

Designation Date: 06/08/02 Ramsar Site no. 1194.

Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

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 and guidelines 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:

March 2012

3. Country:

Norway

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Øvre Forra

(International No. 1194, National No: 32)

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

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ; or
b) 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

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
- ii) the boundary has been extended ; or
- iii) the boundary has been restricted**

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
- ii) the area has been extended ; or
- iii) the area has been reduced**

** **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:

Only minor adjustments of data and management is performed in the RIS.

7. Map of site:

Refer to Annex III of the *Explanatory Note 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) a **hard copy** (required for inclusion of site in the Ramsar List): ;
- ii) an **electronic format** (e.g. a JPEG or ArcView image) ;
- iii) a **GIS file providing geo-referenced site boundary vectors and attribute tables** .

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 boundaries are the same as for the Øvre Forra Nature Reserve.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

63° 36' N – 11° 36' E

9. General location:

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

Nord-Trøndelag county, Levanger, Stjørdal, Verdal and Meråker municipalities, nearest town Levanger lays app. 8 km to the west with app. 20.000 inhabitants.

10. Elevation: (in metres: average and/or maximum & minimum)

375 m – 936 m.a.s.l.

11. Area: (in hectares)

10 254 ha of which approx. 200 ha is freshwater.

12. General overview of the site:

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

A huge, intact peat mire system at higher elevation, partly forested, with *Picea abies* and *Pinus sylvestris* as the dominant species and interspersed with several smaller lakes and meandering rivers. The landscape is undulating and mires also exist on sloping terrain (due to high precipitation), some smaller peaks and areas with drier vegetation exists. Well known for its abundance of water birds, especially waders, but also for its diversity in mire types and botany.

13. Ramsar Criteria:

Tick the box under 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). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9

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).

Criterion 1. A large representative of unspoilt mire and forested (*Picea abies*) mire-system. Characteristic, and of international interest, are the many different types of mires like blanket bogs, alkaline fens and others.

Criterion 2. *Margaritifera margaritifera* (EN, IUCN Red List) is found in one of the rivers. Eurasian Otter *Lutra lutra* (VU, also Annex II of Berne Convention) and Ruff *Philomachus pugnax* (VU, Annex III of Berne Convention) uses the site regularly and is probably breeding in the site. There is also found a high number of different species of fungi, several of them are red-listed. From time to time we also find Lynx *Lynx lynx* (Annex III, Berne Convention), Brown Bear *Ursus arctos* (EN, Annex II of Berne Convention) and Wolverine *Gulo gulo* (EN, Annex II of Berne Convention) in the site. Red list status is given according to the national red list 2010. For more information see point 21 and 22.

Criterion 3. This large area, with its partly calcium rich geology, has a large diversity of nature types and habitats that supports a high number of bird populations, some of which are of (particular importance e.g. the internationally red-listed Great Snipe *Gallinago media* (NT – IUCN red-list).

Criterion 4. The area also forms a very important bird breeding site, especially for waders. See point 22 for more details.

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:

1. The area is represented in three zones; Middle boreal zone (MbO2 - clearly oceanic section), Northern boreal zone (NbO2 - clearly oceanic section) and Alpine zone (AO1 – slightly oceanic section)
2. Alpine

b) biogeographic regionalisation scheme (include reference citation):

2. Zonal division showing the variation in vegetation from south to north and from the lowlands to the mountains, and sectional graduation showing the variation between the coast and inland (In: Moen, A.

1998. *Nasjonalatlas for Norge*; vegetasjon. Statens kartverk, Hønefoss).
 2. Biogeographical regions of Europe, European Environment Agency, 2005

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.

Cambro-silurian bedrock, with minerotrophic rock in the western parts and harder rocks in the eastern part. Gravel and silt deposits from the meltdown of the ice (moraine) with some huge east-west going drumlin deposits. Water quality is high and nutritiously poor, with a flow of 20m³/sec in the river Forra on the average. The large lake Feren is the source of the river. All smaller waterbodies in the area are shallow (deepest being 11 m). Normal annual precipitation is well above 1000 mm, with cold winters and relatively warm summers. Slow snow melting in the spring also creates a humid climate.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

The geology in the catchment area consists mainly of intrusive rock species dominated by gneiss. The climate is less humid than the Ramsar area, with a yearly precipitation of 960 mm.

18. Hydrological values:

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

The river is not regulated and is protected against all hydropower development. The area has an important role in flood control, since its catchment area is large and the river Forra drains into one of the larger rivers in the region, the river Stjørdalselva situated in an agricultural valley with spring flood problems.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •
 Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area. U, Xp, M, O, Tp

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 main area of the reserve includes the upper part of the river Forra, surrounded by extensive mires. The mires cover 62% of the area. There are both flat mires and mires in sloping terrain (blanket mires). The mires have a very varied vegetation and are of international importance. Extensive forested areas with coniferous forests (36% of the protected area, of which 11% grow on mires). Freshwater bodies are numerous and the slow flowing and meandering river Forra is often covered with aquatic vegetation, *Potamogeton*, *Carex* and *Nymphaea* (in all 24 species). Gallery (partly swamp) forests occur along the river (*Betula pubescens*, *Alnus incana* and *Salix* spp.), and are an important feature for flora and fauna. Some higher elevated hills and peaks with nutrient demanding vegetation

occurs to the west. Small hay-gathering areas exist from former times, most of these are today growing back to natural vegetation, but smaller areas are kept open by traditional methods according to the management plan for the area. The area also forms a very important breeding site for waders.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, 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.*

Totally 328 species of vascular plants have been described from the area, and 28 different vegetation types have been identified. No nationally rare vascular plants have been found, but noteworthy are the orchids Frog Orchid *Coeloglossum viride* and Bog Orchid *Hammarbya paludosa*. In total 370 species of fungi have been described. It could be expected that this huge area contains several interesting and rare lichen, fungi and moss species; however this remains to be investigated. So far the following nationally redlisted species have been found in the site:

EN - *Cyphelium karelicum*, *Geoglossum hakelieri*

VU - *Clavaria zollingeri*, *Hygrocybe subpapillata*, *Hygrocybe turunda*, *Hygrocybe ingrate*, *Entoloma velenovskyi*, *Cortinarius salor*, *Protodontia piceicola*

NT - *Clavaria fumosa*, *Pseudorchis albida*, *Phellinus nigrolimitatus*, *Hygrophorus secretanii*, *Pseudographis pinicola*, *Hygrocybe russocoriacea*, *Myricaria germanica*, *Carex lepidocarpa*, *Cystostereum murrayii*, *Bankera violascens*,

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. 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:

Totally 132 species have been recorded, and 78 are regular breeders. No quantitative data have been published, but the following interesting species are common breeders: Black-throated Diver *Gavia arctica* (NT), Red-throated Diver *Gavia stellata*, Common Scoter *Melanitta nigra* (NT), Tufted Duck *Aythya fuligula*, Common Merganser *Mergus merganser*, Golden eagle *Aquila chrysaetos* and Rough-legged Buzzard *Buteo lagopus*. Totally 20 species of waders are recorded, and noteworthy breeders are; Golden Plover *Pluvialis apricaria*, Common Snipe *Gallinago gallinago*, Great Snipe *Gallinago media* (NT), Whimbrel *Numenius phaeopus*, Wood Sandpiper *Tringa glareola*, Greenshank *Tringa nebularia*, and Ruff *Philomachus pugnax* (VU). Other noteworthy species is Eurasian Eagle Owl *Bubo bubo* (EN) and Northern Hawk Owl *Surnia ulula*. Three-toed Woodpecker *Picoides tridactylus*. Of the 57 species of passerines 41 are regular breeders.

Mammals:

A number of species have been recorded, but no specific survey has been conducted. *Lynx lynx* (VU) and Eurasian Otter *Lutra lutra* (VU) are regular species in the area.

Fish: Salmon *Salmo salar* goes up the river Forra, but does not enter the site. Trout *Salmo trutta* is using the river and lake in the site.

Bivalvia (Molluscs): *Margaritifera margaritifera* (En, IUCN Red List) is found in one of the rivers in the site.

23. Social and cultural values:

a) 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:

The area has played an important role in the history of the inhabitants in the area since they started to produce steel from bog iron for about 2200 years ago and this period lasted about 1200 years. During this

period all the forest was logged as firewood for the steel production and the mires were used for haymaking. The haymaking lasted long after the bog iron period was over and the last haymaking on the mires was around 1935. Mountain dairy farming was common in the area until some years after 1900.

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?

Yes

If Yes, tick the box and 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 civilisations that have influenced the ecological character of the wetland:

There are reasons to assume that the site has been changed by ancient human activity over a period of 1200 years when the people here made steel from bog iron. The production of an estimate of 50 tons of steel probably led to a total deforestation of the area with a subsequent formation of mires. The mires were held open by haymaking the following 1000 years and the last 100 years the forest is slowly creeping in on the mires again.

- 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:

a) within the Ramsar site:

Private and state (statsallmenning).

b) in the surrounding area:

Private and state (statsallmenning).

25. Current land (including water) use:

a) within the Ramsar site:

The area is today used for grazing cattle and sheep. Also some reindeer herding is performed, especially in the winter months and as calving ground. Parts of the area is popular for trekking, often combined with hunting activities, fishing or berry picking.

b) in the surroundings/catchment:

Timber production and recreational use as within the site.

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:

Little impact at present.

b) in the surrounding area:

Little impact at present.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

The area was established as a National Nature Reserve the November 21st 1990 and was given status as Ramsar area the 6th of August 2002.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?:

No

d) Describe any other current management practices:

Dogs have to be kept on a leash in the period 1st April – 20th August.

The area is by a Royal Decree given the status as a National Nature Reserve, which is the strongest form of Nature conservation in Norway. All kind of human activity in the nature reserve is regulated by an official set of detailed regulations specific for the area.

28. Conservation measures proposed but not yet implemented:

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

A management plan is under development by the management authority.

29. Current scientific research and facilities:

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

None at present, but extensive research on a number of fields have been conducted in the past: Hydrology, limnology, climate, geology, flora and fauna.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

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

A leaflet exists, and a poster has been put on display at the different entrances to the area.

31. Current recreation and tourism:

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

The area is a popular area for residents and tourists for hunting, berry-picking, trekking, canoeing, skiing etc.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Norwegian Directorate for Nature Management (DN), Tungasletta 2, 7485 Trondheim

Ph +47 73580500

Fax +47 73580501

Email: postmottak@dirnat.no

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.

The site is managed by the County Governor of Nord-Trøndelag, which is under the instruction of DN. Address: County Governor of Nord-Trøndelag, Statens Hus, N-7734 Steinkjer. Phone. +47 74168000. E-mail: Postmottak@fmnt.no

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Kålås, J.A., Viken, Å., Henriksen, S. and Skjelseth, S. (eds.). 2010. The 2010 Norwegian Red-list for Species. Norwegian Biodiversity Information centre, Norway.

Biogeographic regionalisation scheme:

Moen, A. 1998. *Nasjonalatlas for Norge; vegetasjon*. Statens kartverk, Hønefoss

Natural history/general:

Solem, T. 1975. Naturhistoriske undersøkelser i Forradalsområdet - et suboseanisk, høytliggende myrområde i Nord-Trøndelag. *DKNVS Rapp. Zool. Ser. 4*. (in Norwegian - a report on natural history).

Moen, A. & Jensen, J.W. 1979. Naturvitenskapelige interesser og verneverdier i Forra-vassdraget og Øvre Forradalsområdet i Nord-Trøndelag. *DKNVS. Gunneria 33*. (in Norwegian - natural history)

Solem, T. 1974. Klima- og vegetasjonshistorie i Forradalsområdet i Nord-Trøndelag. Hovedfagsoppgave ved Universitetet i Trondheim. (in Norwegian - thesis on climate and vegetation history).

Øien, D-I., Nilsen, L.S. & Moen, A. 1997. Skisse til skjøtelsesplan for deler av Øvre Forra naturreservat i Nord-Trøndelag. *NTNU, Vitenskapsmuseet Rapp. Bot. Ser. 2:1-26*. (in Norwegian - proposal for management plan, includes a list on literature on the protected site).

Flora:

Moen, A., Kjølsvik, L., Bretten, S., Sivertsen, S. & Sæther, B. 1976. Vegetasjon og flora i Øvre Forradalsområdet i Nord-Trøndelag, med vegetasjonskart. *DKNVS. Rapp. Bot. Ser. 9*. (in Norwegian - flora mapping and vegetation map).

Birds:

Hellan, M. E. 2004. Fugletaksering i Øvre Forra Naturreservat 2003. Birdestimate in Øvre Forra Nature Reserve 2003. Bacheloroppgave i Naturforvaltning, Høgskolen i Nord-Trøndelag. 29s.

Moksnes, A. 1970. Ornitologiske undersøkelser i Forradalsområdet i Nord-Trøndelag sommeren 1970. Notat. (in Norwegian - short report on the birdlife).

Moksnes, A. 1977. Fuglefaunaen i Forraområdet i Nord-Trøndelag. Sluttrapport fra undersøkelsene 1970-1972. *DKNVS Rapp. Zool. Ser. 3*. (in Norwegian - report on bird research 1970-1972).

Fish:

Jensen, J.W. 1972. Fiskeribiologiske undersøkelser i Øvre Forra 1971. *DKNVS Rapp. Zool. Ser. 11*. (in Norwegian - on fishbiology)

Archaeology:

Berre, I. 1983. Om jarnvinna og jarnvinneanlegg. Levanger historielag. Årsskrift 1983. (in Norwegian - on the iron production)

Please return to: **Ramsar Convention Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**
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