

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

Available for download from [http://www.ramsar.org/ris/key\\_ris\\_index.htm](http://www.ramsar.org/ris/key_ris_index.htm).

*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 and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2<sup>nd</sup> edition, as amended by COP9 Resolution IX.1 Annex B). A 3<sup>rd</sup> 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:

Bjørn Harald Larsen, Miljøfaglig Utredning AS commissioned  
by Norwegian Directorate for Nature Management,  
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FOR OFFICE USE ONLY.

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Designation date

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Site Reference Number

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### 2. Date this sheet was completed/updated:

March 2012

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### 3. Country:

Norway

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### 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, Grandefjæra  
(International No. 310, National No: 8)

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### 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

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### 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:**

None

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**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.

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**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° 41' N 09° 32' E

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**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.

Situated in the municipality of Ørland, Sør-Trøndelag County. The nearest town being Trondheim, approximately 45 km to the southeast, which had 155.000-165.000 inhabitants in 2001.

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

0 m – 7 m.a.s.l.

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**11. Area:** (in hectares)

1581,6 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.

Grandefjæra is Norway's largest inter-tidal area, as 500-600 ha of mostly sand- and mudflats are exposed at low tide. The rest of the site consists of shallow marine waters with extensive seaweed beds and small skerries outside. Belts of seaweed form the outer edge of the tidal zone. The site is of special importance to migratory and wintering seabirds, waterfowl and shorebirds, and not least to moulting diving ducks. Seashores also provide breeding sites for a lot of waders.

**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
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>								

**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. 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. Harbour Seal *Phoca vitulina* (VU, Ann. III Berne Conv.) is commonly observed on the skerries in the outer part of the reserve. The Eurasian Otter *Lutra lutra* (VU, Ann. II, Berne Conv.) probably breeds in the area. For many nationally threatened bird species the 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 a probably breeder). We also find Northern Marsh Orchid *Dactylorhiza purpurella* (EN) in the site. It is referred to the national red list 2010. See also point 22 and point 21.

Criterion 3. 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.

Criterion 4. Grandefjæra supports large populations of moulting Common Eiders, Velvet Scoters *Melanitta fusca* (NT), and Red-breasted Mergansers. It is also essential for large numbers of divers, grebes, geese, ducks and waders during spring and autumn migration. The site is also important for wintering and breeding waterbirds. See also justification of criteria 2, 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. 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.

Geology	The bedrock 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.
Geomorphology	Grandefjæra is a classical tidal area with extensive 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 is predominate on the shores – somewhere forming small sand-dunes. Locally dominance of pebble and shingle on the tidal flats.
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 area is small, mainly comprising wetlands drained for agricultural use and other cultivated land. A military airbase is situated inside the catchment area. The site is surrounded by shallow marine waters to the east, north and west. 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 nature reserve. 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.

### 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, H, D, E

### 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 site is characterized by the large tidal mudflats and shallow marine waters, with small islands and skerries outside. Only small areas of the originally seashore vegetation are left after the large-scale draining

of wetlands in this area. The site though has a wide range of salt-tolerant vegetation communities, including wet salt-influenced meadows, salt marshes and swamps, and sea-grass *Zoostera* beds.

The mudflats and shallow 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.

### 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 the site, including the endangered species *Gentianella uliginosa* (EN) (probably extinct after the draining) and *Dactylorhiza purpurella* (EN) (on its northern limit in Norway at Ørlandet).

### 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 in Grandevika. Harbour Seal *Phoca vitulina* (VU) is commonly observed on the skerries in the outer part of the reserve, while Grey Seal *Halichoerus grypus* (NT) is seen more occasionally and in small numbers. None of the seals are known to breed at the site, but the Eurasian Otter *Lutra lutra* (VU) is probably breeding.

#### Birds:

Nationally rare or internationally rare or interesting species: Grandefjæra has relatively large wintering populations (with raising numbers in early spring) of Great Northern Diver *Gavia immer* (10-20 individuals), Red-necked Grebe (30-50, up to 100 ind. recorded in March/April), and Slavonian Grebe *Podiceps auritus* (20-50, up to 100 ind. recorded in March/April). Also a few White-billed Divers *Gavia adamsii* (NT) 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 site were estimated in 2001, giving these numbers on regionally unusual and/or red-listed species: 7-10 pairs of Common Shelduck *Tadorna tadorna*, 20-40 pairs of Northern Lapwing *Vanellus vanellus* (NT), 5-15 pairs of Ringed Plover *Charadrius hiaticula*, 0-5 pairs of Dunlin *Calidris alpina*, 0-5 pairs of Ruff *Philomachus pugnax* (VU), 10-20 pairs of Eurasian Curlew *Numenius arquata* (NT), 25-35 pairs of Sky Lark *Alauda arvensis* (VU), 20-25 pairs of Sedge Warbler *Acrocephalus schoenobaenus*, and 5-10 pairs of Twite *Carduelis flavirostris* (NT).

Wintering site for 2000-3000 waterfowl, waders and seabirds, including Whooper Swan *Cygnus cygnus* (50-150 ind., alternating between cultivated land and the site), Mallard *Anas platyrhynchos* (300-400 ind.), Common Eider (200-1000 ind.), Long-tailed Duck *Clangula hyemalis* (200-300 ind.), Velvet Scoter *Melanitta fusca* (150-200 ind., 500-1000 in late winter/early spring), Red-throated Diver *Gavia stellata* (10-20 ind.), Purple Sandpiper *Calidris maritima* (150-200 ind.), Dunlin (20-50 ind.), Redshank *Tringa tetanus* (30-60 ind.), and Turnstone *Arenaria interpres* (150-200 ind.).

Important for migrating divers, grebes, wildfowl and waders in spring and autumn. Examples of species recorded in high numbers at Grandefjæra during bird counts in 2001; Common Shelduck (250-300 ind.), Eurasian Wigeon *Anas Penelope* (700-800 ind.), Black-throated Diver *Gavia arctica* (20-30 ind.), Ringed Plover (300-400 ind.), Northern Lapwing (600-700 ind.), Curlew Sandpiper *Calidris ferruginea* (200-250 ind.), and Ruff (600-700 ind.). As many as 4000 Greylag Geese *Anser anser* were recorded in April 2007, being the largest concentration of this species recorded in Norway. Little Auk *Alle alle* can be numerous

in late autumn. Former records of e.g. 3000 Northern Lapwings, 150 Grey Plovers *Pluvialis squatarola* and 1000 Common Teals *Anas crecca*.

Important moulting site for Common Eider (2500-3000 individuals in the 1980-ties, less numerous now), Velvet Scoter (2100 ind. in 1986, less numerous now), and Red-breasted Merganser *Mergus serrator* (700-800 ind.). Flocks of moulting ducks use the shallow waters both inside and outside (Grandholman) the protected area.

(Some of the numbers probably includes birds outside the Ramsar Site)

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### 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:

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### 24. Land tenure/ownership:

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

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

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

a) within the Ramsar site:

Cutting of seaweed is permitted on a small scale. The outer parts are low-degree used for fishing, both leisure and commercial.

b) in the surroundings/catchment:

Extensive farmlands neighbouring the site. The surrounding marine waters are used for fishing, both leisure and commercial.

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### 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, swamps and salt-influenced meadows were drained for agriculture use. Only small remains of these extensive seashores are left in the nature reserve, outside a 2 km long dike – built to prevent sea water to flood into the farmland on extreme high tide.

A small marina is built within the site after the nature reserve was established, occupying a part of the mudflat. Refuse (e.g. car-wrecks) is a problem along on the shoreline.

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

b) in the surrounding area:

See pt. a.

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**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.

Grandefjæra was established as a nature reserve at December 23<sup>rd</sup> 1983.

Part of IBA Ørland wetland system

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.

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**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 preparation by the management authority. An expansion of the nature reserve is being considered.

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**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 wetland sites at Ørlandet) is one of 10 areas in the national monitoring programme for wintering seabirds and waterfowl.

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**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. A bird observation tower has also been built.

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**31. Current recreation and tourism:**

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

The site is low-degree used by residents and tourists for fishing and bird-watching.

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**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](mailto:postmottak@dirnat.no)

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### 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](mailto:postmottak@fmst.no).

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### 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:

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/Ørlandet)

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)

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