnshire
- Evans, C, Marrs, R & Welch, G (1993) The restoration of heathland on arable farmland at Minsmere RSPB Nature Reserve. RSPB Conservation Review, 7, 80-84
- McLeod, CR, Yeo, M, Brown, AE, Burn, AJ, Hopkins, JJ & Way, SF (eds.) (2004) *The Habitats Directive: selection of Special Areas of Conservation in the UK*. 2nd edn. Joint Nature Conservation Committee, Peterborough. www.jncc.gov.uk/SACselection
- Musgrove, AJ, Pollitt, MS, Hall, C, Hearn, RD, Holloway, SJ, Marshall, PE, Robinson, JA & Cranswick, PA (2001) *The Wetland Bird Survey 1999–2000: wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge. www.wwt.org.uk/publications/default.asp?PubID=14
- National Rivers Authority (1996) Southwold Town Marshes Water Level Management Plan. National Rivers Authority, Ipswich
- National Rivers Authority (1996) Tinker's Marsh Water Level Management Plan. National Rivers Authority, Ipswich
- National Rivers Authority (1996) Westwood and Dingle Marshes Water Level Management Plan. National Rivers Authority, Ipswich
- Ratcliffe, DA (ed.) (1977) A Nature Conservation Review. The selection of biological sites of national importance to nature conservation in Britain. Cambridge University Press (for the Natural Environment Research Council and the Nature Conservancy Council), Cambridge (2 vols.)
- Royal Society for the Protection of Birds (1994) Minsmere management plan. Royal Society for the Protection of Birds
- Shirt, DB (ed.) (1987) British Red Data Books: 2. Insects. Nature Conservancy Council, Peterborough
- Smith, K, Welch, G, Tyler, G, Gilbert, G, Hawkins, I & Hirons, G (2000) Management of RSPB Minsmere reedbeds and its impact on breeding bitterns. *British Wildlife*, **12**(1), 16-21
- Stewart, A, Pearman, DA & Preston, CD (eds.) (1994) Scarce plants in Britain. Joint Nature Conservation Committee, Peterborough
- Stroud, DA, Chambers, D, Cook, S, Buxton, N, Fraser, B, Clement, P, Lewis, P, McLean, I, Baker, H & Whitehead, S (eds.) (2001) *The UK SPA network: its scope and content*. Joint Nature Conservation Committee, Peterborough (3 vols.) www.jncc.gov.uk/UKSPA/default.htm
- Suffolk Wildlife Trust (1993) National Vegetation Classification of the saltmarsh of the Deben, Alde–Ore and Blyth estuaries, Suffolk. Suffolk Wildlife Trust, Ashbocking

#### Information Sheet on Ramsar Wetlands (RIS), page 11

Wiggington, M (1999) British Red Data Books. 1. Vascular plants. 3rd edn. Joint Nature Conservation Committee, Peterborough

Please return to: Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: <a href="mailto:ramsar@ramsar.org">ramsar@ramsar.org</a>

Ramsar Information Sheet: UK11044 Page 11 of 11 Minsmere–Walberswick

Produced by JNCC: Version 3.0, 13/06/2008