

# Ramsar Information Sheet

Published on 1 November 2022 Update version, previously published on : 15 December 2014

# Netherlands Grevelingen



Designation date 29 August 2000

Site number 1272

Coordinates 51°42'40"N 04°00'13"E

Area 13 753,00 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 Ramsar site Grevelingen (13,753 ha) is a former inlet located between Goeree-Overflakkee and Schouwen-Duiveland. Since the closure by the Delta Works, it has been the largest saltwater lake in Europe and contains a number of islands where extensive, species-rich dune valley vegetation and saline pioneer communities occur, as well as extensive riparian lands (including the Slikken van Flakkee) with saline vegetation, grasslands, brushwood, thickets and forests. Thanks in part to the isolated location of the islands (the former sandbanks Hompelvoet, Veermansplaat, Kleine Veermansplaat, Grote and Kleine Stampersplaat), the Grevelingen is one of the most important habitats for the Arctic vole in the southwestern Netherlands.

The Brouwers-sluice was constructed between the site and the North Sea in 1978. It prevents the site from becoming fresh water and allows for the exchange of fish stocks. The lake is now relatively poor in nutrients and algae and the water is clear. The Grevelingen is of exceptional importance for fish-eating water birds, which is probably due to the clear water, like the Red-breasted Merganser.

While the smaller and coastal fish-eaters have recently increased sharply, the importance of the Grevelingen for Great Crested Grebe, Great Cormorant, Re-breasted Merganser and Common Goldeneye decreased around 1999, possibly in relation to the changed management of the sluice. A less favorable situation may also arise due to the occurrence of stratification in the deeper parts, which can affect the fish stock. Stratification is related to limitations in water flow and water level variation. In addition to fish-eaters, the area is also important for some geese, ducks and waders, like the Brent Goose, Barnacle Goose and Kentish and Common Ringed Plovers. Furthermore the site is an important highwater refuge area for birds that forage during low tide in the adjacent Ramsar site Oosterschelde. The sites sandbanks and shell beaches also provide important breeding habitat for several coastal breeding bird species.

# 2 - Data & location

### 2.1 - Formal data

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

Responsible compiler

Institution/agency Wageningen Environmental Research

PO Box 47
6700 AA Wageningen
The Netherlands

National Ramsar Administrative Authority

Institution/agency Ministry of Agriculture Nature and Food Quality

Bezuidenhoutseweg 73

Postal address

P.O. Box 20401 2500 EK The Hague The Netherlands

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

From year 2015

To year 2020

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)

Grevelingen

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 O No 

(Update) B. Changes to Site area

(Update) For secretariat only: This update is an extension □

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?

### 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Former maps 0

Boundaries description

The boundary of the Ramsar site is equal to the Natura 2000-site with the same name.

In 2014 the Ramsar Site boundary was adjusted to the Natura 2000 site, and recreational areas, roads and agricultural land covering 116 ha have been excluded.

### 2.2.2 - General location

a) In which large administrative region does the site lie? Zuid-Holland and Zeeland

b) What is the nearest town or population centre? Brouwershaven, part of the municipality Schouwen-Duiveland with a population of 34.065 in 2021 (Source: CBS, Netherlands Statistics).

# 2.2.3 - For wetlands on national boundaries only

- a) Does the wetland extend onto the territory of one or more other countries? Yes O No  $\odot$
- b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes O No lacktriangle

### 2.2.4 - Area of the Site

Official area, in hectares (ha): 13753

Area, in hectares (ha) as calculated from 13753.237

GIS boundaries

# 2.2.5 - Biogeography

# Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Atlantic

# Other biogeographic regionalisation scheme

The bio-geographic regions dataset used, contains the official delineations used in the Habitats Directive (92/43/EEC) and for the EMERALD Network set up under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)

# 3 - Why is the Site important?

# 3.1 - Ramsar Criteria and their justification

<no data available>

- ☑ Criterion 2 : Rare species and threatened ecological communities
- Criterion 3 : Biological diversity

Justification

The Grevelingen is designated as a Natura 2000 site (both SAC and SPA) and can therefore be considered important for maintaining the biodiversity of the Atlantic biogeographic region. Besides the species mentioned under criterion 2, the site has also been designated as a SAC for a range of habitat types (Annex I of Habitats Directive, see section 3.4) and SPA for a number of bird species that are not on Annex I of the Birds Directve.

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

The Ramsar site is also part of the Natura 2000 network in the European Union. It is designated as a Special Protection Area (SPA) for the functions that it provides to specific breeding and non-breeding Optional text box to provide further bird species (e.g. migratory, hibernating, sleeping, resting, foraging). The site is also designated as a information Special Area of Conservation (SAC) for specific non-bird species and (habitat types, see section 3.4).

see also: https://natura2000.eea.europa.eu/

#### ☑ Criterion 5: >20.000 waterbirds

Overall waterbird numbers 56,230

Start year 2015

End year 2020

Source of data: Sovon, Dutch Centre for Field Ornithology

Optional text box to provide further | Start season 2015/2016. End season 2019/2020. Peak numbers for all five seasons > 20,000. Average information 56,230 individuals.

### ☑ Criterion 6 : >1% waterbird population

Optional text box to provide further The 1% waterbird population thresholds are based on the 7th Edition of the Conservation Status Report information (CSR7).

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

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA/ LILIOPSIDA	Dactylorhiza incarnata	<b>/</b>					National red list species	
TRACHEOPHYTA/ LILIOPSIDA	Epipactis palustris	<b></b> ✓			LC		National red list species	
TRACHEOPHYTA/ LILIOPSIDA	Liparis loeselii	Ø	<b>2</b>	<b>2</b>			National red list species	The site is also designated as a Special Area of Conservation (SAC) for this species and is part of the Natura 2000 network within the European Union.
TRACHEOPHYTA/ MAGNOLIOPSIDA	Oenanthe lachenalii	<b>₽</b>					National red list species	
TRACHEOPHYTA/ MAGNOLIOPSIDA	Parnassia palustris	<b>/</b>			LC		National red list species	

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

3.3 - AIIIII	iai species v			ies ii	tne internat	lional im	ibort	ance or	the site	<del>,</del>	
Phylum	Scientific name	Species qualifies under criterios 2 4 6	s contributes	Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
Others	1					<b>'</b>					
CHORDATA/ MAMMALIA	Halichoerus grypus	<b>2</b>					LC			National red list species	The site is also designated as a Special Area of Conservation (SAC) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ MAMMALIA	Microtus oeconomus						LC			National red list species; this subspecies (arenicola) is endemic to the Netherlands	The site is also designated as a Special Area of Conservation (SAC) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ MAMMALIA	Phoca vitulina						LC			National red list species	The site is also designated as a Special Area of Conservation (SAC) for this species and is part of the Natura 2000 network within the European Union.
Fish, Mollus	c and Crustacea					<b>'</b>					
MOLLUSCA/ GASTROPODA							LC			National RL category (2009) EN	
Birds											
CHORDATA/ AVES	Anas acuta	~~		694	2015/16-2019/20	1.2	LC			National red list species	Reference population: North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Anas clypeata			481	2015/16-2019/20	0.7	LC			National red list species	Reference population: North-west & Central Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Anas crecca			1716	2015/16-2019/20	0.3	LC				Reference population: crecca, North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.

Phylum	Scientific name	qualifies	Species ontributes der criterion	Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA / AVES	Anas penelope		<b>2</b> 00	9761	2015/16-2019/20	0.7	LC			National red list species	Reference population: Western Siberia & NE Europe/NW Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Anas platyrhynchos		<b>2</b> 00	5571	2015/16-2019/20	0.1	LC				Reference population: platyrhynchos, North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Anas strepera		<b>2</b> 00	770	2015/16-2019/20	0.6	LC				Reference population: strepera, North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Anser albifrons		<b>2</b> 00	946	2016/17-2019/20	0.1					Reference population: albifrons, NW Siberia & NE Europe/North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Anser anser		<b>2</b> 00	4274	2015/16-2019/20	0.4	LC				Reference population: anser, NW Europe/South-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Anser serrirostris			425	2016/17-2019/20	0.1					Reference population: rossicus, West & Central Siberia/NE & SW Europe. foraging, resting
CHORDATA/ AVES	Arenaria interpres		<b>2</b> 00	64	2015/16-2019/20	0	LC				Reference population: interpres, NE Canada & Greenland/W Europe & NW Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Branta bernicla		Ø 🗆 🗆	6464	2015/16-2019/20	3.1	LC				Reference population: bernicla, Western Siberia/Western Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Branta leucopsis		<b>2</b> 00	7843	2015/16-2019/20	0.7	LC				Reference population: Russia/Germany & Netherlands. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Bucephala clangula		Ø 🗆 🗆	569	2015/16-2019/20	0				National red list species	Reference population: clangula, North-west & Central Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Calidris alpina alpina		Ø 🗆 🗆	2734	2015/16-2019/20	0.2					Reference population: alpina, NE Europe & NW Siberia/W Europe & NW Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Charadrius alexandrinus		<b>2</b> 00	136	2015/16-2019/20	0.2	LC			National red list species	Reference population: alexandrinus, West Europe & West Mediterranean/West Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.

Phylum	Scientific name	Species qualifies under criterion	contributes	Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ AVES	Charadrius hiaticula			128	2015/16-2019/20	0.2	LC			National red list species	Reference population: hiaticula, Northern Europe/Europe & North Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Circus aeruginosus						LC				The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Cygnus columbianus bewickii			204	2015/16-2019/20	0.9					Reference population: bewickii, Western Siberia & NE Europe/North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Cygnus olor			363	2015/16-2019/20	0.2	LC				Reference population: North-west Mainland & Central Europe. foraging, resting
CHORDATA/ AVES	Egretta garzetta			27	2015/16-2019/20	0	LC			National red list species	Reference population: garzetta, Western Europe, NW Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Falco peregrinus	<b>2</b> 20					LC	Ø		National red list species	The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Fulica atra			3376	2015/16-2019/20	0.2	LC				Reference population: atra, North-west Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Haematopus ostralegus			552	2015/16-2019/20	0.1	NT				Reference population: ostralegus, Europe/South & West Europe & NW Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Larus argentatus			552	2015/16-2019/20	0	LC				Reference population: argentatus, North & North-west Europe.
CHORDATA/ AVES	Larus fuscus			798	2016/17-2019/20	0.1	LC				Reference population: intermedius, S Scandinavia, Netherlands, Ebro Delta, Spain. foraging, resting
CHORDATA / AVES	Limosa Iapponica	<b>2</b> 20		93	2015/16-2019/20	0.1	NT			National red list species	Reference population: lapponica, Northern Europe/Western Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Limosa limosa			152	2015/16-2019/20	0.2	NT				Reference population: limosa, Western Europe/NW & West Africa. foraging, resting
CHORDATA / AVES	Mergus serrator			3181	2015/16-2019/20	3.7	LC				Reference population: North-west & Central Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Numenius arquata			1674	2015/16-2019/20	0.2	NT				Reference population: arquata, Europe/Europe, North & West Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.

Phylum	Scientific name	Species qualifies under criterion  Species contributes 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
CHORDATA / AVES	Phalacrocorax carbo		2562	2015/16-2019/20	0.4	LC				Reference population: sinensis, Northern & Central Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Platalea leucorodia		115	2015/16-2019/20	0.7	LC			National red list species	Reference population: leucorodia, West Europe/West Mediterranean & West Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Pluvialis apricaria		6415	2015/16-2019/20	0.7	LC			National red list species	Reference population: altifrons, Northern Europe/Western Europe & NW Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Pluvialis squatarola		929	2015/16-2019/20	0.5	LC				Reference population: squatarola, W Siberia & Canada/W Europe & W Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Podiceps auritus		7	2015/16-2019/20	0	VU				Reference population: auritus, North-east Europe (small-billed). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Podiceps cristatus		691	2015/16-2019/20	0.1	LC				Reference population: cristatus, North-west & Western Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Podiceps nigricollis		1110	2015/16-2019/20	0.6	LC				Reference population: nigricollis, Europe/South & West Europe & North Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Recurvirostra avosetta		539	2015/16-2019/20	0.6	LC				Reference population: Western Europe & North-west Africa (bre). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Sterna hirundo		1954	2015/16-2019/20	0.2	LC			National red list species	Reference population: hirundo, Northern & Eastern Europe (bre). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Sternula albifrons		534	2015/16-2019/20	2.4	LC			National red list species	Reference population: albifrons, Europe north of Mediterranean (bre). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Tachybaptus ruficollis		148	2015/16-2019/20	0	LC				Reference population: ruficollis, Europe & North-west Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Tadorna tadorna		7479	2015/16-2019/20	3	LC				Reference population: North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.

Phylum	Scientific 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
CHORDATA/ AVES	Thalasseus sandvicensis			1411	2015/16-2019/20	0.8	LC			National red list species	Reference population: sandvicensis, Western Europe/West Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Tringa totanus robusta			262	2015/16-2019/20	0.1				National red list species	Reference population: robusta, Iceland & Faroes/Western Europe, Northern Europe (breeding). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA / AVES	Tringa totanus totanus			220	2015/16-2019/20	0.1				National red list species	Reference population: totanus, Northern Europe (breeding). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	Vanellus vanellus			6605	2015/16-2019/20	0.1	NT				Reference population: Europe, W Asia/Europe, N Africa & SW Asia. foraging, resting

<sup>1)</sup> Percentage of the total biogeographic population at the site

Bird data are provided by SOVON, Dutch Centre for Field Ornithology.

The 1% waterbird population thresholds are based on the 7th Edition of the Conservation Status Report (CSR7).

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

# RIS for Site no. 1272, Grevelingen, Netherlands

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Salicornia and other annuals colonizing mud and sand	Ø		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Fixed coastal dunes with herbaceous vegetation (	Ø	Priority habitat type	The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Dunes with Hippophae rhamnoides	Ø		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Dunes with Salix repens ssp. argentea (Salicion arenariae)	V		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Humid dune slacks	Ø		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	Ø		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Atlantic salt meadows (Glauco- Puccinellietalia maritimae)	Ø		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.

### Optional text box to provide further information

The site is also designated as a Special Area of Conservation (SAC) for the habitat types listed above and is part of the Natura 2000 network within the European Union.

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

# 4.1 - Ecological character

The area is characterised by clear salty water, islands and extensive shores. Salt tolerant pioneer vegetations can be found near the waterline. Dune slacks with species rich vegetations can be found on the islands and on the shores further inland from the waterline. The extensive mud flats, sandbanks and salt marshes of the past are now covered with grasslands, scrub and forest. The area is especially important for a great number of water bird and wader species. The ecosystem services mainly refer to the opportunities for water recreation, also diving.

# 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
H: Intertidal marshes		2		
J: Coastal brackish / saline lagoons		1		

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type
4: Seasonally flooded agricultural land		3	

# 4.3 - Biological components

### 4.3.1 - Plant species

<no data available>

### 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)

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HEC	JIIIIale	according	lO I	NODI	Jenn	5 I	alliy	(UL	JI.

### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres) -18
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 $\Box$
Not in river basin $\Box$
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.

Originally the Grevelingen was a tidal area, part of the estuary of the rivers Rhine and Meuse. The connection with the Oosterschelde in the eastern part was closed by the Grevelingendam in 1965. Subsequently, the site was cut off from the North Sea by the closure of the Brouwershavense Gat in 1971. The original plan was to make a stagnant freshwater lake of the Grevelingen.

		Mineral ☑	
	(Update) Changes		Increase O Decrease O Unknown O
		ole information	illuease O Declease O Oliviowii O
Are sail tomas aubicet to			
Are soil types subject to condition	change as a result of changin ons (e.g., increased salinity or	acidification)?	
Please provide further inform	mation on the soil (optional)		
The general soil types	are: Alluvial, Brown fore	est soils and montane s	oils.
4.4.4 - Water regime			
Water permanence			
Presence?	Changes at RIS update		
Usually permanent water present			
Source of water that maintain	s character of the site		
Presence?	Predominant water source	Changes at RIS update	
Marine water		No change	
Water inputs from surface water		No change	
Water destination Presence?	Changes at RIS update		
Marine	No change		
Stability of water regime  Presence?	Changes at PIS undate		
Water levels largely stable	Changes at RIS update No change		
	3		
Please add any comments	on the water regime and its de	eterminants (if relevant). Use	his box to explain sites with complex hydrology:
			and -0.30 depending on the wind strength.
The water level to kep	0.20 m, bac	ban vary botween 6.16	and 0.00 doponding on the wind oborigan.
		as the result of the gen	eral wish to retain the saline character of the lake. Since 2004 there is a
year round influx of se	a water.		
4.4.5. O - dim	_		
4.4.5 - Sediment regim	le		
	Sedimentreg	gime unknown 🗷	
Please provide further inform	mation on sediment (optional):		
	he time of completing thi	s database but probab	ly no significant erosion, accretion, deposition or transportation of
sediments.			
4.4.6 - Water pH			
		Unknown 🗹	
Please provide further inform	mation on pH (optional):		
		iter was not exactly kno	wn at the time of completing this database.
4.4.7 - Water salinity			
	Euhaline/Eusal	line (30-40 g/l) 🗹	
			Increase O Decrease O Unknown O
	Changes	<u> </u>	illulease of Declease of Olikilowii o
		Unknown $\square$	
1 1 8 - Dissalvad or are	spended nutrients in wat	er	
4.4.0 - DISSUIVED OF SU	spended numerns in Wal		
		Unknown 🗹	
	mation on dissolved or susper		
The dissolved or susp	ended nutrients in water	were not exactly know	n at the time of completing this database.

# 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 i) broadly similar O ii) significantly different  $\odot$  site itself:

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

#### **Cultural Services**

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Water sports and activities	High
Recreation and tourism	Nature observation and nature-based tourism	Medium
Scientific and educational	Major scientific study site	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Long-term monitoring site	High

**Supporting Services** 

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High

### Other ecosystem service(s) not included above:

Boating 80%, Tourism and leisure 10%, Commercial fisheries 80%, Conservation and research 100%, Water management 100%.

The site is very important for visitors. It has functions for water recreation (diving, sailing, (kite-)surfing, fishing, speed boats etc.) and recreation on land (walking, cycling etc.).

For details on visitor numbers see the recent study of Waterrecreatieadvies (2009).

See additional material for further information.

Have studies or assessments been made of the economic valuation of	Vas	O No	Ollnknown	(0)
ecosystem services provided by this Ramsar Site?	103	- 140	O O IIKIIOWII	_

### 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

lic owners	

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<b>/</b>	<b>/</b>

### Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)		<b>2</b>

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

#### within the Ramsar site:

Large part of the site is owned by Staatsbosbeheer (8370 ha); the remainder is state ownership (Dienst der Domeinen, Ministerie van Financiën).

### in the surrounding area:

The water (Voordelta, Volkerakmeer and Oosterschelde) is state owned, on land several private owners.

### 5.1.2 - Management authority

Main management authorities:

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

- 1. Rijkswaterstaat West Nederland Zuid, Boompjes 200, 3011 XD Rotterdam,
- 2. Staatsbosbeheer, see: https://www.staatsbosbeheer.nl/Natuurgebieden/grevelingen
- 3. Zuid-Hollands Landschap, see: https://www.zuidhollandslandschap.nl/nl/page/240
- 4. Natuur- en Recreatieschap de Grevelingen, Haven 1, 4316 PC Zonnemaire, the Netherlands, tel. +31 (0)111-691553.

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

See https://www.staatsbosbeheer.nl/Natuurgebieden/grevelingen

- 1. Rijkswaterstaat West Nederland Zuid, P.O. Box 556, 3000 AN Rotterdam, Tel. +31 (0)10 402 62 00
- 2. Staatsbosbeheer head office, P.O. Box 2, 3800 AA Amersfoort, the Netherlands, tel. +31 (0)30-

Postal address:

- 3. Zuid-Hollands Landschap, Olof Palmestraat 18, 2616 LR Delft, tel. +31 (0)10 272 22 22
- 4. Natuur- en Recreatieschap de Grevelingen, Haven 1, 4316 PC Zonnemaire, the Netherlands, tel. +31 (0)111-691553.

E-mail address: info@staatsbosbeheer.nl

### 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
Housing and urban areas	Low impact	Low impact	<b>⊘</b>	No change	✓	No change
Commercial and industrial areas	Low impact	Low impact	<b>⊘</b>	No change	✓	No change
Tourism and recreation areas	Medium impact	Medium impact	<b>2</b>	No change	✓	No change

### Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Shipping lanes	Low impact	Low impact	✓	No change	✓	No change

### Biological resource use

Factors adv affecting		Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Fishing and ha	0	Low impact	Low impact	<b>/</b>	No change	<b>/</b>	No change

### Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Medium impact	Medium impact	<b>/</b>	No change	<b>/</b>	No change

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Dams and water management/use	High impact	High impact	<b>v</b>	No change	<b>&gt;</b>	No change

### Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Air-borne pollutants	Medium impact	Medium impact	✓	No change	<b>✓</b>	No change

### Please describe any other threats (optional):

The lack of tidal fluctuations causes oxygen deficiency in the deeper parts of the Grevelingen, which has a detrimental impact on life forms in these regions. Complete or partly restoration of the tidal dynamics will solve this issue.

# 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	Grevelingen	https://www.bij12.nl/wp-content/ uploads/2020/09/Natura-2000-Behe erplan-115-Grevelingen.pdf	whole

#### National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Ecological Network (NEN)	Grevelingen	https://www.government.nl/topics /nature-and-biodiversity/nationa l- ecological-network-nen	whole

#### Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Grevelingen	http://datazone.birdlife.org/sit e/factsheet/1205	whole
Other non-statutory designation	KBA Grevelingen	http://www.keybiodiversityareas. org/site/factsheet/1205	whole

# 5.2.3 - IUCN protected areas categories (2008)

L	la Strict Nature Reserve
	lb Wilderness Area: protected area managed mainly for wilderness protection
	Il National Park: protected area managed mainly for ecosystem protection and recreation
	III Natural Monument: protected area managed mainly for conservation of specific natural features
V	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

Legal protection				
Measures	Status			
Legal protection	Implemented			

### Habitat

Habitat	
Measures	Status
Hydrology management/restoration	Implemented
Improvement of water quality	Implemented
Habitat manipulation/enhancement	Implemented

# Species

Measures	Status
Threatened/rare species	Implemented
management programmes	implemented

### **Human Activities**

Measures	Status
Regulation/management of recreational activities	Implemented
Communication, education, and participation and awareness activities	Implemented
Research	Implemented

#### Other

Large part of the shores and islands are grazed and sometimes mown to slow down succession and maintain the rich vegetation of the site. Water level management is tuned to breeding birds by reducing the water level prior to and during the breeding season and thereby creating a larger breeding area for pioneer bird species.

Conservation measures proposed but not yet implemented:

There are plans to partly open the eight kilometer Brouwersdam between Goeree-Overflakkee and Schouwen-Duiveland in order to partly restore the tidal system, which would improve the water quality and oxygen level of the Grevelingenmeer. This may solve the problems concerning the low level of oxygen and the dying of life in and near the bottom of the lake.

### 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

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning Yes O No 

processes with another Contracting Party?

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site.

Grevelingen visitors centre, excursions, hides, information booklet.

URL of site-related webpage (if relevant): https://www.bij12.nl/onderwerpen/natuur-en-landschap/natura-2000-beheerplannen/115-grevelingen/

### 5.2.6 - Planning for restoration

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

### Further information

The former tidal Grevelingen is currently a more or less stagnant salt-water lake which causes stratification and oxygen depletion in its deeper parts. The plan aims to partly restore the former tidal system in the Greveningen. See https://www.getijgrevelingen.nl/

### 5.2.7 - Monitoring implemented or proposed

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

Ongoing biodiversity monitoring is one of the obligatory activities in relation to the designated Natura2000 habitat types and species.

Most of the topics studied at in the Wadden Sea (ecology of seals, birds (numbers, distribution, foraging, breeding), fish, invertebrates, seagrass, sediment) are also studied and monitored in the Delta by Rijkswaterstaat, (www.rws.nl), the Center for Marine and Estuarine Ecology (NIOO/CEMO, www.nioo.nl) and IMARES (part of the Wageningen University and Research Centre; www.imares.wur.nl) in Yerseke.

Rijkswaterstaat monitors the presence of water birds on a regular scale. SOVON, the Dutch Bird Research Organisation coordinates a continues national bird monitoring program in which it cooperates with 7000 volunteers, research institutes and organisations in the monitoring of birds throughout the Netherlands (among others the Grevelingen).

# 6 - Additional material

# 6.1 - Additional reports and documents

### 6.1.1 - Bibliographical references

The site equals the Natura 2000-boundaries. For up-to-date information and references about the site see https://www.natura2000.nl/gebieden/zeeland/grevelingen.

# 6.1.2 - Additional reports and documents

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

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

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

iv. relevant Article 3.2 reports

v. site management plan

<1 file(s) uploaded>

vi. other published literature

# 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



- ( Mark van Veen, - )

### 6.1.4 - Designation letter and related data

### **Designation letter**

<2 file(s) uploaded>

Date of Designation 2000-08-29