

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 of the compiler of this form:

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

Designated: 02 February 1999

3. Country:

UK (Scotland)

4. Name of the Ramsar site:

Caithness and Sutherland Peatlands

5. Designation of new Ramsar site or update of existing site:

This RIS is for: Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and 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:

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* ✓ -or- *no* ☐;
- 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* ✓ -or- *no* ☐;

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):

58 20 10 N 03 56 15 W

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: Thurso

The Caithness and Sutherland Peatlands Ramsar site lies in the extreme north of mainland Britain.

Administrative region: Highland

10. Elevation (average and/or max. & min.) (metres): 11. Area (hectares): 143502.79

Min.	16
Max.	675
Mean	200

12. General overview of the site:

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

The Caithness and Sutherland Peatlands Ramsar site contains a large proportion of the Caithness and Sutherland Peatlands which form one of the largest and most intact areas of blanket bog in the world. The peatlands include an exceptionally wide range of vegetation and surface pattern types, some of which are unknown elsewhere. This range of habitats supports a diverse range of breeding waterfowl including internationally important populations of North Scottish greylag goose and dunlin and nationally important populations of ten other waterfowl species.

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, 6

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 supports one of the largest and most intact areas of blanket bog in the world.

Ramsar criterion 2

The site supports a number of rare species of wetland plants and animals. The plants include three nationally rare mosses, eight nationally scarce vascular plants and four nationally scarce mosses. The insect fauna includes several nationally scarce species and one nationally rare species. The site supports nationally important breeding populations of ten waterfowl species.

Ramsar criterion 6 – species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species regularly supported during the breeding season:

Dunlin , *Calidris alpina schinzii*, 1860 pairs, representing an average of 7.4% of the breeding population (Count, as at mid-1990s)
Baltic/UK/Ireland

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See www.bto.org/survey/webs/webs-alerts-index.htm.

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, peat, nutrient-poor, sedimentary, granite, sandstone, sandstone/mudstone, gravel, cobble
Geomorphology and landscape	upland, hilly
Nutrient status	oligotrophic
pH	acidic
Salinity	fresh
Soil	mainly organic
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Kinbrace, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/kinbrace.html) Max. daily temperature: 11.1° C Min. daily temperature: 3.1° C Days of air frost: 84.0 Rainfall: 993.8 mm Hrs. of sunshine: 1192.4

General description of the Physical Features:

The Caithness & Sutherland Peatlands are located across the northernmost parts of mainland Scotland. They form one of the largest and most intact areas of blanket bog in the world.

The peatlands include an exceptionally wide range of vegetation and surface pattern types (pool systems), some of which are unknown elsewhere.

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).

The Caithness & Sutherland Peatlands are located across the northernmost parts of mainland Scotland. They form one of the largest and most intact areas of blanket bog in the world. The peatlands include an exceptionally wide range of vegetation and surface pattern types (pool systems), some of which are unknown elsewhere.

18. Hydrological values:

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

Sediment trapping, Recharge and discharge of groundwater, Flood water storage / desynchronisation of flood peaks

19. Wetland types:

Inland wetland

Code	Name	% Area
U	Peatlands (including peat bogs swamps, fens)	94.9
Other	Other	2.8
O	Freshwater lakes: permanent	2.2
M	Rivers / streams / creeks: permanent	0.1

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.

The primary habitat of the Caithness and Sutherland Peatlands is active blanket bog. The dominant plant communities within this habitat vary from the wetter west to the drier east but all are dominated by dwarf shrubs, sedges and *Sphagnum* mosses. Among the dwarf shrubs, heather *Calluna vulgaris* and cross-leaved heath *Erica tetralix* are common and widespread. In the west *Scirpus cespitosus-Eriophorum vaginatum* blanket mire (M17) and the closely associated *Scirpus cespitosus* wet heath (M15) are predominant. Particularly associated with the wet heath are bog myrtle *Myrica gale* and purple moor-grass *Molinia caerulea*. To the east *Erica tetralix-Sphagnum papillosum* (M18) and *Calluna vulgaris-Eriophorum vaginatum* (M19) blanket mires become predominant. In general the cover of *Calluna* tends to be greater in the drier eastern parts of the site. Throughout *Sphagnum* species are a characteristic feature of the vegetation and the main contributor to continuing peat accumulation. The most widespread and abundant species are *Sphagnum papillosum*, *S. tenellum* and *S. capillifolium*. Intimately associated with the blanket bog are dystrophic lochs (dubh lochans) which range in size from lochs of a few hectares to tiny bog pools.

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.

Assemblage

This site is internationally important because it contains the following Habitats Directive Annex I features:

Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea* (H3130), Natural dystrophic lakes and ponds (H3160), Northern Atlantic wet heaths with *Erica tetralix* (H4010), Blanket bogs (H7130), Transition mires and quaking bogs (H7140), Depressions on peat substrates of the *Rhynchosporion* (H7150).

Nationally important species occurring on the site.

Higher Plants.

Arabis petraea, *Arctostaphylos alpinus*, *Betula nana*, *Deschampsia setacea*, *Hammarbya paludosa*, *Lycopodiella inundata*, *Lycopodium annotinum*, *Vaccinium microcarpum*.

Nationally important species occurring on the site.

Lower Plants.

Dicranum bergeri, *Sphagnum lindbergii*, *Sphagnum majus*.

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:

Species regularly supported during the breeding season:

Red-throated diver , <i>Gavia stellata</i> , NW Europe	89 pairs, representing an average of 9.5% of the GB population (Count, as at mid 1990s)
Black-throated diver , <i>Gavia arctica arctica</i> , N Europe & W Siberia	25 pairs, representing an average of 16.1% of the GB population (1995-2004)
Eurasian wigeon , <i>Anas penelope</i> , NW Europe	43 pairs, representing an average of 14.3% of the GB population (Count, as at mid 1990s)
Eurasian teal , <i>Anas crecca</i> , NW Europe	106 pairs, representing an average of 7% of the GB population (Count, as at mid 1990s)
Black (common) scoter , <i>Melanitta nigra nigra</i> , W Siberia/W & N Europe/NW Africa)	27 pairs, representing an average of 28.4% of the GB population (Count, as at mid 1990s)
Hen harrier, <i>Circus cyaneus</i> , Europe	14 pairs, representing an average of 2.8% of the GB population (Count, as at mid 1990s)
Golden eagle , <i>Aquila chrysaetos</i> , Europe	5 pairs, representing an average of 1.2% of the GB population (Count, as at 1992)
Merlin , <i>Falco columbarius</i> , Europe	54 pairs, representing an average of 4.1% of the GB population (Count, as at mid 1990s)
European golden plover , <i>Pluvialis apricaria apricaria</i> , Britain/Ireland/Denmark/Germany	1064 pairs, representing an average of 4.7% of the GB population (Count, as at mid 1990s)
Eurasian curlew , <i>Numenius arquata arquata</i> , Europe -breeding	517 pairs, representing an average of 1.5% of the GB population (Count, as at mid 1990s)
Common greenshank , <i>Tringa nebularia</i> , Europe/W Africa	256 pairs, representing an average of 23.7% of the GB population (Count, as at mid 1990s)
Wood sandpiper , <i>Tringa glareola</i> , Europe	<5 pairs, representing an average of 100% of the GB population (Count, as at mid 1990s)

Arctic skua , *Stercorarius parasiticus*, NE Atlantic

39 apparently occupied territories, representing an average of 1.8% of the GB population (Seabird 2000 Census)

Short-eared owl , *Asio flammeus*, Europe

30 pairs, representing an average of 3% of the GB population (Count, as at mid 1990s)

Species Information

Nationally important species occurring on the site.

Mammals.

Lutra lutra (Habitats Directive Annex I feature (S1355)).

Invertebrates.

Oreodytes alpinus, *Aeshna caerulea*.

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
- Archaeological/historical site
- Environmental education/ interpretation
- Forestry production
- Livestock grazing
- Scientific research
- Sport fishing
- Sport hunting
- 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:
- iii) 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)	+	
National/Crown Estate	+	
Private	+	

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	
Tourism	+	
Commercial forestry		+
Cutting of vegetation (small-scale/subsistence)	+	
Fishing: recreational/sport	+	
Permanent arable agriculture		+
Rough or shifting grazing	+	
Hunting: recreational/sport	+	
Domestic water supply	+	

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?
No factors reported	NA				

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

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	+	
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.

Current Research/Surveys

Black-throated diver monitoring (RSPB): Ongoing monitoring, approximately 40 sites in the Caithness and Sutherland Peatlands SPA are monitored each year.

Moorland Bird Survey (RSPB): Ongoing monitoring 19 (2.5 km x 2.5 km) plots surveyed in 1988, 1991, 1995 & 2000.

Forsinard Reserve (RSPB): Key species (black-throated diver, common scoter and raptor species) monitored over entire reserve area each year. All bird species (waterfowl, raptors etc.) monitored in two fixed plots each year. Use of in-bye fields by golden plover monitored each year. All monitoring on reserve is from 1995.

Greenhouse gas emissions: University research projects hosted.

Research/surveys undertaken and completed

Upland Bird Survey (NCC) 1979-1986: Sample areas surveyed throughout peatlands in Caithness and Sutherland.

Peatland Survey of Northern Scotland (NCC) 1980-86: Classification and evaluation of vegetation types present.

Vegetation: Most of the component SSSIs have been surveyed to NVC standard.

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.

The RSPB Forsinard reserve runs regular guided walks onto less sensitive parts of the peatlands.

The RSPB Forsinard reserve has a visitor centre (open April to October) and a waymarked trail (open all year).

31. Current recreation and tourism:

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

Activities.

Deer-stalking: Traditional deer-stalking (for stags, with paying guests) takes place over much of the site, generally from mid-August to mid-October.

Fishing: Traditional fly-fishing for trout is popular on many of the numerous lochs within the peatlands. Angling is generally by permit only and boats can be hired on some of the larger lochs. Disturbance caused by fishing may affect the breeding success of waterfowl in some places (see vulnerability statement).

Facilities provided.

No specific facilities other than tourist accommodation.

Seasonality.

All year.

32. Jurisdiction:

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

Scottish Executive, Environment and Rural Affairs Department

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.

Scottish Natural Heritage, 2 Anderson Place, Edinburgh, EH6 5NP

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

- Anon. (n.d. [~1998]) *The Peatlands Trail. A visitor guide to the peatlands of Caithness and Sutherland*. Royal Society for the Protection of Birds?
- Avery, MI & Haines Young, RH (1990) Population estimates for the dunlin *Calidris alpina* derived from remotely sensed satellite imagery of the Flow Country of northern Scotland. *Nature*, **344**, 860-862
- Bates, MA, Shepherd, KB, Whitfield, P & Arnott, DA (1994b) A breeding wader and upland bird survey of selected sites in Caithness & Sutherland. *Scottish Natural Heritage Commissioned Research Report*, No. ***
- 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
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- Charman, DJ (1990) *Origin and development of the Flow Country blanket mire, northern Scotland, with particular reference to patterned fens*. Unpublished PhD thesis, University of Southampton
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- Lavers, CP, Haines-Young, RH & Avery, MI (1996) The habitat associations of dunlin (*Calidris alpina*) in the Flow Country of northern Scotland and an improved model for predicting habitat quality. *Journal of Applied Ecology*, **33**, 279-290
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- Mudge, GP & Talbot, TR (1993) The breeding biology and causes of nest failure of Scottish black-throated divers (*Gavia arctica*). *Ibis*, **135**, 113-120
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- 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.)
- 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.)
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- Stroud, DA, Reed, TM, Pienkowski, MW & Lindsay, RA (1987) *Birds, bogs and forestry. The peatlands of Caithness and Sutherland*. Nature Conservancy Council, Peterborough
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