

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

1. Name and address of the compiler of this form:**Joint Nature Conservation Committee**

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

Designated: 02 February 1998 / updated 12 May 2005

3. Country:

UK (Scotland)

4. Name of the Ramsar site:

Caithness Lochs

5. Map of site included:

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

a) hard copy (required for inclusion of site in the Ramsar List): yes -or- no

b) digital (electronic) format (optional): Yes

6. Geographical coordinates (latitude/longitude):

58 29 30 N 03 20 00 W

7. General location:

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

The Caithness Lochs Ramsar site lies in the extreme north-east of mainland Britain.

Administrative region: Highland

8. Elevation (average and/or max. & min.) (metres): **9. Area** (hectares): 1378.57

Min. 1
Max. 69
Mean 38

10. Overview:

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

The Caithness Lochs Ramsar Site consists of a suite of six lochs and a mire in the extreme north of mainland Scotland. The lochs cover a range of types from oligotrophic to eutrophic, and support a wide diversity of aquatic and wetland vegetation including submerged and floating aquatic

communities and species rich marginal, fen and swamp communities. In winter these lochs support internationally important wintering populations of whooper swan (Icelandic), Greenland white-fronted goose and greylag goose (Icelandic).

11. 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).

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Secretariat comment: The RIS provides information requiring the application of Criterion 4. This needs to be included in the next update.

12. Justification for the application of each Criterion listed in 11. 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 6 – species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species with peak counts in winter:

Greylag goose , *Anser anser anser*, 8730 individuals, representing an average of 8.7% of the population (5 year peak mean for 1996/7-2000/01)

Iceland (br), /UK/ Ireland (w)

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.

13. 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

14. 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, sand, alluvium, peat, nutrient-poor, sedimentary, sandstone, gravel, cobble
Geomorphology and landscape	lowland, valley, floodplain
Nutrient status	oligotrophic
pH	acidic, circumneutral
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
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General description of the Physical Features:

Caithness Lochs are located in lowland Caithness in northern Scotland. The site comprises Broubster Leans, a complex area of mire and fen developed on a river floodplain; Loch of Mey, a shallow ephemeral loch fringed by fen and marshy grassland; Loch Watten, a large, shallow, base-rich loch; Loch Scarmclate, a shallow mesotrophic marl loch; Loch Calder, an oligotrophic loch deeper than the other lochs within the site; and Loch of Wester and Loch Heilen, shallow mesotrophic sand lochs. In winter, Broubster Leans and Loch of Mey are subject to prolonged inundation.

15. 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).

Caithness Lochs are located in lowland Caithness in northern Scotland. The site comprises Broubster Leans, a complex area of mire and fen developed on a river floodplain; Loch of Mey, a shallow ephemeral loch fringed by fen and marshy grassland; Loch Watten, a large, shallow, base-rich loch; Loch Scarmclate, a shallow mesotrophic marl loch; Loch Calder, an oligotrophic loch deeper than the other lochs within the site; and Loch of Wester and Loch Heilen, shallow mesotrophic sand lochs. In winter, Broubster Leans and Loch of Mey are subject to prolonged inundation.

16. Hydrological values:

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

Sediment trapping, Flood water storage / desynchronisation of flood peaks, Maintenance of water quality (removal of nutrients)

17. Wetland types

Inland wetland

Code	Name	% Area
M	Rivers / streams / creeks: permanent	0.04
O	Freshwater lakes: permanent	74
Tp	Freshwater marshes / pools: permanent	0.9
U	Peatlands (including peat bogs swamps, fens)	20.7
Other	Other	4.3
Xf	Freshwater, tree-dominated wetlands	0.04

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The site consists of six freshwater lochs and a mire (Broubster Leans). A range of loch types from oligotrophic to eutrophic are represented. Among the aquatic communities, pondweed associations are well represented including *Potamogeton perfoliatus-Myriophyllum alterniflorum* (*P. filiformis* subcommunity) on mesotrophic to eutrophic lochs such as Lochs Watten, Scarmclate, Heilen and Mey and *Potamogeton pectinatus-Myriophyllum spicatum* community (A11) on the more eutrophic Loch of

Wester. The nationally scarce *Potamogeton filiformis* is particularly well represented on a number of the lochs.

Swamp communities are present, especially on wetter sites such as Broubster Leans, these include *Equisetum fluviatile* swamp (S10) and *Carex rostrata* swamp (S9). These provide habitat for the nationally scarce narrow small-reed *Calamagrostis stricta* and the uncommon water sedge *Carex aquatilis*. All the lochs apart from Loch Calder include some areas of associated wetlands where other habitats represented include *Carex rostrata-Potentilla palustris* tall-herb fen (S27), *Filipendula ulmaria-Angelica sylvestris* mire (M27) and other mire communities such as *Scirpus cespitosus-Eriophorum vaginatum* blanket mire (M17), *Eriophorum vaginatum-Sphagnum papillosum* mire (M18) and *Scirpus cespitosus-Eriophorum* wet heath (M15). Drier areas grazed by cattle or sheep tend to be dominated by *Juncus effusus/acutiflorus-Galium palustre* rush-pasture (M23).

19. 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 supports the following Habitats Directive Annex I feature:

Transition mires and quaking bogs (H7140)

Nationally important species occurring on the site.

Higher Plants.

Calamagrostis stricta, *Potamogeton filiformis*

Lower Plants.

Bryum neodamense.

20. 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 with peak counts in spring/autumn:

Ruff , <i>Philomachus pugnax</i> , Europe/W Africa	22 individuals, representing an average of 3.1% of the GB population (5 year peak mean 1998/9-2002/3)
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Species with peak counts in winter:

Whooper swan , <i>Cygnus cygnus</i> , Iceland/UK/Ireland	192 individuals, representing an average of 3.3% of the GB population (5 year peak mean 1998/9-2002/3)
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Greenland white-fronted goose, <i>Anser albifrons flavirostris</i> , Greenland	252 individuals, representing an average of 1.2% of the GB population (5 year peak mean for 1996/7-2000/01)
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Species Information

Nationally important species occurring on the site.

Invertebrates.

Oreodytes alpinus.

21. Social and 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
- Environmental education/ interpretation
- Livestock grazing
- Non-consumptive recreation
- Sport fishing
- Sport hunting
- Tourism

22. Land tenure/ownership:

Ownership category	On-site	Off-site
Private	+	+
Public/communal	+	+

23. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	
Tourism		+
Recreation		+
Commercial forestry		+
Fishing: recreational/sport	+	+
Arable agriculture (unspecified)		+
Permanent pastoral agriculture	+	+
Hunting: recreational/sport	+	+
Sewage treatment/disposal		+
Transport route		+
Domestic water supply	+	+
Non-urbanised settlements		+

24. Factors 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
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25. 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)	+	
Special Protection Area (SPA)	+	
Site management statement/plan implemented	+	
Special Area of Conservation (SAC)	+	

26. Conservation measures proposed but not yet implemented:

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

No information available

27. Current scientific research and facilities:

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

Current

Anser albifrons flavirostris: The Greenland White-fronted Goose Study co-ordinate three national counts per winter. In Caithness these are carried out by a network of volunteer counters co-ordinated by Mr Stan Laybourne, a local school teacher. Since 1972, Mr Laybourne has carried out a long-term study of Greenland white-fronted goose roosting and feeding behaviour in Caithness.

Other waterfowl: Numbers of wildfowl and wading birds wintering on the Ramsar site are monitored annually as part of the national Wetland Birds Survey (Waters & Cranswick 1993).

Undertaken and completed

Anser albifrons flavirostris: The following intensive studies of Greenland white-fronted geese in Caithness have been made:

- spring 1985 (Laybourne & Fox 1985),
- winter 1993/94 (Laybourne & Legg 1994)
- winter 1994/95 (Harding & Laybourne 1995)
- winter 1996/7 (Laybourne 1997)

Other waterfowl: The following surveys of wintering & breeding waterfowl have been made:

- winter 1987/8 (Talbot 1989)
- winter 1988/9 (Talbot 1989)
- summer 1993 (O'Brien 1994)
- winter 1996/7 (Laybourne 1997)
- summer 1997 (SNH in prep.)

Freshwater:

- Invertebrates (MacCan & Moran 1986)
- Macrophytes (Bell 1986 & 1989).
- Site evaluation (Bell 1989).

Habitat survey:

- Broubster Leans (Mitchell 1983).

28. Current conservation education:

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

None reported

29. Current recreation and tourism:

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

Hunting: Traditional wildfowling for duck continues at low levels on the site with consent from SNH.

Birdwatching: The Scottish Ornithologists' Club Caithness Branch manages a bird-hide overlooking Loch of Mey.

30. 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

31. 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

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

Site-relevant references

- Bell, SL (1986) *Freshwater macrophyte survey of selected Caithness lochs*. Nature Conservancy Council, Inverness
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- Foster, GN & Spirit, M (1986) *Oreodytes alpinus* new to Britain. *Balfour-Browne Club Newsletter*, **36**, 1-2.
- Harding, N & Laybourne, S (1995) *Greenland white-fronted geese and whooper swans in Caithness during the 1994/1995 winter*. Report to Scottish Natural Heritage, Inverness.
- Johnston, R (1999) *Caithness Lochs potential extension to Special Protection Area and Ramsar Site (UK9001171)*. Departmental brief. Scottish Natural Heritage, Edinburgh (International Sites Series)
- Laybourne, S & Fox, AD (1985) *Report of the Caithness Greenland white-fronted goose spring census 1985*. Nature Conservancy Council, Inverness
- Laybourne, S & Legge, MIH (1994) *Numbers and behaviour of Greenland white-fronted geese in Caithness with special reference to daily routines of roosting and feeding*. Report to Scottish Natural Heritage, Inverness
- Laybourne, S (1997) *Survey of winter wildfowl using the Caithness Lochs proposed Special Protection Area and Ramsar site winter 1996/97*. Report to Scottish Natural Heritage, Inverness
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- Mitchell, I.J. (1983) *Broubster Leans SSSI habitat map*. Scottish Natural Heritage, Golspie
- 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
- O'Brien, M (1994) *Survey of breeding waders on Scottish lowlands*. Unpublished interim report to Royal Society for the Protection of Birds, Edinburgh
- 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.)
- Shepherd, M (1997) *Caithness Lochs Special Protection Area and Ramsar Site (117A)*. Departmental brief. Scottish Natural Heritage, Edinburgh (International Sites Series)
- 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
- Talbot, T. (1989) *Wintering wildfowl and waders in Caithness 1987–88 and 1988–89: a study of selected sites*. Nature Conservancy Council, Inverness
- Waters, JR & Cranswick, PA (1993). *The Wetland Bird Survey 1992–1993. Wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge
- Whitaker, S (in prep.) *Survey of breeding waders and wildfowl on the Caithness Lochs proposed Special Protection Area and Ramsar Site 1997*. Scottish Natural Heritage, Golspie

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