

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: 25 April 1990

3. Country:

UK (Scotland)

4. Name of the Ramsar site:

Loch an Duin

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):

57 38 30 N 07 08 50 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: Stornoway

Loch an Duin occupies the north-east coast of the island of North Uist, which lies south of Harris in the Outer Hebrides.

Administrative region: Western Isles / Na h-Eileanan an Iar

10. Elevation (average and/or max. & min.) (metres): 11. Area (hectares): 2621.13

Min.	-1
Max.	50
Mean	8

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 site is important in the British Isles for its complex system of freshwater, brackish and sea lochs, and tidal channels. It includes part of the north-east coastland of North Uist and some of the adjacent islands and skerries. The comprehensive range of salinities, from freshwater to brackish and saltwater, is reflected in the associated plant and animal communities, which include the northern forms of some seaweeds. The habitat types of the coastland and islands range from moorland to maritime grassland. The site is also important for its geomorphology, as it is one of the best fjardic loch systems in Great Britain.

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).

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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 largest fjardic loch system in Britain, featuring a complex system of freshwater, brackish and sea lochs, and tidal channels.

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, basic, shingle, sand, mud, peat, nutrient-poor, igneous, metamorphic, basalt, gravel, cobble, boulder
Geomorphology and landscape	lowland, coastal, subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank), intertidal sediments (including sandflat/mudflat), open coast (including bay), enclosed coast (including embayment), islands, lagoon, ob (fjord), basic
Nutrient status	no information
pH	no information
Salinity	brackish / mixosaline, fresh, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Stornoway, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/stornoway.html) Max. daily temperature: 11.0° C Min. daily temperature: 5.6° C Days of air frost: 30.7 Rainfall: 1231.7 mm Hrs. of sunshine: 1216.8

General description of the Physical Features:

No information available

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).

No information available

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:

Inland wetland, Marine/coastal wetland

Code	Name	% Area
D	Rocky shores	29
U	Peatlands (including peat bogs swamps, fens)	20
Tp	Freshwater marshes / pools: permanent	12
J	Coastal brackish / saline lagoons	12
O	Freshwater lakes: permanent	10
Q	Saline / brackish lakes: permanent	5
G	Tidal flats	5
E	Sand / shingle shores (including dune systems)	5
H	Salt marshes	2

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.

Loch an Duin contains a wide range of habitats. The open water habitats can be split into three sections based on salinity. The areas of freshwater and low salinity contain a mixture of both fresh and brackish water communities featuring *Myriophyllum alterniflorum*, *Potamogeton pectinatus* and *Chara* sp. amongst the flora and the shrimps *Gammarus duebeni* and *Neomysis integer* amongst the fauna. In the strongly brackish area *Ruppia maritima*, *Zostera marina* and *Fucus vesiculosus* are abundant. A range of other seaweeds is present, as well as *Cerastoderma glaucum*, which has a limited distribution in Great Britain. The more marine areas have a typical marine community with *Fucus serratus* and *Laminaria saccharina*, though still with brackish communities in places.

Similarly the terrestrial habitats of the coastal system feature a wide range of habitats, with acidic moorland dominant on the mainland, whilst on the small islands within the site maritime grassland prevails. Additionally there are small intertidal areas and some fragmented saltmarsh development.

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.

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

- H1140 Mudflats and sandflats not covered by seawater at low tide
- H1150 Coastal lagoons
- H1160 Large shallow inlets and bays

Nationally important species occurring on the site.**Higher Plants.**

Zostera marina

Lower Plants.

Lamprothamnium papulosum, *Chara* spp.

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:**

Common tern , *Sterna hirundo hirundo*, N & E Europe 145 apparently occupied nests, representing an average of 1.4% of the GB population (Seabird 2000 Census)

Species Information**Internationally important species occurring on the site.****Mammals.**

S1355 *Lutra lutra* Otter (Habitats Directive Annex II species)

Nationally important species occurring on the site.

Mollusca

Cerastoderma glaucum

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)

Fisheries production

Livestock grazing

Non-consumptive recreation

Peat cutting (small-scale/subsistence)

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	+	+
Other	+	

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Cutting of vegetation (small-scale/subsistence)	+	+
Fishing: (unspecified)	+	+
Fishing: commercial	+	+
Fishing: recreational/sport	+	+
Marine/saltwater aquaculture		+
Gathering of shellfish	+	+
Grazing (unspecified)	+	+
Rough or shifting grazing	+	+
Permanent pastoral agriculture		+
Hunting: commercial	+	+
Hunting: recreational/sport	+	+
Sewage treatment/disposal	+	+
Harbour/port		+
Urban development		+
Non-urbanised settlements	+	+
Other	+	+

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)	+	
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.

Contemporary.

No current scientific research/survey/monitoring is taking place.

Completed.

Flora and Fauna.

Marine: The flora and fauna of the part of the site which is within the Loch nam Madadh catchment was surveyed in 1996.

Additionally, several lagoons and bays outside this area have also been surveyed. Lagoons surveyed 2004 by SNH Maritime Group for Site Condition Monitoring and also in recent years for a PhD project on charophytes (Martin 2001).

Fauna.

Invertebrates: The benthic invertebrate communities of the open water habitats have been surveyed in detail in parts of the site.

Birds: The islands in the site have been surveyed for Seabird 2000; the Hebridean Mink Project and the British Trust for Ornithology Heron Census. Breeding Birds surveyed in 2003 for SNH Site Condition Monitoring.

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.

Activities, Facilities provided and Seasonality.

Land-based recreation:

Walking, including dog walking, birdwatching and mammal watching occur, at a low level, due to the remoteness of much of the site, mostly during April-September.

Water Recreation: Angling occurs at a low level, from both shore and boat. Again this mainly occurs from April-September. Some yachting probably also occurs, again in April-September.

Wildfowling and hunting: These practices occur at a low level across the site. Season 1 September to 20 February inclusive.

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

Barne, JH, Robson, CF, Kaznowska, SS, Doody, JP, Davidson, NC & Buck, AL (eds.) (1997) *Coasts and seas of the United Kingdom. Regions 15 & 16. North-west Scotland: the Western Isles and west Highland*. Joint Nature Conservation Committee, Peterborough. (Coastal Directories Series.)

Beaver, R & Dipper, FA (2002) *Marine Nature Conservation Review Sector 14. Sealochs in the Outer Hebrides: area summaries*. Peterborough, Joint Nature Conservation Committee (Coasts and seas of the United Kingdom. MNCR series)

Connor, DW & Little, M (1998) Chapter 14. Outer Hebrides (MNCR Sector 14). In: *Benthic marine ecosystems of Great Britain and the north-east Atlantic*, ed. by K. Hiscock, 371-383. Joint Nature Conservation Committee, Peterborough. (Coasts and Seas of the United Kingdom. MNCR series)

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Hudson, G *et al.* (1982) *Soil Survey of Scotland*. Macaulay Institute for Soil Research, Aberdeen.

MacTaggart, F (1997) *Loch an Duin SSSI, Loch nam Madadh SSSI (incorporating the Loch Maddy-Sound of Harris GCR site)*. Scottish Natural Heritage, Edinburgh (Earth Science Site Documentation Series, Nos. 307, 308, 309)

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

Martin, A (2001) *The ecology and palaeoecology of the charophyte *Lamprothamnium papulosum* in UK coastal lagoons*. Unpublished PhD thesis, University College London

Martin, A, Carvalho, L & Downie, AJ (2003) Rare charophytes in Scotland's coastal saline lagoons. *Botanical Journal of Scotland*, **54**(1), 23-35

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Stewart, NF (2004) *Important stonewort areas. An assessment of the best areas for stoneworts in the United Kingdom*. Plantlife International, Salisbury

Thorpe, K, Dalkin, MJ, Fortune, F & Nichols, DM (1998) *Marine Nature Conservation Review Sector 14. Lagoons in the Outer Hebrides: area summaries*. Joint Nature Conservation Committee, Peterborough (Coasts and seas of the United Kingdom. MNCR series)

Weighell, AJ, Donnelly, AP & Calder, K (eds.) (2000) *Directory of the Celtic coasts and seas*. Joint Nature Conservation Committee, Peterborough

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