

**Conservation Objectives for River Spey – Insh Marshes
Special Protection Area**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Hen harrier (*Circus cyaneus*)
- Osprey (*Pandion haliaetus*)
- Spotted crake (*Porzana porzana*)
- Whooper swan (*Cygnus cygnus cygnus*)
- Wigeon (*Anas penelope*)
- Wood sandpiper (*Tringa glareola*)

The site overlaps with Insh Marshes Special Area of Conservation and River Spey Special Area of Conservation

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- Wood sandpiper (*Tringa glareola*)

The site overlaps with Insh Marshes Special Area of Conservation and River Spey Special Area of Conservation

**Conservation Objectives for
River Moriston Special Area of Conservation**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species, including range of genetic types for salmon, as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**
- **Distribution and viability of freshwater pearl mussel host species**
- **Structure, function and supporting processes of habitats supporting freshwater pearl mussel host species**

Qualifying Species:

- Atlantic salmon
- Freshwater pearl mussel

"Ramsar" Convention on Wetlands of International
Importance Especially as Waterfowl Habitat.

**RAMSAR CITATION
FOR PUBLIC ISSUE**

RIVER SPEY-INSH MARSHES, HIGHLAND REGION (223A)

The River Spey-Insh Marshes hold a remarkable variety of freshwater wetland habitats and qualifies under **Criterion 1** for each of four component features: the River Spey is considered to be a unique example in Britain of a large, high altitude, but slow flowing river; Loch Insh is, however, noted for its exceptionally rapid water turnover and is an excellent example of a mesotrophic loch, an uncommon type in Britain; Insh Marshes form the largest, most northerly, single-unit flood-plain mire of the poor fen type in Great Britain; the gravel fan at the confluence of the rivers Spey and Feshie is considered to be of the highest importance for its geomorphological features.

The site also qualifies under **Criterion 2a** by supporting a number of rare species of plants and animals. It has two species of nationally rare plant, the string sedge *Carex chordorrhiza*, and the reed *Calamagrostis purpurea* as well as six species of nationally scarce plant: water sedge *Carex aquatilis*, least water lily *Nuphar pumila*, awlwort *Subularia aquatica*, cowbane *Cicuta virosa*, shady horsetail *Equisetum pratense* and pillwort *Pilularia globulifera*. The invertebrate fauna is particularly rich reflecting the diversity of wetland and associated habitats. It includes 31 Red Data Book species two of which, *Hammerschmidia ferruginea* and *Rhamphomyia trigemina* are considered to be endangered, and 4 of which, *Dorytomus affinis*, *Limonia omissinervis*, *Tachydromia acklandi* and *Nephrotoma aculeata* are considered to be in the vulnerable category. An additional 101 species have been classified as Notable according to the Invertebrate Site Register (recorded from 100 or fewer 10 km squares of the national grid), 8 of which are in the category Notable A (recorded from 30 or fewer 10 km squares of the national grid). The site is also currently regarded as one of the best freshwater areas in Britain for otter *Lutra lutra*.

The site qualifies under **Criterion 2b** by forming a nationally important genetic reservoir for the plant and animal communities associated with poor fen flood plain mires.

The site qualifies under **Criterion 3b** by supporting an assemblage of breeding bird species considered to be indicative of high wetland value and diversity, including osprey *Pandion haliaetus* (4 pairs; 4% of British), wigeon *Anas penelope* (37 pairs; 9% of British), goldeneye *Bucephala clangula* (38 pairs; 40% of British), spotted crake *Porzana porzana* (3 calling birds; 19% of British) and wood sandpiper *Tringa glareola* (2 pairs; 33% of British).

The site qualifies under **Criterion 3c** by supporting, in winter, an internationally important population of whooper swan *Cygnus cygnus cygnus* with in the five-winter period 1990/91 to 1994/95 an average peak of 190 individuals (3% of British and 1% of biogeographic).

The diverse assemblage of wintering waterfowl includes, in addition to whooper swan, pink-footed goose *Anser brachyrhynchus* (190), greylag goose *Anser anser* (480), wigeon *Anas*

penelope (170), teal *Anas crecca* (270), mallard *Anas platyrhynchos* (610), pochard *Aythya ferina* (10), tufted duck *Aythya fuligula* (50), goldeneye *Bucephala clangula* (120) and goosander *Mergus merganser* (10). The figures in brackets are the winter peak means between 1990/91 and 1994/95.

River Spey-Insh Marshes is also an important spring migratory staging post for golden plover *Pluvialis apricaria*. Pre- and post-breeding red-throated divers *Gavia stellata* regularly occur at Loch Insh. Individual marsh harriers *Circus aeruginosus* occur regularly in the summer, and pairs have attempted to breed in the past.

Area: 1176.4 Ha.

National Grid Reference: NH 780013

Latitude & Longitude: 57°05'14 -4°00'45

OS 1:50,000 sheet - 35

Montreux Criteria

MS/GPM

September 1995

Research and Advisory Services Directorate

Scottish Natural Heritage

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:

Joint Nature Conservation Committee

Monkstone House

City Road

Peterborough

Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: RIS@JNCC.gov.uk

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DD MM YY

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

Designated: 05 January 1976

3. Country:

UK (Scotland)

4. Name of the Ramsar site:

Rannoch Moor

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):

56 39 20 N 04 35 40 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: Perth

The site comprises gently undulating ground, at the western end of the Grampian mountains, in the north-central Highlands of Scotland.

Administrative region: Argyll and Bute; Highland; Perth and Kinross

10. Elevation (average and/or max. & min.) (metres): **11. Area** (hectares): 1519.43

Min.	288
Max.	359
Mean	315

12. General overview of the site:

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

Rannoch Moor is an extensive previously glaciated plateau surrounded by uplands, and represents the most extensive complex of western blanket and soligenous/valley mire in Britain. It is of particular importance for its range of northern mire types. The site also contains part of the open water and shore of Loch Laidon, which runs along the site's north-east boundary. Rannoch Moor is the only remaining British locality for a nationally rare vascular plant species, and contains several other nationally and locally rare plants.

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

This site is an excellent example of a complex system of oligotrophic mires, and for its range of northern mire types. It is a particularly good example of a western-type blanket bog and soligenous mire.

Ramsar criterion 2

This is the only British locality for a wetland vascular plant, the Rannoch rush *Scheuchzeria palustris*. It also supports several nationally rare beetles, flies and moths.

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, igneous, granite
Geomorphology and landscape	upland, hilly, pools
Nutrient status	oligotrophic
pH	strongly acidic
Salinity	fresh
Soil	mainly organic
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Ardtnaig, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/Ardtnaig.html) Max. daily temperature: 11.9° C Min. daily temperature: 4.9° C Days of air frost: 50.7 Rainfall: 1343.9 mm Hrs. of sunshine: 1147.8

General description of the Physical Features:

Rannoch Moor lies in a high-level basin at about 300 m altitude. Rannoch is a complex blanket bog with much of the active peat is broken up between rocky knolls and small valleys, and there are many small ladder fens, which separate the ombrotrophic units into relatively small compartments.

Rannoch Moor contains the most extensive complex of western blanket and soligenous/valley mire in Britain and supports a range of nutrient-poor freshwater habitats from dystrophic to oligotrophic waterbodies. The waterbodies vary in size from small lochans to relatively large lochs such as Loch Bà and Loch Laidon. Many of the small lochans have a predominantly peaty substrate resulting in a very low nutrient status, and consequently low species diversity. However the larger lochs support vegetation typical of oligotrophic to mesotrophic standing waters.

The dystrophic lochans of this site exhibit considerable diversity in size, depth and shoreline type, including those with mineral shorelines, a relatively uncommon variant. These upland dystrophic waters are characteristically shallow and base-poor, with an impoverished flora and fauna.

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).

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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

Code	Name	% Area
U	Peatlands (including peat bogs swamps, fens)	78.8
O	Freshwater lakes: permanent	10.5
Tp	Freshwater marshes / pools: permanent	8.5
M	Rivers / streams / creeks: permanent	1.6
Other	Other	0.6

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.

Blanket bog - *Scirpus cespitosus*-*Eriophorum vaginatum* and *Calluna vulgaris*-*E. vaginatum* blanket mire.

Oligotrophic soligenous mire - with an abundance of sedges *Carex* spp. and rushes *Juncus* spp. Purple moor-grass *Molinia caerulea* dominates in places.

Marginal swamps and fens around loch edges/open water communities - dominated by sedges *Carex* spp., bogbean *Menyanthes trifoliata* and common cottongrass *Eriophorum angustifolium*.

Bladderworts *Utricularia* spp. in open water and pools.

Dry heath - *Calluna vulgaris*-dominated, principally developed on thin peat/shallow podsols. Swamps usually pass into a shoreward zone of *Sphagnum*, often with well developed pool-hummock systems.

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:

- H3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*
- H3160 Natural dystrophic lakes and ponds
- H4010 Northern Atlantic wet heaths with *Erica tetralix*
- H4030 European dry heaths
- H7130 Blanket bogs (active)
- H7140 Transition mires and quaking bogs
- H7150 Depressions on peat substrates of the *Rhynchosporion*

Nationally important species occurring on the site.

- Rannoch rush *Scheuchzeria palustris*
 - Dwarf birch *Betula nana*
-

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 Information**

Internationally important species occurring on the site (Habitats Directive Annex II)

- S1029 *Margaritifera margaritifera* Freshwater pearl mussel.
 - S1355 *Lutra lutra* Otter.
-

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
- Livestock grazing
- Non-consumptive recreation
- 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)	+	
Local authority, municipality etc.		+
National/Crown Estate		+
Private		+

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	
Recreation	+	
Current scientific research	+	+
Commercial forestry		+
Fishing: recreational/sport	+	+
Grazing (unspecified)		+
Hunting: recreational/sport	+	+
Transport route		+

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	+	
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.

None reported

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.

Public information boards are provided to aid interpretation of the site.

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.

Birdwatching, deer stalking and sport fishing all occur within the Ramsar boundary, but have an insignificant impact on the interest of the site.

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

- Bridge, MC, Haggart, BA & Lowe, JJ (1990) The history and palaeoclimatic significance of sub fossil remains of *Pinus sylvestris* in blanket peats from Scotland. *Journal of Ecology*, **78**, 77-99
- Flower, RJ *et al.* (1987) *Palaeocological evaluation of the recent acidification of Loch Laidon, Rannoch Moor, Scotland*. Report to Department of the Environment
- 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
- Murray, J & Pullar, L (1903) Bathymetrical survey of the fresh-water lochs of Scotland. Part III – Lochs of the Tay Basin. *Scottish Geographical Magazine*, **19**, 449-479
- 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.)
www.jncc.gov.uk/UKSPA/default.htm
- Ward, RGW, Haggart, BA & Bridge, MC (1987) Dendrochronological studies of bog pine from the Rannoch Moor area, western Scotland. In: *Applications of tree-ring studies: current research in dendrochronology and related subjects*, ed. by RGW Ward, 215-225. British Archaeological Reports, Oxford (International Series, No. 333)

Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: ramsar@ramsar.org

Conservation Objectives for Rannoch Moor Special Area of Conservation

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitats:

- Acid peat-stained lakes and ponds
- Blanket bog*
- Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels
- Depressions on peat substrates
- Dry heaths
- Very wet mires often identified by an unstable `quaking` surface
- Wet heathland with cross-leaved heath

* Indicates priority habitat

NB The conservation objectives for the qualifying species are on the next page

**Conservation Objectives for
Rannoch Moor Special Area of Conservation**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**
- **Distribution and viability of freshwater pearl mussel host species**
- **Structure, function and supporting processes of habitats supporting freshwater pearl mussel host species**

Qualifying Species:

- Freshwater pearl mussel
- Otter

The site overlaps with Rannoch Lochs Special Protection Area

**Conservation Objectives for
Onich to North Ballachulish Woods Special Area of Conservation**

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitats:

- Base-rich fens
- Mixed woodland on base-rich soils associated with rocky slopes*
- Western acidic oak woodland

* Indicates priority habitat

Conservation Objectives for Ness Woods Special Area of Conservation

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitats:

- **Mixed woodland on base-rich soils associated with rocky slopes***
- **Western acidic oak woodland**

* Indicates priority habitat

NB The conservation objectives for the qualifying species are on the next page

**Conservation Objectives for
Ness Woods Special Area of Conservation**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Otter

**Conservation Objectives for North Inverness Lochs
Special Protection Area**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Slavonian grebe (*Podiceps auritus*)

Conservation Objectives for North Caithness Cliffs Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Fulmar (*Fulmarus glacialis*)*
- Guillemot (*Uria aalge*)
- Kittiwake (*Rissa tridactyla*)*
- Peregrine (*Falco peregrinus*)
- Puffin (*Fratercula arctica*)*
- Razorbill (*Alca torda*)*

- Seabird assemblage

* indicates assemblage qualifier only

Conservation Objectives for Moray Firth Special Area of Conservation

To avoid deterioration of the qualifying habitat (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitat that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitat:

- **Subtidal sandbanks**

NB The conservation objectives for the qualifying species are on the next page

Conservation Objectives for Moray Firth Special Area of Conservation

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are established then maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- **Bottlenose dolphin**

The site overlaps with Cromarty Firth, and Dornoch Firth and Loch Fleet Special Protection Areas

Conservation Objectives for Moray and Nairn Coast Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Bar-tailed godwit (*Limosa lapponica*)
- Common scoter (*Melanitta nigra*)*
- Dunlin (*Calidris alpina alpina*)*
- Greylag goose (*Anser anser*)
- Long-tailed duck (*Clangula hyemalis*)*
- Osprey (*Pandion haliaetus*)
- Oystercatcher (*Haematopus ostralegus*)*
- Pink-footed goose (*Anser brachyrhynchus*)
- Red-breasted merganser (*Mergus serrator*)*
- Redshank (*Tringa totanus*)
- Velvet scoter (*Melanitta fusca*)*
- Wigeon (*Anas penelope*)*

- Waterfowl assemblage

* indicates assemblage qualifier only

The site overlaps with Lower River Spey – Spey Bay Special Area of Conservation and River Spey Special Area of Conservation

RAMSAR CITATION (Montreux criteria, 1990) FOR PUBLIC ISSUE

**MORAY BASIN FIRTHS AND BAYS, HIGHLAND & GRAMPIAN (162)
5: MORAY AND NAIRN COAST, HIGHLAND & GRAMPIAN (162E)**

The **Moray and Nairn Coast** is an integral part of the **Moray Basin Firths and Bays** Ramsar site. It comprises the Culbin Bars, Findhorn Bay and Spey Bay which together form the easternmost estuarine component of the Moray Basin ecosystem. The boundary of the site generally follows the coastline within the Culbin Sands, Forest & Findhorn Bay SSSI, the estuarine limit of the Spey Bay SSSI and the boundary of the Lower River Spey SSSI.

The Moray and Nairn Coast Ramsar site qualifies under **Criterion 1** by virtue of supporting a variety of important wetland features. The dunes and shingle at Culbin Sands are of outstanding importance for their vegetation. The large areas of mudflat and saltmarsh at the Culbin Bars and Findhorn Bay are relatively undisturbed and are unaffected by reclamation or industrial development. The mosaic of habitats at Spey Bay/Lower River Spey are the nearest approach in Britain to natural floodplain forest.

The site qualifies under **Criterion 2a** by regularly supporting rare plants and animals. It supports at least 4 Nationally Scarce aquatic plants: sea centaury *Centaureum littorale* and the eelgrasses *Zostera noltii*, *Z. angustifolia* and *Z. marina*. The invertebrate fauna has at least five aquatic Red Data Book species including *Octhebius lenensis* (a small waterbeetle) and *Tetanocera freyi* (a snail-killing fly). The mammal fauna includes common seal *Phoca vitulina* and otter *Lutra lutra*, and the fish fauna includes salmon *Salmo salar* and sea lamprey *Petromyzon marinus* (all Annex II of the EC Habitats & Species Directive).

The site qualifies under **Criterion 3a** by regularly supporting over 20,000 wintering waterfowl with a 1989/90-93/94 winter peak mean of 24,000 waterfowl, comprising 9,500 waders and 14,500 wildfowl.

The site qualifies under **Criterion 3c** by regularly supporting internationally important wintering populations (1988/89-92/93 winter peak means) of Icelandic/Greenlandic pink-footed goose *Anser brachyrhynchus* (7,538, 4% of total population, all of which winters in Great Britain), Icelandic greylag goose *Anser anser* (3,023, 3% of total population, all of which winters in Britain) and redshank *Tringa totanus* (1989/90-93/94 wpm of 1,690, 2% of British, 1% of East Atlantic Flyway).

The diverse assemblage of wintering birds also includes nationally important wintering populations of velvet scoter *Melanitta nigra*, red-breasted merganser *Mergus merganser* and bar-tailed godwit *Limosa lapponica*. Findhorn Bay and Spey Bay are very important feeding areas for ospreys *Pandion haliaetus*.

This citation is accompanied by the citation for the entire Moray Basin Firths and Bays Ramsar site which explains the overall international importance of the Moray Basin as a wetland.

Area: 2,410 ha

Grid Ref: NH 990695, NJ 325660

Latitude and Longitude: 57°42'15 -3°41'42, 57°40'46 -3°7'52

OS Sheets 1:50,000 - 27, 28

RJ/GPM, December 1995

Research and Advisory Services Directorate

Scottish Natural Heritage

Ramsar Convention on Wetlands of International Importance Especially as Waterfowl
Habitat

**RAMSAR CITATION (Montreux criteria, 1990)
FOR PUBLIC ISSUE**

MORAY BASIN FIRTHS AND BAYS, HIGHLAND & GRAMPIAN (162)

The site is a complex area of coastal and estuarine habitats, extending from Loch Fleet in the north to Spey Bay in the south-east. It includes the Dornoch, Cromarty, Beaully and Inverness Firths, Loch Eye, Loch Fleet, Culbin Bars, Findhorn Bay and Spey Bay, together with intervening stretches of more open coast. It is one of the most northerly major wintering waterfowl sites in Western Europe.

The Moray Basin qualifies under **Criterion 1** by virtue of supporting a variety of important wetland features. The Mound Alderwoods at the head of Loch Fleet is the largest estuarine alderwood in Britain. Loch Eye is a eutrophic loch with an outstanding community of aquatic plants. The Dornoch Firth is a particularly good example of an east coast firth and, unlike other nearby firths, has been unaffected by industrial developments. Saltmarsh is well represented, especially at Culbin Bars, Findhorn Bay, and the Beaully, Inverness, Cromarty and Dornoch Firths. Several parts of the Basin are of outstanding importance for their coastal geomorphological features. The Morrich More is one of the most outstanding coastal sites in Britain. It is especially noteworthy for its extensive low-level sandy plain on which parabolic dunes are found. Whiteness Head and Culbin Bar are outstanding examples of sand and shingle spits enclosing an accreting intertidal system of saltings, sand and mud flats, with associated saltmarsh and carseland. Culbin Bar also forms a small part of the entire Culbin Sands complex which is the largest dune system in Great Britain. Whiteness Head and Culbin Bar also have a whole range of coastal landforms which can be clearly linked to coastal processes. The alluvial woodlands at Spey Bay and Lower River Spey are the largest example of boreal floodplain forest in Britain.

The site qualifies under **Criterion 2a** by supporting a number of rare species of wetland plants and animals. At least 9 Nationally Scarce wetland plants are present and the wetland invertebrate fauna includes at least nine Red Data Book species. Mammals include bottlenose dolphin, common seal and otter, and fish species include salmon and sea lamprey.

The Moray Basin qualifies under **Criterion 3a** by regularly supporting in winter over 20,000 waterfowl. In the five-year period 1989/90 to 1993/94 the average peak count was 127,000 wintering waterfowl, comprising 86,000 wildfowl and 41,000 waders.

The site also qualifies under **Criterion 3c** by regularly supporting in winter, during the late 1980s and early 1990s, internationally important populations of 11 waterfowl species with: 60 Slavonian grebe (15% of GB, 1% of North West (NW) European), 763 whooper swan (4% of the total population, 14% of British), 8,000 passage pink-footed geese (4% of the total population, all of which winters in Britain), 14,109 Icelandic greylag geese (14% of the total population, all of which winters in Britain), 32,085 wigeon (4% of NW European, 11% of British), 4,126 teal (1% of NW European, 3% of British), 1,900 red-breasted merganser (2% of NW European, 19% of British), 10,075 oystercatcher (1% of the NW European population, 3% of British), 3,423 bar-tailed godwit (3% of Western European, 7% of British),

4,439 curlew (1% of East Atlantic Flyway (EAF), 4% of British) and 5,448 redshank (5% of EAF, 4% of British).

Notable also on the Moray Basin is the largest wintering concentration of seaduck in Britain including nationally important populations of the three species of diver, scaup, long-tailed duck, common scoter, velvet scoter, goldeneye, red-breasted merganser and goosander.

Other waterfowl wintering in nationally important numbers are mute swan, cormorant, shelduck, pintail, tufted duck, ringed plover, knot and dunlin.

During severe winter weather the site assumes even greater international importance as a cold weather refuge. Waterfowl from other parts of North West Europe concentrate here, attracted by the relatively mild climate and abundant food resources available.

The Moray Basin also supports nationally important breeding populations of osprey, common tern, cormorant and redshank.

Area: 17,761 ha

OS 1:50,000 sheets: 21, 26, 27, 28

RJ/GPM

Research & Advisory Services Directorate

Scottish Natural Heritage

December 1995

Conservation Objectives for Monadh Mor Special Area of Conservation

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitats:

- **Bog woodland***
- **Very wet mires often identified by an unstable `quaking` surface**

* Indicates priority habitat

Conservation Objectives for Loch nam Madadh Special Area of Conservation

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitats:

- Intertidal mudflats and sandflats
- Lagoons*
- Reefs
- Shallow inlets and bays
- Subtidal sandbanks

* Indicates priority habitat

NB The conservation objectives for the qualifying species are on the next page

**Conservation Objectives for
Loch nam Madadh Special Area of Conservation**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Otter

This site overlaps with Mointeach Scadabhaigh Special Protection Area

**Conservation Objectives for Loch Knockie and Nearby Lochs
Special Protection Area**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Slavonian grebe (*Podiceps auritus*)

Conservation Objectives for Loch Flemington Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Slavonian grebe (*Podiceps auritus*)

Conservation Objectives for Kinveachy Forest Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- *Capercaillie (Tetrao urogallus)*
- *Scottish crossbill (Loxia scotica)*

The site overlaps with Kinveachy Forest Special Area of Conservation and River Spey Special Area of Conservation

Conservation Objectives for Kinveachy Forest Special Area of Conservation

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitats:

- **Bog woodland***
- **Caledonian forest***

* Indicates priority habitat

The site overlaps with Kinveachy Forest Special Protection Area

Conservation Objectives for Kinloch and Kyleakin Hills Special Area of Conservation

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitats:

- Alpine and subalpine heaths
- Blanket bog*
- Dry heaths
- Mixed woodland on base-rich soils associated with rocky slopes*
- Western acidic oak woodland
- Wet heathland with cross-leaved heath

* Indicates priority habitat

NB The conservation objectives for the qualifying species are on the next page

**Conservation Objectives for
Kinloch and Kyleakin Hills Special Area of Conservation**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Otter

Conservation Objectives for Insh Marshes Special Area of Conservation

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- **Extent of the habitat on site**
- **Distribution of the habitat within site**
- **Structure and function of the habitat**
- **Processes supporting the habitat**
- **Distribution of typical species of the habitat**
- **Viability of typical species as components of the habitat**
- **No significant disturbance of typical species of the habitat**

Qualifying Habitats:

- Alder woodland on floodplains*
- Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels
- Very wet mires often identified by an unstable `quaking` surface

* Indicates priority habitat

NB The conservation objectives for the qualifying species are on the next page

**Conservation Objectives for
Insh Marshes Special Area of Conservation**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Otter

The site overlaps with River Spey – Insh Marshes Special Protection Area