



# Ramsar Information Sheet

Published on 6 April 2018

Update version, previously published on : 1 January 2012

## Norway Tufsingdeltaet



Designation date	6 August 2002
Site number	1199
Coordinates	62°11'38"N 11°49'14"E
Area	895,00 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

Tufsingdeltaet in Femund is an unusual landscape in Hedmark, and the rest of the country. The landscape is in a slow continuous change resulting from the river erosion, transport and deposition of sediments. As a result, the river Tufsinga has created a delta in Femunden with a number of small islands covered with mires and willow scrubs, belts of sedge and surrounding shallow waters. There is a special development of the mires with overgrowing of pools in the outer part of the delta that is considered remarkable. Land areas along the slow flowing river are dominated by large, dry and open mires with several dystrophic pools and ponds. The aquatic vegetation is relatively rich and the river banks are surrounded by dense birch woodland.

Tufsingdeltaet is the area in Northern Hedmark with the largest biodiversity regarding wetland birds; Despite the high altitude and latitude a total of 49 different wetland bird species are registered. This likely result from the great variety of different biotopes one can encounter in this particular area. Ducks, waders and gulls comprise the majority of the wetland bird species that are represented. The shallow waters and pools on either side of where Tufsinga flow into Femunden represent important feeding areas for staging waterfowl. Additionally, large parts of the vegetation in this wetland is inundated during spring time and utilized by feeding ducks and waders. A number of waterbirds also breed here, while others stage pending for defrosting/deicing of nesting sites on higher grounds. Several nationally threatened bird species also utilize this wetland for both feeding and breeding as well as during migration.

Human activities include sport fishing, berry-picking, hunting and canoeing, but generally human impacts on this wetland is low. The site is valuable in terms of flood reduction, sediment trapping and nutrient fixation.

## 2 - Data & location

### 2.1 - Formal data

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

##### Compiler 1

Name	Pernille Kvernland
Institution/agency	Norwegian Environment Agency
Postal address	Post box 5672 Torgarden, N-7485 Trondheim, Norway
E-mail	post@miljodir.no
Phone	+47 73580500

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

From year	1971
To year	2012

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Tufsingdeltaet
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#### 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  No

(Update) B. Changes to Site area No change to area

#### 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? No

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<1 file(s) uploaded>

Former maps	0
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#### Boundaries description

The Ramsar site border is similar the border of Tufsingdeltaet Nature Reserve.

### 2.2.2 - General location

a) In which large administrative region does the site lie?	Hedmark
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b) What is the nearest town or population centre?	Innbygda (Trysil), approx pop. est. 2 300 (2016)
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### 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):	895
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Area, in hectares (ha) as calculated from  
GIS boundaries

894.78

## 2.2.5 - Biogeography

### Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	1. Alpine
Other scheme (provide name below)	2. Northern boreal vegetation zone, transitional section (Nb-OC).

### Other biogeographic regionalisation scheme

1. EU Habitat directive 92/43/EEC
2. Zonal division showing the variation in vegetation from south to north and from the lowlands to the mountains, and sectional graduation showing the variation between the coast and inland (In: Moen, A. 1998. Nasjonalatlas for Norge; vegetasjon. Statens kartverk, Hønefoss).

### 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

Tufsingdeltaet, a large and varied delta with intact rivers flowing into the site, is unusual in upland areas of southern Norway. In the Norwegian Red List for Ecosystems and Habitat types (2011) this kind of active marine delta ("bird's foot delta") is considered vulnerable (VU). Altogether Tufsingdeltaet is likely the most well developed and characteristic bird's foot delta in Norway.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

Tufsingdelta has a unique waterbird fauna which includes both Northern/Eastern upland species and Southern more warm-loving species. The latter is rare in an area close to the mountains such as Femunden.

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

- Criterion 8 : Fish spawning grounds, etc.









Justification


















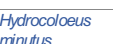

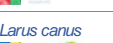
















Fish species such as lavaret and great northern pike spawn within the wetland boundaries.

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

<no data available>

#### 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	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
<b>Birds</b>																		
CHORDATA/AVES	<i>Anas crecca</i> 	Green-winged Teal; Eurasian Teal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28			LC 	<input type="checkbox"/>	<input type="checkbox"/>		29 ind. (2015). Criterion 4: This species is one of the most abundant breeding species found in this wetland.
CHORDATA/AVES	<i>Anas penelope</i> 	Eurasian Wigeon	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	50			LC 	<input type="checkbox"/>	<input type="checkbox"/>		2-5 pairs, 50 ind. (2015). Criterion 4: This species breeds within this wetland.
CHORDATA/AVES	<i>Anas platyrhynchos</i> 	Mallard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16			LC 	<input type="checkbox"/>	<input type="checkbox"/>		5-10 pairs, 16 ind. Criterion 4: This species is one of the most abundant species found in this wetland. This species breed and forage in this wetland area.
CHORDATA/AVES	<i>Aythya fuligula</i> 	Tufted Duck	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	65			LC 	<input type="checkbox"/>	<input type="checkbox"/>		10-20 pairs, 65 ind. (2015). Criterion 4: This species is one of the most abundant species found in this wetland. This species breed here.

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								
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"/>	National Red List: VU	Criterion 4: This species uses the site during migration.
CHORDATA/AVES	 <i>Eucephala clangula</i>	Common Goldeneye	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	36			LC 	<input type="checkbox"/>	<input type="checkbox"/>		2-4 pairs, 36 ind. (2015). Criterion 4: This species is one of the most abundant breeding species found in this wetland.
CHORDATA/AVES	 <i>Chroicocephalus ridibundus</i>	Black-headed Gull	<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"/>					<input type="checkbox"/>	<input type="checkbox"/>	National Red List: Considered as VU	Criterion 4: This species breeds within this wetland.
CHORDATA/AVES	 <i>Circus aeruginosus</i>	Western Marsh Harrier	<input checked="" 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"/>	National Red List: VU	Criterion 3: Of biogeographic interest are records of southern/eastern lowland species such as this species.
CHORDATA/AVES	 <i>Cygnus cygnus</i>	Whooper Swan	<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"/>	Ann. II Berne Convention	Criterion 4: This species breeds within this wetland area.
CHORDATA/AVES	 <i>Dendrocopos minor</i>	Lesser Spotted Woodpecker	<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"/>		Criterion 3 & 4: This species has nested.
CHORDATA/AVES	 <i>Gallinago gallinago</i>	Common Snipe	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	56			LC 	<input type="checkbox"/>	<input type="checkbox"/>		28 pairs. Criterion 4: This wader is commonly encountered in this area during breeding season.
CHORDATA/AVES	 <i>Gavia arctica</i>	Black-throated Loon; Arctic Loon	<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"/>	10			LC 	<input type="checkbox"/>	<input type="checkbox"/>	Ann. II Berne Convention, Emerald Network	10 ind. (2015). Criterion 4: This species breeds within this wetland.
CHORDATA/AVES	 <i>Grus grus</i>	Common Crane	<input checked="" 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"/>	4			LC 	<input type="checkbox"/>	<input type="checkbox"/>	Ann. II Berne Convention, Emerald Network	1-2 pairs. Criterion 3 & 4: This species previously bred in the area.
CHORDATA/AVES	 <i>Hydrocoloeus minutus</i>	Little Gull	<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"/>		Criterion 3: Of biogeographic interest are records of southern/eastern lowland species such as this species.
CHORDATA/AVES	 <i>Larus canus</i>	Mew Gull	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30			LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List: Considered as NT	30 ind. (2015). Criterion 4: This species breeds within this wetland.
CHORDATA/AVES	 <i>Melanitta nigra</i>	Black Scoter	<input 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"/>	National Red List: Considered as NT	Criterion 4: This species breeds within this wetland.
CHORDATA/AVES	 <i>Mergus merganser</i>	Common Merganser	<input 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"/>		Criterion 4: This species breeds within this wetland.
CHORDATA/AVES	 <i>Numenius phaeopus</i>	Whimbrel	<input 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"/>		Criterion 4: This species breeds in the northern section of the mire.
CHORDATA/AVES	 <i>Pandion haliaetus</i>	Osprey, Western Osprey	<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"/>	2			LC 	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 3 & 4: This species breeds within this wetland.
CHORDATA/AVES	 <i>Phalaropus lobatus</i>	Red-necked Phalarope	<input 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"/>		Criterion 4: Common wader encountered. This species forage within this wetland area.
CHORDATA/AVES	 <i>Philomachus pugnax</i>	Ruff	<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"/>					<input type="checkbox"/>	<input type="checkbox"/>	National Red List: VU, Emerald Network	Criterion 4: This species uses the site during breeding season and for lekking in the spring. Common wader encountered in this wetland.
CHORDATA/AVES	 <i>Pluvialis apricaria</i>	European Golden Plover; European Golden-Plover	<input 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"/>		Criterion 4: This species breeds in the northern section of the mire.
CHORDATA/AVES	 <i>Sterna paradisaea</i>	Arctic Tern	<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"/>	32			LC 	<input type="checkbox"/>	<input type="checkbox"/>	Ann. II Berne Convention, Emerald Network	32 ind. (2015). Criterion 4: This species breeds within this wetland.

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								
CHORDATA/AVES	<i>Tringa glareola</i>	Wood Sandpiper	<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"/>	24		LC 	<input type="checkbox"/>	<input type="checkbox"/>	Ann. II Berne Convention, Emerald Network	10-15 pairs. Criterion 4: This wader is commonly encountered in this area during the breeding season.
CHORDATA/AVES	<i>Tringa nebularia</i>	Common Greenshank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20		LC 	<input type="checkbox"/>	<input type="checkbox"/>		5 pairs, 20 ind. (2015). Criterion 4: This species breeds in the northern section of the mire.
CHORDATA/AVES	<i>Tringa totanus</i>	Common Redshank	<input 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"/>		Criterion 4: This wader is commonly encountered in this area during the breeding season.
CHORDATA/AVES	<i>Vanellus vanellus</i>	Northern Lapwing	<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"/>			NT 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List: Considered as EN	Criterion 4: This species breeds in the northern section of the mire.
<b>Fish, Mollusc and Crustacea</b>																	
CHORDATA/ACTINOPTERYGII	<i>Coregonus lavaretus</i>	Lavaret	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			VU 	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 4 & 8: This species spawns within the wetland area.
CHORDATA/ACTINOPTERYGII	<i>Esox lucius</i>	Great northern pike	<input type="checkbox"/>	<input checked="" 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"/>		Criterion 4 & 8: This species spawns within the wetland area.
<b>Others</b>																	
CHORDATA/MAMMALIA	<i>Castor fiber</i>	Eurasian Beaver	<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"/>	Ann. III Berne Convention, Emerald Network	Criterion 4: This species breed within this wetland.
CHORDATA/MAMMALIA	<i>Lutra lutra</i>	European Otter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			NT 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	National Red List: VU, Ann. II Berne Convention, Emerald Network	

1) Percentage of the total biogeographic population at the site

Criterion 4: The area is rich in breeding and staging species considering its close proximity to upland areas. This includes in particular ducks, waders and gulls all of which breed as well as other bird groups such as divers, swans, geese and grebes mainly on passage.

Capitalized letters shows the species' status on the National Red List 2015.

### 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
Active marine delta	<input checked="" type="checkbox"/>	National Red List: Considered as VU	

Optional text box to provide further information

Capitalized letters shows the ecosystems' status on the National Red List for Ecosystems and Habitat types 2011.

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

### 4.1 - Ecological character

Tufsingdeltaet is situated at the boundary between areas of pinewood and more alpine areas with dwarf birch. The important nature types in the delta are shallow bays with rich vegetation and pools. There is a mixture of large, open mires and small knolls with pine trees. Birch woodland grows along the river banks, and sections of wet woodland dominated by birch and pine are also common.

The reserve has a varied vegetation of sump and mire. The large mires are mostly flat with various forms of string-mires with undemanding vegetation. Along the river towards the river mouth, willow scrub dominates. Species such as *Salix hastata* and *Carex aquatilis* grow here.

The shallow waters are dominated by large sedge bogs with species such as *Carex rostrata*, *Carex aquatilis* and *Equisetum fluviatile*. The aquatic vegetation is relatively rich.

The area is rich in breeding and staging species considering its close proximity to upland areas. This includes in particular ducks, waders and gulls all of which breed here as well as other bird groups such as divers, swans, geese and grebes mainly on passage.

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

#### 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 >> L: Permanent inland deltas		1		Rare
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks		0		Rare
Fresh water > Lakes and pools >> O: Permanent freshwater lakes		3		
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools				
Fresh water > Marshes on inorganic soils >> Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils				
Fresh water > Marshes on peat soils >> U: Permanent Non-forested peatlands		2		
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands		4		

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
<i>Carex laxa</i>		National Red List: Considered as NT. Found by the river mouth.

#### 4.3.2 - Animal species

##### Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range / endemism/other
CHORDATA/AVES	<i>Anas acuta</i>	Northern Pintail				Shy species which has been recorded in suitable biotopes until canoeing begins in the area in June/July.

##### Invasive alien animal species

Phylum	Scientific name	Common name	Impacts	Changes at RIS update
CHORDATA/MAMMALIA	<i>Neovison vison</i>	American Mink	No impacts	No change

##### Optional text box to provide further information

Species not yet included in the Catalogue of Life:  
*Nitella flexilis*, National Red List: NT

### 4.4 - Physical components

#### 4.4.1 - Climate



Climatic region	Subregion
D: Moist Mid-Latitude climate with cold winters	Dfc: Subarctic (Severe winter, no dry season, cool summer)

The climate is slightly continental with relatively little precipitation (500-700 mm p.a.) and relatively warm, but short, summers and extremely cold winters.

#### 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.

Tufsinga river flows into Lake Femunden, which is part of the Klarälven river basin.

#### 4.4.3 - Soil

Mineral

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

Organic

(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

Please provide further information on the soil (optional)

Mainly peaty soil in the reserve, although there are mineral soils on the small solid ridges in the inner parts, as well as along the river banks.

#### 4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

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 lake Femunden is regulated by a dam at Gløten. Water levels are lowest in late winter and spring, but are normally high during summer. Most of the delta is inundated during spring floods. During periods of little water transport, levels can sometimes be low in autumn, resulting in large areas of mud being exposed.

#### 4.4.5 - Sediment regime

Significant accretion or deposition of sediments occurs on the site

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

Significant transportation of sediments occurs on or through the site

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

Sediment regime unknown

Please provide further information on sediment (optional):

Tufsinga river is responsible for the build-up of the delta in Femunden. The area functions as a sediment trap and is important for fixing of nutrients (in particular those containing phosphorus and nitrogen).

#### 4.4.6 - Water pH

Unknown

#### 4.4.7 - Water salinity

Fresh (<0.5 g/l)

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

Unknown

4.4.8 - Dissolved or suspended nutrients in water

Oligotrophic

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

Unknown

Please provide further information on dissolved or suspended nutrients (optional):

The catchment area is mainly made up of hard and nutrient poor basement granite, in addition to areas of amphibolite in the western and upper parts.

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

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)	Medium
Wetland non-food products	Livestock fodder	Medium
Wetland non-food products	Other	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Erosion protection	Soil, sediment and nutrient retention	Medium
Pollution control and detoxification	Water purification/waste treatment or dilution	Medium
Hazard reduction	Flood control, flood storage	Medium

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	Medium
Recreation and tourism	Picnics, outings, touring	Medium
Recreation and tourism	Water sports and activities	Medium
Scientific and educational	Educational activities and opportunities	Low

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Nutrient cycling	Carbon storage/sequestration	Medium

Other ecosystem service(s) not included above:

The area functions as a sediment trap and is important for fixing of nutrients (in particular those containing phosphorus and nitrogen). Together with other mire areas in the watershed the mires in the delta help reduce flooding.

Canoeing is an important recreational activity in Femund and many paddle along the delta in June/July. Berry picking occurs within the reserve (in particular for cloudberry) and there is also hunting and fishing.

Hunting (moose, hare and ptarmigan) and fishing are the most important ecosystem services provided by Tufsingdeltaet today. Traditional lavaret fishing date back to the 16th century. Fishing for Northern pike also has long traditions. Fishing generally occurs in the lower parts of the river.

The delta is also part of the southernmost Sami reindeer husbandry district.

The rich plant production gave rise to the extensive hay cutting in the delta from the 1700's until after the World War II.

Livestock (mainly sheep and cattle) grazes the area.

The potential for scientific and educational activities is high, and locally there is an expressed desire to utilize this ecosystem service to a larger extent.

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

## RIS for Site no. 1199, Tufsingdeltact, Norway

- 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

(ECD) Nutrient cycling

The area functions as a sediment trap, important for nutrient fixation of particularly nitrogen and phosphorus.

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

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

#### 5.1.1 - Land tenure/ownership

##### 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"/>

Provide further information on the land tenure / ownership regime (optional):

Within the Ramsar site: Private  
In the surrounding area: Private

#### 5.1.2 - Management authority

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

County Governor of Hedmark

Postal address:

Postboks 4034, N-2306 Hamar, Norway

E-mail address:

postmottak@fmhe.no

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

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

#### Agriculture and aquaculture

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

#### Natural system modifications

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

#### Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	Low impact	High impact	<input checked="" type="checkbox"/>	No change	<input type="checkbox"/>	No change

Please describe any other threats (optional):

Within the Ramsar site:

The cessation of hay cutting after the Second World War has led to overgrowing in the mires, in particularly the outer parts which were most extensively used. Grazing intensity from livestock has little or no effect on the vegetation of the area.

Mink could be a potential threat for breeding wetland birds.

In the surrounding area:

None are known.

#### 5.2.2 - Legal conservation status

##### National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Nature Reserve	Tufsingdeltaet		whole

#### 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

#### 5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

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? No need identified

#### 5.2.7 - Monitoring implemented or proposed

<no data available>

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Henriksen, S., Hilmo, O., 2015. Norsk rødliste for arter 2015 (red). Artsdatabanken, Norge - 2015 Norwegian Red List. Artsdatabanken, Norway

Lindgaard A, Henriksen S (eds) (2011) Norsk rødliste for naturtyper 2011. Artsdatabanken, Norge - 2011 Norwegian Red List for Ecosystems and Habitat Types. Artsdatabanken, Norway

Forvaltningsplan for Tufsingdeltaet naturreservat i Os kommune, Hedmark, 2013. Fylkesmannen i Hedmark.

Vannvegetasjonen i Dokkadeltaet Randsfjorden Status og vurdering av konsekvenser av Dokka-reguleringen, NIVA 1994.

Fugler i 20 våtmarksreservater i Hedmark 2000-2012, Rapport nr. 2/2013, Jon Bekken.

Fugler og pattedyr i 18 våtmarks-reservater i Hedmark, Rapport nr. 8/2001, Jon Bekken.

Fugler i Tufsingdeltaet naturreservat - Status for sjøorre, svartand, fiskeørn og brushane. 2015. Jon Bekken.

Fugler i Tufsingdeltaet naturreservat - hovedvekt på status for sjøorre, svartand, fiskeørn og brushane. 2016. Jon Bekken.

Elvedatabasen - Miljødirektoratet

Limnology / hydrobiology:  
 Braanaas, T. 1971. Hydrobiologiske undersøkelser i Tufsingdeltaet sommeren 1971. NIVA-rapport. (In Norwegian - on Hydrobiology of the Tufsingdelta).  
 Norsk Institutt for Vannforskning 1973. Vern av naturlig næringsrike innsjøer i Norge. Økologiske undersøkelser av innsjøer og dammer i Femund-området 1972. NIVA-rapport O-70/88 (In Norwegian – description of naturally eutrophic lakes).

Botanical and management plans:  
 Elven, R. 1974. Botaniske undersøkelser i Tufsingdeltaet. Universitet i Oslo, Botanisk Institutt, Bot. nr. 90. (In Norwegian – on Botanical studies in the Tufsingdelta).  
 Wolden, T. 1976. Botanisk rapport over Tufsingdeltaet og Floene i Os kommune, Hedmark. Upubl. rapport. 42 pp. (In Norwegian – on Botany of Tufsingdelta and Floene).  
 Myrundersøkelser i Sør-Trøndelag og Hedmark i forbindelse med den norske myrreservatplanen. Botanisk serie 1983-4. Asbjørn Moen, Universitetet i Trondheim.

Birds:  
 Bekken, J. 1987. Ornitologiske registreringer i 11 våtmarksreservater 1985-86. Fylkesmannen i Hedmark, Miljøvernadv. Rapport nr. 13: 1-43. (In Norwegian – bird observations in 11 wetland reserves in Hedmark county)  
 Bekken, J. 2001. Fugler og pattedyr i 18 våtmarksreservater i Hedmark. Fylkesmannen i Hedmark, Miljøvernadv. Rapport nr. 8/2001: 1-122. (In Norwegian – bird observations in 18 wetland reserves in Hedmark county)

Geology:  
 Sollid, J. L. & Kristiansen, K. 1982. Hedmark fylke. Kvartærgeologisk verneverdige områder. Universitetet i Oslo, Geografisk institutt. Notat, 65 pp. (In Norwegian – on important geological sites).

#### 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

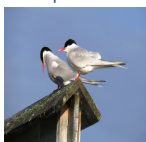
<no file available>

vi. other published literature

<5 file(s) uploaded>

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

Please provide at least one photograph of the site:



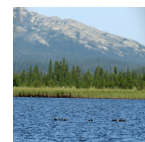
Close-up of an Arctic tern. ( Jon Bekken, 23-07-2016 )



View of outer parts of the delta, towards East. Here one can find extensive carex and horsetail vegetation and low-lying islets. ( Jon Bekken, 24-07-2016 )



Rainbow in the delta. Two Arctic terns rest on the information boards. ( Jon Bekken, 23-07-2016 )



Common scoter with 15 chicks. ( Jon Bekken, 23-07-2016 )



Shallow, productive areas in the delta with horsetails in outer parts of the delta. Kanoeing is a good means of transport in this area. ( *Jon Bekken, 24-07-2016* )



Western parts of the delta, with a view towards North-West. ( *Jon Bekken, 24-07-2016* )



Several old cabins and shanties can be found along the delta. ( *Jon Bekken, 23-07-2016* )

#### 6.1.4 - Designation letter and related data

##### Designation letter

<1 file(s) uploaded>

Date of Designation