

# 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: 24 July 1981

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## 3. Country:

UK (Scotland)

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## 4. Name of the Ramsar site:

Silver Flowe

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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):**

55 07 03 N                      04 24 08 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: Dumfries

Silver Flowe is situated in the Galloway Forest Park about 16 km north-north-east of Newton Stewart.

**Administrative region:** Dumfries and Galloway

**10. Elevation (average and/or max. & min.) (metres):    11. Area (hectares): 619.54**

Min.	262
Max.	609
Mean	448

**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 series of patterned blanket mires constitutes the least-disturbed and most varied extent of acid peatland in southern Scotland and is one of the most important systems of blanket mire in Great Britain. These mires, which have developed on the floor of a broad glacial valley in the Galloway Hills, exhibit a complete gradation from discrete mires along the valley bottom which, in their external features, have obvious affinities with raised mire topography to others at the head of the valley which are indisputably blanket mire.

**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**

**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

Contains one of the most outstanding examples of patterned mire and blanket bog in Great Britain.

**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, igneous, granite
Geomorphology and landscape	upland, valley
Nutrient status	oligotrophic
pH	acidic
Salinity	fresh
Soil	mainly organic
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Eskdalemuir, 1971–2000) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/eskdalemuir.html">www.metoffice.com/climate/uk/averages/19712000/sites/eskdalemuir.html</a> ) Max. daily temperature: 11.0° C Min. daily temperature: 3.6° C Days of air frost: 87.3 Rainfall: 1634.6 mm Hrs. of sunshine: 1174.7

**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).

The site includes the most southerly of the characteristic oceanic blanket bogs in the west of Scotland. It has an exceptionally wet climate, reflected in the range of pool patterns, from watershed mire to valley-side flow, and in the vegetation.

**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)	97.6
O	Freshwater lakes: permanent	1.6

M	Rivers / streams / creeks: permanent	0.8
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## 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 principal habitat is *Sphagnum*-dominated mire, exhibiting a complete gradation from discrete valley mires with raised mire characteristics to blanket mire. Pools and hollows are occupied by *Sphagnum cuspidatum*, *S. [auriculatum]*, *Menyanthes trifoliata* and *Eriophorum angustifolium*. On the flat carpets and low hummocks this community gives way to *Sphagnum papillosum*, *S. magellanicum*, *Rhynchospora alba*, *Narthecium ossifragum* and *Drosera anglica*, *Calluna vulgaris*, *Erica tetralix*, *Eriophorum vaginatum* and *Trichophorum cespitosum*. On higher mounds *S. rubellum* is the usual bog moss. The frequency of *S. imbricatum* and *S. fuscum* on these bogs indicates, in this region, a high water table and relative freedom from disturbance. Unusually tall hummocks have a dry crown typified by *Empetrum nigrum*, *Racomitrium lanuginosum*, *Leucobryum glaucum*, hypnoid mosses and lichens.

The alluvial river banks carry a *Festuca-Agrostis* community. The lagg channels receive drainage water from the adjacent bogs and hillsides and are usually flanked by oligotrophic fen or flush-bog communities, whilst the slow-moving open water supports a growth of aquatic plants. *Carex rostrata*, *Juncus acutiflorus*, *Potamogeton polygonifolius* and *Sphagnum recurvum* all occur in these areas.

The sloping rands are distinguished by a luxuriant, tussocky growth of *Molinia caerulea*. *Myrica gale* is especially abundant around the margins of Snibe Bog and is spread over most of Craigeazle.

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:

H7130 Blanket bogs

H7150 Depressions on peat substrates of the *Rhynchosporion* Blanket bogs; Depressions on peat substrates of the *Rhynchosporion*

## 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

#### Mammals

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

**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
- Scientific research

**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		+
Other	+	

**25. Current land (including water) use:**

Activity	On-site	Off-site
Nature conservation	+	+
Tourism		+
Recreation		+
Current scientific research	+	
Commercial forestry		+
Fishing: recreational/sport		+
Grazing (unspecified)		+
Rough or shifting grazing	+	
Hunting: recreational/sport		+
Military activities		+

**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	+	
Other	+	
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.

**Environment.**

Yearly visit carried out to inspect and (if necessary) repair board walk.

**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.  
Very occasional guided walks by Forest Enterprise or Scottish Natural Heritage staff.

**31. Current recreation and tourism:**

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

None reported

**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**

- Anderson, JGC (1939) *The granites of Scotland*. Memoirs of the Geological Survey of Scotland. HMSO, Edinburgh (Special Reports on the mineral resources of Great Britain, Vol. 32)
- Armstrong, W & Boatman, DJ (1967) Some field observations relating the growth of bog plants to conditions of soil aeration. *Journal of Ecology*, **55**, 101-110
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- Boatman, DJ & Tomlinson, RW (1973) The Silver Flowe. Some structural and hydrological features of Brishnie Bog and their bearing on pool formations. *Journal of Ecology*, **61**, 653-666
- Boatman, DJ, Goode, DA & Hulme PD (1973) The Silver Flowe. Pattern development on Long Loch B and Craigeazle mires. *Journal of Ecology*, **61**, 897-918
- Boatman, DJ, Hulme, PD & Tomlinson, RW (1975) Monthly determinations of the concentrations of sodium, potassium, magnesium and calcium in the rain and in pools of the Silver Flowe National Nature Reserve. *Journal of Ecology*, **63**, 903-912
- Boatman, DJ (1977) Observations on the growth of *Sphagnum cuspidatum* in a bog pool on the Silver Flowe NNR. *Journal of Ecology*, **65**, 119-126
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- 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](http://www.jncc.gov.uk/SACselection)
- Meteorological Office (1964) *Rainfall over Solway system and Clyde River Purification Board areas*. Meteorological Office, Edinburgh (Hydrological Memorandum, No. 26)
- Nature Conservancy Council (1958) *Management Plan for Silver Flowe NNR*. Nature Conservancy Council
- Nature Conservancy Council (1959 *et seq.*) *Annual progress reports for Silver Flowe NNR*. Nature Conservancy Council
- Nature Conservancy Council (1982) *Silver Flowe NNR. Second Management Plan*. Nature Conservancy Council
- Ratcliffe, DA (1964) Mires and bogs. In: *The vegetation of Scotland*, ed. by JH Burnett. Oliver & Boyd, 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.)

Ratcliffe, DA & Walker, D (1958) The Silver Flowe, Galloway, Scotland. *Journal of Ecology*, **46**, 407-445

Tomlinson, RW (1970) *Studies on the development and morphology of a peat bog in Kirkcudbrightshire*. Unpublished PhD thesis, University of Hull

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