

# Information Sheet on Ramsar Wetlands (RIS)

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

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## 1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

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## 2. Date this sheet was completed/updated:

Designated: 02 February 1998

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## 3. Country:

UK (Scotland)

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## 4. Name of the Ramsar site:

Caithness Lochs

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

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

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## 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 31 22 N                      03 35 60 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.

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

**Administrative region:** Highland

**10. Elevation** (average and/or max. & min.) (metres):    **11. Area** (hectares): 1378.57

Min.	1
Max.	69
Mean	38

**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 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).

**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).

**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 6 – species/populations  
occurring at levels of international**

**importance.****Qualifying Species/populations (as identified at designation):****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)
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)
Greylag goose , <i>Anser anser anser</i> , Iceland/UK, Ireland	8730 individuals, representing an average of 9.7% of the population (5 year peak mean for 1996/7-2000/01)

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](http://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, 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) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/kinbrace.html">www.metoffice.com/climate/uk/averages/19712000/sites/kinbrace.html</a> ) 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:**

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.

### 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).

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.

### 18. 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)

### 19. Wetland types:

Inland wetland

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

### 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 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).

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 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*.

## 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 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 Information

### Nationally important species occurring on the site.

#### Invertebrates.

*Oreodytes alpinus*.

## 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

Environmental education/ interpretation

Livestock grazing

Non-consumptive recreation

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
Private	+	+
Public/communal	+	+

**25. 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		+

**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)	+	
Special Protection Area (SPA)	+	
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

*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).

### 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.

None reported

### 31. 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.

### 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

Bell, SL (1986) *Freshwater macrophyte survey of selected Caithness lochs*. Nature Conservancy Council, Inverness

Bell, SL (1989). *Fresh-water macrophyte survey of Caithness lochs 1986–1987*. Nature Conservancy Council, Peterborough (NCC Contract Surveys, No. 19)

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
- MacCann, AG & Moran, S (eds.) (1986) *Fresh-water invertebrates of Caithness*. Caithness and Sutherland District Council Community Programme Agency
- 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](http://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](http://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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