

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.

Ørland Wetland System (includes sub-sites: Grandefjæra, Hovsfjæra, Innstrandfjæra, Kråkvågsvaet)
(International No. 310, National No: 8)

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:

Major adjustments of the application of the Criteria is performed in the RIS, due to better knowledge about the area and new set of Criteria since the previous 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 Grandefjæra Nature Reserve and the three Bird Sanctuaries Kråkvågsvaet, Innstrandfjæra and Hovsfjæra.

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.

Grandefjæra: 63° 41' N 09° 32' E

Innstrandfjæra: 63° 44' N 09° 38' E

Hovsfjæra: 63° 42' N 09° 42' E

Kråkvågsvaet: 63° 39' N 09° 21' E

Entire site: 63°42'N 009°35'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.

Four separated wetland areas in the municipality of Ørland, Sør-Trøndelag county. The nearest town being Trondheim, approximately 45 km to the southeast.

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

0 m – 21 m.a.s.l.

11. Area: (in hectares)

Grandefjæra: 1581,6 ha
 Innstrandfjæra: 110,6 ha
 Hovsfjæra: 123,0 ha
 Kråkvågsvaet: 1352,6 ha
 Total: 3167,8 ha

12. General overview of the site:

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

Ørland Wetland System is part of a large area of shallow marine waters and inter-tidal flats, thus play an important role in the Norwegian coastal systems. The three sub-sites on the mainland (Grandefjæra, Innstrandfjæra and Hovsfjæra) have extensive mudflats with shallow waters and skerries outside; Grandefjæra actually being Norway's largest inter-tidal area, as 500-600 ha of sand- and mudflats are exposed at low tide. Hovsfjæra is situated within Trondheimsfjorden, while the two other mainland sub-sites are on the ocean-side of the peninsula Ørlandet. Kråkvågsvaet Bird Sanctuary comprises the shallow strait between the islands Storfosna and Kråkvåg, and northern part of Storfosna, with tidal areas, small islands, skerries and bays. The strait is shallow and has extensive tidal sand- and mudflats. The sites are very important for migratory and wintering seabirds, waterfowl and shorebirds, and not least for moulting diving ducks. Seashores also provide breeding sites for shorebirds.

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).

Note: more detailed information is provided in RIS for individual sub-sites.

Criterion 1. The Ørland sites with their huge tidal mudflats and large areas of shallow marine waters are perhaps the best example in southern Norway for this kind of marine wetland.

Criterion 2. The Eurasian Otter *Lutra lutra* (VU, Ann. II Berne Conv.) breeds at Storfosna, inside Kråkvågsvaet Bird Sanctuary, and probably also at Grandefjæra Nature Reserve. Harbour Seal *Phoca vitulina* (VU, Ann. III Berne Conv.) occurs. Sky Lark *Alauda arvensis* (VU, Ann. III Berne Conv.) are recorded breeding in the site. For many threatened species, the Ramsar Site is important as a staging and/or wintering area, e.g. Greater Scaup *Aythya marila* (VU, Ann. III Berne Conv.), and Ruff *Philomachus pugnax* (VU, Ann. III, Berne Conv.) (also probably breeder at Grandefjæra). It is referred to the national red list. See also point 22 and RISes for sub-sites for more detailed and site-specific information.

Criterion 3. The site is breeding area for a number of seabirds and shorebirds like Common Shelduck *Tadorna tadorna*, Common Eider *Somateria mollissima*, Red-breasted Merganser *Mergus serrator*, Eurasian Oystercatcher *Haematopus ostralegus*, Ringed Plover *Charadrius hiaticula*, and Turnstone *Arenaria interpres*, all characteristic species for this kind of marine wetlands in the biogeographic region. Additionally, some

regionally rare plants grow at the site, including the endangered species *Dactylorhiza purpurella* (EN) (on its northern limit in Norway at Ørlandet).

Criterion 4. Large populations of moulting Common Eider, Velvet Scoter *Melanitta fusca*, and Red-breasted Merganser uses the site, besides several hundred moulting Greylag Geese *Anser anser* (Kråkvågsvaet). They are also vital to a great number of divers, grebes, ducks and waders during spring and autumn migration. In April 2007 a total number of 4000 Greylag Geese was counted between Garten and Hoøya at Grandefjæra, the 1 % level for the North-Western population is 5000 (according to 4th edition of waterbird population estimates). The site is also important for wintering and breeding waterbirds. See also justification of criteria 2 and 3 and point 22.

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. Southern boreal vegetation zone, strongly oceanic section (SbO3)
2. Atlantic

b) biogeographic regionalisation scheme (include reference citation):

1. 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. EU Habitat 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.

Geology	The bedrock on the mainland consists of hard granites and sandstones, but besides small skerries and outcrops like Hoøya and Garten, it is covered with deep layers of marine deposits. The small islands in Kråkvågsvaet Bird Sanctuary are mainly outcrops of conglomerate (southern part) and granite (northern part).
Geomorphology	All four sites have extensive tidal mud- and sandflats, sheltered bays and large areas of shallow marine waters, formed by raising landmasses. The site is part of a large-scale, flat coastal landscape.
Substrate/soil type	Clay and silt dominates the tidal zone, whereas sand predominates on the shores – somewhere forming small sand-dunes. At some sites pebble and shingle predominates in the outer part of the tidal zone. At Kråkvågsvaet shell-sand is an important shoreline substrate. On northern part of Storfosna small mires with peat soil.
Water depth/fluctuations	Large areas of shallow water, less than 3 meters depth. The variation between high and low tides averages annually 162 cm measured at Trondheim and 143 cm at Heimsjø – Ørland lying in between these two stations.
Climate	The site has a strongly oceanic climate with mild winters and wet, but rather warm summers. Annual precipitation is approx. 1030 mm, and the area receives precipitation 220-240 days in a year.

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 catchment areas of all four sub-sites are small, on the mainland mainly comprising wetlands drained for agricultural use and other cultivated land. A military airbase is situated inside the catchment area of

Grandefjæra Nature Reserve. On Storfosna also coastal meadows and marshes/mires. The sites are surrounded mainly by shallow marine waters, though some deeper areas east of Storfosna. The geomorphology, soil types and climate is similar to those described within the sub-sites.

18. Hydrological values:

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

There are practically no freshwater inside the protected areas. The shallow waters reduce the impact of waves coming from the open sea, and no particular erosion problems have been noted. The deposit of piles of seaweed on the contrary helps stabilizing the shoreline. See also RIS for individual sub-sites.

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. A, G, B, D, E, H

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.

All four sub-sites are characterized by large inter-tidal flats and shallow marine waters, with small island and skerries at some sites (Kråkvågsvaet and Grandefjæra). In general only small areas of land and seashore vegetation are included in the protected areas. The sites though have many salt-tolerant vegetation communities, including salt meadows, salt marshes and swamps, and seagrass *Zostera* beds. Some dry land areas are included in Kråkvågsvaet Bird Sanctuary, mostly on Storfosna, and the vegetation type here is mainly herb-rich shell-sand meadows and grazed coastal meadows with different heather species. The remains of a larger brackish pond with regionally rare submerged plants is situated inside the bird sanctuary Innstrandfjæra (Kråktjern).

The sand- and mudflats and shallow marine waters have large biomasses of benthic animals and mussels, especially *Mytilus*, supplying food to large populations of diving ducks and waders. These waters are also spawning and nursery grounds for a lot of fish species, providing food to divers, mergansers and other fish-eating birds. See also RIS for individual sub-sites.

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.*

Some regionally rare plants grows at all sub-sites, including the endangered species *Gentianella uliginosa* (Grandefjæra) and *Dactylorhiza purpurella* (on its northern limit in Norway at Grandefjæra and Hovsfjæra), and the near threatened species *Dactylorhiza incarnata* (Hovsfjæra) and *Catabrosa aquatica* (Innstrandfjæra). Kråkvågsvaet has the largest numbers of seashore vegetation types recorded in this part of Norway, some of them being rather rare in the region. See also RIS for individual sub-sites.

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.*

Mammals:

Small whales, mainly Harbour Porpoise *Phocoena phocoena*, are regularly seen at the sites. Harbour Seal *Phoca vitulina* (VU) is common at Kråkvågsvaet and Grandefjæra, while Grey Seal *Halichoerus grypus* is only seen occasionally. None of the seals are known to breed at the site (Harbour Seal may though breed at Kråkvågsvaet), in contradiction to the Eurasian Otter *Lutra lutra* (VU) (Kråkvågsvaet and probably also Grandefjæra and Hovsfjæra).

Birds:

Nationally rare or internationally rare or interesting species: The Ørland wetlands have relatively large wintering populations (with raising numbers in early spring) of Great Northern Diver *Gavia immer* (30-50 individuals), Red-necked Grebe (30-70, more than 100 ind. in March/April some years), and Slavonian Grebe *Podiceps auritus* (30-60, more than 100 ind. in March/April some years). Also a few White-billed Divers *Gavia adamsii* (NT^w) and King Eiders *Somateria spectabilis* spends the winter in these waters (the King Eider sometimes more numerous – maximum recorded number being 250 ind. in early spring).

Nationally common species: These wetlands and shallow marine waters are important mainly as staging, moulting and wintering areas for diving ducks, geese and waders. Though, the size of the breeding populations of all bird species within the three mainland sub-sites were estimated in 2001, giving these numbers on regionally unusual and/or red-listed species: 11-21 pairs of Common Shelduck *Tadorna tadorna*, 28-58 pairs of Northern Lapwing *Vanellus vanellus* (NT), 10-27 pairs of Ringed Plover *Charadrius hiaticula*, 0-5 pairs of Dunlin *Calidris alpina*, 0-5 pairs of Ruff *Philomachus pugnax* (VU), 15-29 pairs of Eurasian Curlew *Numenius arquata* (NT), 35-55 pairs of Sky Lark *Alauda arvensis* (VU), and 5-15 pairs of Twite *Carduelis flavirostris* (NT). In addition, small numbers of Arctic Skua *Stercorarius parasiticus* (NT) and Common Tern *Sterna hirundo* (VU) breeds some years within Kråkvågsvaet Bird Sanctuary.

Wintering site for 3000-5000 waterfowl, waders and seabirds, including Whooper Swan *Cygnus cygnus* (150-200 ind.), Common Eider (1000-2000 ind.), Long-tailed Duck *Clangula hyemalis* (500-600 ind., 1000-2000 ind. late winter/early spring), Velvet Scoter *Melanitta fusca* (500-1000 ind., 1500-2000 in late winter/early spring), Purple Sandpiper *Calidris maritima* (400-500 ind.), Red-breasted merganser *Mergus serrator* (1000), Great cormorant *Phalacrocorax carbo* (2500) and Turnstone *Arenaria interpres* (300-350 ind.). Also more rare wintering waders like Grey Plover *Pluvialis squatarola* and Bar-tailed Godwit *Limosa lapponica* are recorded some years. The White-tailed Eagle *Haliaeetus albicilla* is a common wintering species at the site, especially on Storfosna/Kråkvåg. Internationally important for migrating divers, grebes, wildfowl and waders in spring and autumn. Examples of species recorded in high numbers during bird counts in 2001 at the three mainland sub-sites; Common Shelduck (300-350 ind.), Eurasian Wigeon *Anas Penelope* (920 ind.), Black-throated Diver *Gavia arctica* (40-50 ind.), Ringed Plover (600+ ind.), Northern Lapwing (600-700 ind.), Curlew Sandpiper *Calidris ferruginea* (280 ind.), and Ruff (800 ind.). As many as 4000 Greylag Geese *Anser anser* were counted at Grandefjæra in April 2007, being the largest concentration of this species recorded in Norway. Little Auk *Alle alle* can be numerous in late autumn, e.g. 1000 ind. Kråkvågsvaet November 1986. Former records of e.g. 3000 Northern Lapwings, 150 Grey Plovers and 1000 Common Teals *Anas crecca* at Grandefjæra.

Very important also as a moulting area for Greylag Goose *Anser anser* (up to 500 individuals), Common Eider (up to 4000 ind. in the 1980-ties, less numerous now), Velvet Scoter (3000-3500 ind. in 1986, less numerous now), and Red-breasted Merganser *Mergus serrator* (750-1000 ind.). The area has Norway's largest concentration of moulting Velvet Scoters. Red list categories is given according to the national red list from 2010.

(Some of the numbers also includes birds outside the Ramsar-site)

See also RIS for individual sub-sites.

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:

None in particular.

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, 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 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:

a) within the Ramsar site: Private/State (marine area)

b) in the surrounding area: Private/State (marine area)

25. Current land (including water) use:

a) within the Ramsar site:

Cutting of seaweed is permitted on a small scale. The coastal meadows at Storfosna are grazed by sheep, including the small land areas in the bird sanctuary Kråkvågsvaet. Parts of the seashore at Hovsfjæra are grazed by livestock. The areas are used for fishing and bird-watching. See also RIS for individual sub-sites.

b) in the surroundings/catchment:

Extensive farmlands neighbouring the mainland sub-sites, especially east of Grandefjæra. The surrounding marine waters are used for fishing, both leisure and commercial. See also RIS for individual sub-sites.

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:

Before Grandefjæra received legal protection, large areas of salt-marshes and salt-influenced meadows were drained for agriculture use. Only small remains of these extensive seashores are present in the nature reserve, outside a 2 km long dike, built to prevent sea water to flood into the farmland on extreme high tide. Also at the two other mainland sites encroachments has reduced the size of seashore vegetation communities before they were legally protected.

The permitted cutting of seaweed is thought to have negative effect on avian food sources at the site.

A 1,5 km road link over the strait between Storfosna and Kråkvåg was built in 2003, including a 400 m bridge and rock fills across the shallows on the Storfosna side. This after extensive studies, including modelling and simulations of currents and water flow, to investigate the effect on the rich benthic fauna in the strait, highly dependent on the strong tidal current – and thereby also on the large concentrations diving ducks and waders using the wetland.

More detailed information is provided in RIS for individual sub-sites.

b) in the surrounding area:

See pt. a. A refuse deposit is situated close to the border of Innstrandfjæra Bird Sanctuary, causing increased predation by crows and gulls on eggs and chicks of breeding ducks and waders at this site.

More detailed information is provided in RIS for individual sub-sites.

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.

All four sub-sites were established as bird protection areas (sanctuaries) (Hovsfjæra, Innstrandfjæra and Kråkvågsvaet) and nature reserve (Grandefjæra) at December 23rd 1983.

Important Bird Area (2920 ha)

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:

None in particular.

28. Conservation measures proposed but not yet implemented:

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

Management plans for all sub-sites are under preparation 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.

Trondheimsfjorden (including the three mainland sites) is one of 10 areas in the national monitoring programme for wintering seabirds and waterfowl.

For Kråkvågsvaet there have been comprehensive investigations concerning the effects of a road link between Storfosna and Kråkvåg (with stone fillings across the shallows) on the benthic fauna, being the main food source for diving ducks and waders in the strait.

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.

An information booklet is produced by the management authorities, comprising all the Ramsar sites in Trøndelag. A wetland information center is being planned within the new house of culture in Brekstad. Bird observation towers/ observation hides have been/ are being built.

31. Current recreation and tourism:

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

The sites are to a low degree used by residents and tourists for fishing (mainly Kråkvågsvaet) and bird-watching. See also RIS for individual sub-sites.

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 Sør-Trøndelag, which is under the instruction of DN.

Address: County Governor of Sør-Trøndelag, Statens Hus, N-7468 Trondheim (phone: +47 74 16 80 00).

E-mail: postmottak@fmst.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.

Flora:

Baadsvik, K. 1974. Registreringer av verneverdig strandengvegetasjon langs Trondheimsfjorden sommeren 1973. K. norske Vidensk. Selsk. Mus. Rapp. Bot. Ser. 1974-4: 1-65. (In Norwegian – on wet meadow vegetation in Trondheimsfjorden)

Kristensen, J. N. 1988. Seashore in Trøndelag. Site descriptions and conservation proposals. Økoforsk Rapp. 1998, 7B: 1-139. (In Norwegian with English abstract, including all four sub-sites)

Birds:

Bevanger, K. & Frengen, O. 1979. Ornitologiske verneverdier i Ørland kommune, Sør-Trøndelag. K. norske Vidensk. Selsk. Mus. Rapport Zool. Ser. 1979-1: 1-93. (In Norwegian – on important bird areas in Ørland municipality)

Follestad, A., Larsen, B. H. & Nygård, T. 1986. Seabird investigations along the coast of Sør- and Nord-Trøndelag and southern parts of Nordland 1983-86. DN-viltrapport 41: 1-113. (In Norwegian with 7 pages English summary)

Lorentsen, S.-H. & Nygård, T. 2001. The National Monitoring Programme for Seabirds. Results from the monitoring of wintering seabirds up to and including 2000. NINA Oppdragsmelding 717. 62 pp. (In Norwegian with English abstract, includes Trondheimsfjorden/Hovsfjæra)

Ring, H. E. 2007. Ornitologiske undersøkelser i verneområdene på Ørlandet i 2001-2002. Rapport. (In Norwegian – monthly bird counts in the three mainland sub-sites between February 2001 and January 2002).

Størkersen, Ø. 1993. Guide til fuglelokaliteter ved Trondheim og andre nærliggende lokaliteter. Vår Fuglefauna 16: 34-40. (In Norwegian – sums up the ornithological qualities of Ørland Wetland System)

Thingstad, P. G. & Hokstad, S. 1997. Aquatic birds and marine demersal fauna at Kråkvågsvaet, Ørland, Sør-Trøndelag. Consequences of a possible bridge and rock fill across the shallows. Vitenskapsmuseet Rapp. Zool. Ser. 1997, 2: 1-50. (In Norwegian with English abstract)

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