

Information Sheet on Ramsar Wetlands

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

NOTE: It is important that you read the accompanying *Explanatory Note and Guidelines* document before completing this form.

1. Date this sheet was completed/updated:

April 2002

FOR OFFICE USE ONLY.

DD	MM	YY

Designation date

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Site Reference Number

2. Country:

Sweden

3. Name of wetland:

Nordre älv estuary

4. Geographical coordinates:

57°47'N, 011°44'E

5. Altitude: (average and/or max. & min.)

0 - 41.8 m

6. Area: (in hectares)

7 210 ha

7. Overview: (general summary, in two or three sentences, of the wetland's principal characteristics)

The estuary of Nordre älv river estuary constitutes an important area for commercial fishing and offers suitable conditions for breeding and resting waterfowl. The beautiful landscape and cultural history make the area attractive for tourism and recreation.

8. Wetland Type (please circle the applicable codes for wetland types as listed in Annex I of the *Explanatory Note and Guidelines* document.)

marine-coastal: A · B · C · D · E · F · G · H · I · J · K

inland: L · M · N · O · P · Q · R · Sp · Ss · Tp · Ts
· U · Va · Vt · W · Xf · Xp · Y · Zg · Zk

man-made: 1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9

Please now rank these wetland types by listing them from the most to the least dominant: A, F, M, B, D, H, Tp

9. Ramsar Criteria: (please circle the applicable criteria; see point 12, next page.)

1 · 2 · 3 · 4 · 5 · 6 · 7 · 8

Please specify the most significant criterion applicable to the site: 1

10. Map of site included? Please tick *yes* -or- *no*

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits)

11. Name and address of the compiler of this form:

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Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):

12. Justification of the criteria selected under point 9, on previous page. (Please refer to Annex II in the *Explanatory Note and Guidelines* document).

1. A representative example of a near-natural wetland type (permanent river, estuarine waters and eel-grass beds) in the EU Continental region
 2. Supports 1 globally threatened bird species, 1 globally redlisted fish species, about 10 nationally redlisted bird species and 10 nationally redlisted vascular plant species.
 3. Supports particular elements of biological diversity that are characteristic of the EU Continental region
 8. Important spawning ground, nursery and feeding area for several fish species.
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13. General location: (include the nearest large town and its administrative region)

The site is situated on the Swedish West Coast, some 30 km north-west of the city of Gothenburg, in the County of Västra Götaland, south-western Sweden. Municipalities: Göteborg, Kungälv, Öckerö

14. Physical features: (e.g. geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate)

The site consists of a shallow marine bay around the mouth of the Nordre älv river, and part of the river, about 5 km in length. There are several sheltered small bays and a large number of islands and isles within the site. The shores and archipelago contain clay shores, bare rock shores, rocky shores, and a mixture of flat and hilly coastal areas. The river valley of Nordre älv river displays a wide variety of geological formations, such as different kinds of ravines, landslide and fault formations, moraine deposits and several other Ice Age formations.

15. Hydrological values: (groundwater recharge, flood control, sediment trapping, shoreline stabilisation etc)

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16. Ecological features: (main habitats and vegetation types)

The marine shallow areas include highly productive waters. One important habitat in particular is the very large soft bottom area covered with stands of eelgrass *Zostera marina*, offering shelter for large numbers of animals. Terrestrial vegetation is adapted to the landscape and can grow in fissures in bare rocks, among rocks and stones and in gravel. The many bays within the site are surrounded by e.g. flat agricultural landscape, seashore meadows and other shores temporarily flooded by the sea. The many islands are mostly bare rock isles with low shrub vegetation. The vegetation along Nordre älv river contains a multitude of nature and vegetation types, such as meadows, fens, reed-swamp (*Phragmites australis*), rush (*Scirpus sp.*), sedges (*Carex spp.*), beech-forests (*Fagus sp.*), deciduous forests and rocky areas.

17. Noteworthy flora: (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc)

The shore meadows contain a varied flora with *Carex maritima*, *C. vacillans*, *C. paleacea*, *Gentianella campestris* and *Isoetis setacea*, all nationally redlisted. Other species are *Ononis arvensis*, *Oenanthe aquatica*, *Lathyrus palustris*, *Ophioglossum vulgatum*, *Festuca arundinacea*, and *Serratula tinctoria*. The calcareous rich fens contain *Carex hartmanii* (nationally redlisted), *Dactylorhiza incarnata*, *Hierochloë odorata* and *Selinum carvifolia*. Open meadows maintained by grazing contain *Rhinantus serotinus*, *Antennaria dioica*, *Nardus stricta*, *Fragaria viridis* and *Briza media*.

18. Noteworthy fauna: (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.)

The site harbours a rich and diversified fauna, including some rare species. Because of the large number of islands and isles, the site also offers suitable breeding conditions for large numbers of waterbirds. The most common birds are waders and ducks. Several species rest or spend the winter in the area. Bird species regularly found in the area include the guillemot *Uria aalge*, slavian grebe *Podiceps auritus*, little grebe *Tachybaptus ruficollis*, scaup *Aythya marila* and smew *Mergus albellus* (the last four species nationally redlisted). Other migrating birds are the mute swan *Cygnus olor* 200 individuals, goldeneye *Bucephala clangula* 150 and red-breasted merganser *Mergus serrator* 100. In wintertime white-tailed eagle *Haliaeetus albicilla* (globally redlisted) is a regular visitor.

Fish production in the bay is very high and commercially important. Among the fishes found in the bay are the eel *Anguilla anguilla* and different kinds of flatfish. The River Nordre älv is rich in nutrients and supports migration of the salmon *Salmo salar* and trout *Salmo trutta*. The two fish species reproduce in tributaries to Nordre älv river. The asp *Aspius aspius* (globally redlisted) also occurs.

19. Social and cultural values: (e.g. fisheries production, forestry, religious importance, archaeological site etc.)

The large, shallow marine area of the site is a highly productive coastal area. Fish production is high because of the favourable conditions, which includes suitable feeding opportunities and a shelter for young fish and other small animals. The shallow marine basins have both local and regional importance for the fishing industry on the Swedish West Coast.

20. Land tenure/ownership of: (a) site (b) surrounding area

- (a) Protected area-to-be is partly owned by municipalities, but mainly by private persons.
 - (b) Mainly privately owned.
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21. Current land use: (a) site (b) surroundings/catchment

- (a) Fishing and some farming along the shores
 - (b) Fishing and farming
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22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects: (a) at the site (b) around the site

- (a) The area is vulnerable and it is of great importance that depth and sea current conditions are not altered. Any project in the actual water may have impact on the high values of the area. Such enterprises can include landfill around the shore, construction of dikes to create more dry land, dredging, anchoring of buoys and bridges, or any other construction in the water, and pollutant discharges.
 - (b) No factors are known, but enterprises outside the site will have to be assessed carefully, due to the risk of detrimental effects inside the site.
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23. Conservation measures taken: (national category and legal status of protected areas - including any boundary changes which have been made: management practices; whether an officially approved management plan exists and whether it has been implemented)

There are two nature reserves within the site:

Nordre älv's estuarium – 7 100 ha, protected in 2002. Management plan exist.

Prästgårdskilen - 197 ha, protected since 1986. Owned privately and by the municipality and the state.

Management plan does not exist.

In addition, there are five Bird Sanctuaries within the site.

24. Conservation measures proposed but not yet implemented: (e.g. management plan in preparation; officially proposed as a protected area etc.)

Current plans include the creation of a new nature reserve (approximately 7 400 ha). The reserve will encompass virtually the whole Ramsar site, and the proposal is now distributed for regional consultation. The Ramsar site is also part of the Natura 2000 network. Nordre älv's estuarium SE0520043 has been proposed as both a pSCI and a SPA site.

25. Current scientific research and facilities: (e.g. details of current projects; existence of field station etc.)

None known, but the river valley of River Nordre älv is scientifically interesting, because it contains a complex landscape and key sites for studying the formation of different terrain types and forms.

26. Current conservation education: (e.g. visitors centre, hides, information booklet, facilities for school visits etc.)

None known

27. Current recreation and tourism: (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)

The area is of national interest for conservation and recreation, as well as for the conservation of cultural monuments. It is a highly attractive and boating in the archipelago is very popular.

28. Jurisdiction: (territorial e.g. state/region and functional e.g. Dept of Agriculture/Dept. of Environment etc.)

County Administrative Board of Västra Götaland

29. Management authority: (name and address of local body directly responsible for managing the wetland)

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30. Bibliographical references: (scientific/technical only)

- Ahlén, I. & Tjernberg, M. (red.) 1996. Rödlistade ryggradsdjur i Sverige - Artfakta. ArtDatabanken, SLU, Uppsala.
- Ehnström, B., Gårdenfors, U. & Lindelöv, Å. 1993. Rödlistade evertrebrater i Sverige 1993. Databanken för hotade arter.
- Ehrencrona, D. & Wedel, M. 1990. Inventering av ädellövskog. Kungälv kommun. Länsstyrelsen rapport 1990:1.
- Envall, K. 1986. Inventering av ädellövskog. Göteborgs kommun. Länsstyrelsen rapport 1986: 8.
- Göteborgs Ornitologiska Förening. 1993. Skyddsvärda fågellokaler i Göteborgstrakten. Fåglar på västkusten, supplement 26, 1993. GOF, Fågelskyddskommittén.
- Göteborgsregionens kommunalförbund. 1977. Göteborgsregionen. Kust- och skärgårdsutredning. Del 1, September 1977.
- Johansson, O. C., Blomqvist, D. & Pehrsson, O. 1997. Värdefulla rast- och övervintringsområden för sjöfåglar på Västkusten. - Länsstyrelsen i Göteborgs och Bohus län, rapport 1997: 4
- Kuylenstierna, M. 1989-1990. Benthic Algal Vegetation in the Nordre Älv Estuary (Swedish West Coast). Volume 1. Department of Marine Botany, University of Sweden.
- Lagenfeldt, I. & Thörnelöf, E. 1982. Fiskeribiologisk inventering av grunda havsområden i Kungälv kommun. Mars 1982. Länsstyrelsen. 1988. Områdena av riksintressen för naturvård och friluftsliv. Planeringsunderlag i O-län.
- Schillander, P. 1988. Ängar och hagar i Kungälv kommun. Länsstyrelsen rapport 1988: 7
- Åhlund, M., Åhlund, I. & Berntsson, B. 1985. Häckfågelfaunan på betade havsstrandängar. - Naturinventeringar i Göteborgs och Bohus län 1985: 3.
- Åsander, L. 1990. Ängs- och hagmarker i Göteborgs kommun. Länsstyrelsen rapport 1990:3.
- Länsstyrelsen i O-län. 1994. Göteborgsregionen, Göteborgs stad och Bohuslandstinget. Hotade, sällsynta och hänsynskrävande ryggradsdjur i Göteborgs och Bohus län. Tillstånd. Miljö i Väst. Publikation 1994: 3.
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