



# Ramsar Information Sheet

Published on 27 March 2017

Update version, previously published on : 1 January 2002

## Sweden

### Nordre älvs estuarium



Designation date	14 November 2001
Site number	1125
Coordinates	57°47'08"N 11°44'19"E
Area	7 226,00 ha

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

### Summary

The estuary of the river Nordre älv constitutes an important area for commercial fishing and offers suitable conditions for breeding and resting waterfowl. The western part of the site contains a lot of small islands and islets. The beautiful landscape and cultural history make the area attractive for tourism and recreation.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Compiler 1

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#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year	2002
To year	2015

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Nordre älvs estuarium
Unofficial name (optional)	Nordre älvs estuarium (estuary)

#### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary	Yes <input checked="" type="radio"/> No <input type="radio"/>
(Update) The boundary has been delineated more accurately	<input checked="" type="checkbox"/>
(Update) The boundary has been extended	<input checked="" type="checkbox"/>
(Update) The boundary has been restricted	<input checked="" type="checkbox"/>
(Update) B. Changes to Site area	the area has increased
(Update) The Site area has been calculated more accurately	<input type="checkbox"/>
(Update) The Site has been delineated more accurately	<input checked="" type="checkbox"/>
(Update) The Site area has increased because of a boundary extension	<input checked="" type="checkbox"/>
(Update) The Site area has decreased because of a boundary restriction	<input checked="" type="checkbox"/>

#### 2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	Yes (actual)
(Update) Are the changes	Positive <input checked="" type="radio"/> Negative <input type="radio"/> Positive & Negative <input type="radio"/>
(Update) Positive %	10
(Update) No information available	<input type="checkbox"/>
(Update) Changes resulting from causes operating within the existing boundaries?	<input checked="" type="checkbox"/>

(Update) Changes resulting from causes operating beyond the site's boundaries?

(Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?

(Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)?

(Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site.

A nature reserve was established in 2005, overlapping most of the Ramsar site. An OSPAR-MPA (Marine protected area) was accepted in 2005 for the same area as the Natura 2000 sites. During a Life-project 2010-2016 a number of meadows was restored and managed.

The Ramsar border was changed in 2015; both reductions and extensions have taken place, over all resulting in a slight larger site. The border is now more often corresponding to the border of the nature reserves, but not always.

In general the result is that; 1. Areas with deep sea water and built up areas have been excluded, 2. More reeds, small marshes and coastal waters have been included. 3. Some land areas including agricultural land and forests have been excluded and other parts included.

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change) Yes

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<1 file(s) uploaded>

Former maps

#### Boundaries description

With a few exemptions the boundary coincides with the outer parts of the boundaries of the nature reserves and the Natura 2000 sites that lies within the Ramsar site.

### 2.2.2 - General location

a) In which large administrative region does the site lie?

b) What is the nearest town or population centre?

### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes  No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes  No

### 2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

### 2.2.5 - Biogeography

#### Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Freshwater Ecoregions of the World (FEOW)	Ecoregion 406 Northern Baltic drainages
WWF Terrestrial Ecoregions	Sarmatic mixed forest PA0436
Marine Ecoregions of the World (MEOW)	North seas
EU biogeographic regionalization	Continental
Udvardy's Biogeographical Provinces	11 Middle European Forest
Bailey's Ecoregions	240 Marine Division
Other scheme (provide name below)	Nemoral and boreonemoral zone
Other scheme (provide name below)	Sarmatic mixed forest

Other biogeographic regionalisation scheme

Nordiska Ministerrådet, 1977, Naturgeografiska regioner i Norden: Nemoral zone and Borenomoral zone.

EEA 2002, Digital map of the European Ecological regions (DMEER): Sarmatic mixed forest.

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

- Criterion 1: Representative, rare or unique natural or near-natural wetland types

Other reasons

The site is a representative example of a near-natural wetland type (permanent river, estuarine waters and eelgrass beds) in the EU Continental region.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

The Site supports particular elements of biological diversity that are characteristic of the EU Continental region. The site is important as a breeding area for waterbirds and staging area for migratory waterbird species and supports rare/endangered bird species. It is also an important waterbird wintering/non-breeding area. The site also harbours a number of red listed plant species.

- Criterion 4 : Support during critical life cycle stage or in adverse conditions

- Criterion 8 : Fish spawning grounds, etc.

Justification

Important spawning ground, nursery and feeding area for several fish species.

#### 3.2 - Plant species whose presence relates to the international importance of the site

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<i>Carex hartmanii</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>	Swedish Red List 2015: (VU)	See textbox below.
<i>Carex maritima</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>	Swedish Red List 2015: (EN)	See textbox below.
<i>Gentianella campestris</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>	Swedish Red List 2015: (EN)	See textbox below.
<i>Isolepis setacea</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>	Swedish Red List 2015: (EN)	See textbox below.

Criterion 3: The site shows an outstanding example of a particular plant community and an outstanding variety of species present. It supports rare/endangered species.

Criterion 2: For all Red-listed species, the Swedish red-list status and general information for that classification etc can be found at <http://artfakta.artdatabanken.se/>.

#### 3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	GITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
<b>Birds</b>																		
CHORDATA/AVES	<i>Aythya marila</i>	Greater Scaup	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015 (VU).	Staging. See textbox below the table.
CHORDATA/AVES	<i>Bucephala clangula</i>	Common Goldeneye	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	150			LC 	<input type="checkbox"/>	<input type="checkbox"/>		Staging. See textbox below the table.
CHORDATA/AVES	<i>Cygnus olor</i>	Mute Swan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	200			LC 	<input type="checkbox"/>	<input type="checkbox"/>		Breeding. See textbox below the table.
CHORDATA/AVES	<i>Haliaeetus albicilla</i>	White-tailed Eagle	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Swedish Red List 2015 (NT).	Foraging wintertime. See textbox below the table.
CHORDATA/AVES	<i>Mergellus albellus</i>	Smew	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	EC Birds Directive Annex I.	Staging. See textbox below the table.
CHORDATA/AVES	<i>Mergus serrator</i>	Red-breasted Merganser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100			LC 	<input type="checkbox"/>	<input type="checkbox"/>		See textbox below the table.
CHORDATA/AVES	<i>Podiceps auritus</i>	Horned Grebe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input type="checkbox"/>	EC Birds Directive Annex I.	See textbox below the table
CHORDATA/AVES	<i>Tachybaptus ruficollis</i>	Little Grebe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		See textbox below the table.
CHORDATA/AVES	<i>Uria aalge</i>	Common Murre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		See textbox below the table.
<b>Fish, Mollusc and Crustacea</b>																		
CHORDATA/ACTINOPTERYGII	<i>Anguilla anguilla</i>	Eel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				CR 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015 (CR).	Feeding grounds. See the textbox below the table.
CHORDATA/ACTINOPTERYGII	<i>Leuciscus aspius</i>	Schied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015 (NT). EC Habitats Directive Annex II.	Feeding grounds. See the textbox below the table.
CHORDATA/ACTINOPTERYGII	<i>Salmo salar</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	EC Habitats Directive Annex II.	Feeding grounds and migration path. See the textbox below the table.
CHORDATA/ACTINOPTERYGII	<i>Salmo trutta</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Feeding ground and migration path. See the textbox below the table.

1) Percentage of the total biogeographic population at the site

Criterion 2: For all red-listed species, the Swedish red-list status and general information for that classification etc can be found at <http://artfakta.artdatabanken.se/>.

### 3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Zostera marina beds	<input checked="" type="checkbox"/>	Sea grass beds occur within the site on soft bottoms in shallow waters, down to a depth of 4 meters. They are important for a large number of animals. They offer shelter, nursery areas for flatfish and feeding grounds for waterfowl.	Zostera beds are listed on the OSPAR

## 4 - What is the Site like? (Ecological character description)

### 4.1 - Ecological character

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.

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.

### 4.2 - What wetland type(s) are in the site?

#### Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
A: Permanent shallow marine waters		1		Representative
B: Marine subtidal aquatic beds (Underwater vegetation)		4		Representative
D: Rocky marine shores		0	540	Representative
E: Sand, shingle or pebble shores		0		Representative
F: Estuarine waters		2	1900	Representative
G: Intertidal mud, sand or salt flats		0		Representative
Ga: Bivalve (shell-fish) reefs		0		Representative
H: Intertidal marshes		0	130	Representative

#### Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks		3	215	Representative
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools		0		Representative

#### Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
deciduous forest	40
arable land	90
meadows	30
residential areas	

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Other noteworthy plant species



Scientific name	Common name	Position in range / endemism / other
<i>Antennaria dioica</i>		
<i>Briza media</i>		
<i>Carex paleacea</i>		Swedish Red List 2015 (NT)
<i>Carex vacillans</i>		Swedish Red List 2015 (NT)
<i>Dactyloctenium aegyptium</i>		
<i>Festuca arundinacea</i>		
<i>Fragaria viridis</i>		
<i>Hierochloa odorata</i>		
<i>Lathyrus palustris</i>	Marsh Pea; Marsh Vetchling	
<i>Nardus stricta</i>		
<i>Oenanthe aquatica</i>		
<i>Ononis spinosa hircina</i>		
<i>Ophioglossum vulgatum</i>		
<i>Rhinanthus serotinus</i>		
<i>Selinum carvifolia</i>		
<i>Serratula tinctoria</i>		

#### 4.3.2 - Animal species

<no data available>

### 4.4 - Physical components

#### 4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cfb: Marine west coast (Mild with no dry season, warm summer)

#### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

The site is mainly coastal and most of it is not part of a river basin. Only the easternmost parts of the site lie within Nordre älv river basin and only contain the lower parts of the basin. The Nordre älv is a branch of the Göta älv in the big Göta älv-Klarälven-Trysil elva catchment area.

#### 4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

#### 4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from surface water	<input type="checkbox"/>	No change
Marine water	<input type="checkbox"/>	No change

Water destination

Presence?	Changes at RIS update
Marine	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology.

The water level is fluctuating in the river depending on amount of precipitation combined with levels in dams upstream. The water level in the sea fluctuates slightly due to weather conditions.

4.4.5 - Sediment regime

Sediment regime unknown

Please provide further information on sediment (optional):

Sediment regime within the site is mainly unknown. Increased runoff due to higher precipitation has probably caused increased water turbidity at the site.

4.4.6 - Water pH

Circumneutral (pH: 5.5-7.4)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

Please provide further information on pH (optional):

Water pH in the Nordre älv river is circumneutral, about 7.1 to 7.4.  
Water pH in the sites brackish and marine parts is unknown.

4.4.7 - Water salinity

Fresh (<0.5 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Mxohaline (brackish)/Mxosaline (0.5-30 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Euhaline/Eusaline (30-40 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

Please provide further information on salinity (optional):

The site has a wide range of water salinity ranging from fresh water upstream river Nordre älv and low salinity in the surface waters to higher salinity in the deeper waters.

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself. i) broadly similar  ii) significantly different

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

The eastern part has surroundings with forests, arable land and built-up areas, that differ a lot to the site. The western part of the site is surrounded by more similar habitats, sea with islands, without forests.

## 4.5 - Ecosystem services

### 4.5.1 - Ecosystem services/benefits

#### Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High

#### Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	Medium
Recreation and tourism	Picnics, outings, touring	High
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Medium
Scientific and educational	Major scientific study site	Medium

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes  No  Unknown

### 4.5.2 - Social and cultural values

- i) the site provides 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) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) 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

<no data available>

## 4.6 - Ecological processes

<no data available>

## 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

##### Public ownership

Category	Within the Ramsar Site	In the surrounding area
Local authority, municipality, (sub)district, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

##### Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Länsstyrelsen i Västra Götalands län / County Administrative Board of Västra Götaland  
(Västkoststiftelsen)

Provide the name and title of the person or people with responsibility for the wetland:

Kontaktperson för Ramsarområden

Länsstyrelsen i Västra Götalands län, 403 40 Göteborg, Sweden

Postal address: (Västkoststiftelsen, Vallda Sandö, Sandöhamnsvägen 71, 434 94 Vallda, Sweden)  
(email: [post@vastkoststiftelsen.se](mailto:post@vastkoststiftelsen.se))  
(phone: 031-40 29 81)

E-mail address: [vastragotaland@lansstyrelsen.se](mailto:vastragotaland@lansstyrelsen.se)

## 5.2 - Ecological character threats and responses (Management)

### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

#### Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified development		Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

#### Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Dredging		Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Drainage		Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Please describe any other threats (optional):

Other potential threats can be changes in sea currents, landfilling and construction of dikes to increase areas of dry land, anchoring of buoys and bridges and other construction in the water as well as pollutant discharges.

#### 5.2.2 - Legal conservation status

##### Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
EU Natura 2000	3 Natura sites (see National legislation below)		partly
Other international designation	OSPAR-MPA: Nordre älvs estuarium	<a href="http://mpa.ospar.org/home_ospar/mpa_datasheets/an_mpa_datasheet_en?wdpaid=555557102&amp;gid=1744&amp;lg=0">http://mpa.ospar.org/home_ospar/mpa_datasheets/an_mpa_datasheet_en?wdpaid=555557102&amp;gid=1744&amp;lg=0</a>	partly

##### National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Bird Sanctuaries			partly
Natura 2000 SCI	Nordre älvs-Tomtebacka	<a href="http://www.lansstyrelsen.se/vast-ragotaland/SiteCollectionDocuments/Sv/dj">http://www.lansstyrelsen.se/vast-ragotaland/SiteCollectionDocuments/Sv/dj</a>	partly
Natura 2000 SPA	Göta älvs-Nordre älvs dalgång	<a href="http://www.lansstyrelsen.se/vast-ragotaland/SiteCollectionDocuments/Sv/djur-och-natur/skyddad-natur/natura-2000/bevarandeplaner/Göteborg/gota-älv-nordre-älvs-dalgang-se0520035.pdf">http://www.lansstyrelsen.se/vast-ragotaland/SiteCollectionDocuments/Sv/djur-och-natur/skyddad-natur/natura-2000/bevarandeplaner/Göteborg/gota-älv-nordre-älvs-dalgang-se0520035.pdf</a>	partly
Natura 2000 SPA and SCI	Nordre älvs estuarium	<a href="http://www.lansstyrelsen.se/vast-ragotaland/SiteCollectionDocuments/Sv/djur-och-natur/skyddad-natur/natura-2000/bevarandeplaner/Göteborg/nordre-älvs-estuarium-se0520043.pdf">http://www.lansstyrelsen.se/vast-ragotaland/SiteCollectionDocuments/Sv/djur-och-natur/skyddad-natur/natura-2000/bevarandeplaner/Göteborg/nordre-älvs-estuarium-se0520043.pdf</a>	partly
Nature reserve (1)	Nordre älvs estuarium	<a href="http://www.lansstyrelsen.se/vast-ragotaland/Sv/djur-och-natur/skyddad-natur/naturreservat/lanets-naturreservat/ockero/nordre-älvs-estuarium/Pages/index.aspx">http://www.lansstyrelsen.se/vast-ragotaland/Sv/djur-och-natur/skyddad-natur/naturreservat/lanets-naturreservat/ockero/nordre-älvs-estuarium/Pages/index.aspx</a>	partly
Nature reserve (2)	Göta och Nordre älvs dalgång	<a href="http://www.lansstyrelsen.se/vast-ragotaland/Sv/djur-och-natur/skyddad-natur/naturreservat/lanets-naturreservat/kungalv/gota-nordre-älvs-dalgangar/Pages/index.aspx">http://www.lansstyrelsen.se/vast-ragotaland/Sv/djur-och-natur/skyddad-natur/naturreservat/lanets-naturreservat/kungalv/gota-nordre-älvs-dalgangar/Pages/index.aspx</a>	partly

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Habitat manipulation/enhancement	Partially implemented

Other:

Overgrown semi-natural habitats will be restored within a project (called GRACE) under Life+. The project period is from November 2010 to December 2016.

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes  No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes  No

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented
Plant community	Implemented
Animal community	
Soil quality	
Plant species	

Surveys have been carried out for habitats such as soft sea beds, for species such as *Zostera marina* and animal communities such as mussel banks with *Mytilus edulis*.

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Ahlén, I. & Tjernberg, M. (red.) 1996. Rödlistade ryggradsdjur i Sverige - Artfakta. ArtDatabanken, SLU, Uppsala.

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Ehrencrona, D. & Wedel, M. 1990. Inventering av ädellövskog. Kungälv kommun. Länsstyrelsen rapport 1990:1.

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Johansson, O. C., Blomqvist, D. & Pehrsson, O. 1997. Värdefulla rast- och övervintringsområden för sjöfåglar på Västkusten.

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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.

Remissversion: Rödlistade arter i Sverige 2015. ArtDatabanken, SLU, Uppsala.

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<5 file(s) uploaded>

vi. other published literature

<1 file(s) uploaded>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Wet meadows, Nordre älv estuarium ( Länsstyrelsen i Västra Götaland, 2006 )



Wet meadows, Nordre älv estuarium ( Länsstyrelsen i Västra Götaland, 2006 )



Nordre älv estuarium ( Länsstyrelsen i Västra Götaland, 2006 )



Grazing cattles, Nordre älv estuarium ( Länsstyrelsen i Västra Götaland, 2008 )



Senecio aquaticus, Nordre älvs estuarium ( Länsstyrelsen i Västra Götaland, 2008 )



Nordre älvs estuarium ( Länsstyrelsen i Västra Götaland, 2008 )

#### 6.1.4 - Designation letter and related data

##### Designation letter

<1 file(s) uploaded>

Date of Designation