



# Ramsar Information Sheet

Published on 15 July 2022

Update version, previously published on : 2 April 2015

## Netherlands

### Duinen Terschelling



Designation date	29 August 2000
Site number	2215
Coordinates	53°23'56"N 05°18'23"E
Area	4 040,30 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 Duinen Terschelling (4040 ha) are among the most non-calcareous dune areas of the Wadden Islands. The site there mainly consists of extensive dry dune grasslands and heath vegetation, containing many special species of lichens, mosses and higher plants. The dune valleys in between show a range of variation, from open water to button rush vegetation and acidic birch forests. However, the western part of the dune area, the Noordvaarder, is young and therefore still has calcareous parts with associated gradients to decalcified parts. There is a well-developed and natural dune system with floristically rich dune slopes, primary valleys with short gradients of dry-wet, fresh-salt and acid-alkaline at the edges and many pioneer situations. All the typical dune valley vegetations are present in the area. Southeast of this is the green beach, with a fresh water dune stream. Due to the occurrence of gradients from wet to dry, a great diversity of plant species is present there. There is also such a strong supply of groundwater from the Noordvaarder that local peat-forming vegetations develop. The same phenomenon occurs at the Kooibosjes in the inner dune edge, where a strong seepage from the adjacent dune massif is the controlling factor. North of De Boschplaat (belonging to Ramsar site Waddenzee) lies a dune area where sands can drift freely and where coastal erosion takes place. The area also includes some forest complexes consisting of planted coniferous and deciduous forests and spontaneous regrowth. The site is particularly important for the conservation of several habitat types and 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
Postal address	PO Box 47 6700 AA Wageningen The Netherlands

##### National Ramsar Administrative Authority

Institution/agency	Ministry of Agriculture Nature and Food Quality
Postal address	Bezuidenhoutseweg 73 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	<input type="text" value="2015"/>
To year	<input type="text" value="2020"/>

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	<input type="text" value="Duinen Terschelling"/>
Unofficial name (optional)	<input type="text" value="Originally designated as part of Site no. 1,252 (Waddeneilanden, Noordzeekustzone and Breebaart)"/>

#### 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 type="radio"/> No <input checked="" type="radio"/>
(Update) B. Changes to Site area	No change to area
(Update) For secretariat only. This update is an extension	<input 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?	No
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## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<1 file(s) uploaded>

Former maps	<input type="text" value="0"/>
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#### Boundaries description

The boundary of the Ramsar site is equal to the Natura 2000-site with the same name. The Site was formerly part of Ramsar Site 1252 (Waddeneilanden, Noordzeekustzone, Breebaart) which was divided in six Sites following Natura 2000 borders in 2014

### 2.2.2 - General location

a) In which large administrative region does the site lie?	<input type="text" value="Province of Friesland"/>
b) What is the nearest town or population centre?	<input type="text" value="Nearest (biggest) village is West-Terschelling within the municipality of Terschelling with a population of 4870 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  No

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

idem No

d) Transboundary Ramsar Site name:

#### 2.2.4 - Area of the Site

Sites part of transboundary designation

- [Duinen Ameland - Netherlands](#)
- [Duinen en Lage Land Texel - Netherlands](#)
- [Duinen Schiermonnikoog - Netherlands](#)
- [Duinen Vlieland - Netherlands](#)
- [Hamburgisches Wattenmeer - Germany](#)
- [North Sea Coastal Area - Netherlands](#)
- [Schleswig-Holstein Wadden Sea and adjacent areas - Germany](#)
- [Vadehavet - Denmark](#)
- [Wadden Sea - Netherlands](#)
- [Wattenmeer, Elbe-Weser-Dreieck - Germany](#)
- [Wattenmeer, Jadebusen & westliche Wesermündung - Germany](#)
- [Wattenmeer, Ostfriesisches Wattenmeer & Dollart - Germany](#)

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
Other scheme (provide name below)	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

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

Other ecosystem services provided

The Dutch coastal dunes system stretching from the north-eastern border with Germany and the south-western border with Belgium is actually one big nature reserve. Within the Netherlands but also within the Atlantic biogeographic region it may be regarded as one of the most biodiverse ecosystems. The over 4000 ha of the Duinen Terschelling represent a vast and unique natural or near-natural dune-system containing a large variety of species and (priority) habitat types of European importance.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

The Duinen Terschelling 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 HD) and SPA for a number of bird species that are not on Annex I of the BD.

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

Optional text box to provide further information

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 bird species. The site is also designated as a Special Area of Conservation (SAC) for specific non-bird species (and habitat types, see section 3.4). See Natura 2000 - Standard data form <https://natura2000.eea.europa.eu/>

#### 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
<b>Plantae</b>								
TRACHEOPHYTA / LILIOPSIDA	<i>Anacamptis morio</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Arctostaphylos uva-ursi</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Atriplex pedunculata</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / PSILOTOPSIDA	<i>Botrychium lunaria</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
BRYOPHYTA / BRYOPSIDA	<i>Bryum warneum</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / LILIOPSIDA	<i>Dactylorhiza incarnata</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / LILIOPSIDA	<i>Dactylorhiza maculata</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / LILIOPSIDA	<i>Epipactis palustris</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / LILIOPSIDA	<i>Juncus pygmaeus</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / LILIOPSIDA	<i>Liparis loeselii</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	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 / LILIOPSIDA	<i>Luronium natans</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	LC	<input type="checkbox"/>	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.
BRYOPHYTA / JUNGERMANNIOPSIDA	<i>Moerckia hibernica</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Parnassia palustris</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / LILIOPSIDA	<i>Platanthera bifolia</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Radiola linoides</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
BRYOPHYTA / JUNGERMANNIOPSIDA	<i>Scapania irrigua</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
TRACHEOPHYTA / LILIOPSIDA	<i>Schoenoplectus lacustris lacustris</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
<b>Fungi</b>								
BASIDIOMYCOTA / AGARICOMYCETES	<i>Tricholoma equestre</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	

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

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
		2	4	6	9	3	5	7	8								

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
		2	4	6	9	3	5	7	8								
<b>Others</b>																	
ARTHROPODA / INSECTA	<i>Argynnis niobe</i>	<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"/>	<input type="checkbox"/>	National red list species	
ARTHROPODA / INSECTA	<i>Boloria selene</i>	<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"/>	<input type="checkbox"/>	National red list species	
CHORDATA / MAMMALIA	<i>Halichoerus grypus atlantica</i>	<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"/>					<input type="checkbox"/>	<input type="checkbox"/>	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.
<b>Birds</b>																	
CHORDATA / AVES	<i>Acrocephalus schoenobaenus</i>	<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"/>		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	<i>Asio flammeus</i>	<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"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	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	<i>Charadrius alexandrinus</i>	<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"/>	1	2015/16-2019/20		LC	<input type="checkbox"/>	<input type="checkbox"/>	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.
CHORDATA / AVES	<i>Charadrius hiaticula</i>	<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"/>	23	2015/16-2019/20	0	LC	<input type="checkbox"/>	<input type="checkbox"/>	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	<i>Circus aeruginosus</i>	<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"/>		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	<i>Circus cyaneus</i>	<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"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	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	<i>Larus fuscus intermedius</i>	<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"/>	111	2015/16-2017/18	0		<input type="checkbox"/>	<input type="checkbox"/>		Reference population: intermedius, S Scandinavia, Netherlands, Ebro Delta, Spain
CHORDATA / AVES	<i>Oenanthe oenanthe</i>	<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"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	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	<i>Platalea leucorodia</i>	<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"/>	75	2015/16-2018/19	0.5	LC	<input type="checkbox"/>	<input type="checkbox"/>		leucorodia, West Europe/West Mediterranean & West Africa. Breeding. Reference population:
CHORDATA / AVES	<i>Saxicola rubetra</i>	<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"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	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	<i>Sternula albifrons</i>	<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"/>	35	2015/16-2019/20	0.2	LC	<input type="checkbox"/>	<input type="checkbox"/>	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.

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
		2	4	6	9	3	5	7								
CHORDATA/ AVES	<i>Tachybaptus ruficollis</i>	<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"/>	25	2015/16-2018/19	0	LC	<input type="checkbox"/>	<input type="checkbox"/>	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.

1) 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

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Salicornia and other annuals colonizing mud and sand	<input type="checkbox"/>		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.
Embryonic shifting dunes	<input type="checkbox"/>		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.
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes')	<input type="checkbox"/>		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 ('grey dunes')	<input checked="" type="checkbox"/>	Priority habitat types	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.
Decalcified fixed dunes with <i>Empetrum nigrum</i>	<input checked="" type="checkbox"/>	Priority habitat types	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 <i>Hippophaë rhamnoides</i>	<input type="checkbox"/>		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.
Wooded dunes of the Atlantic region	<input type="checkbox"/>		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 <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> )	<input type="checkbox"/>		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.



Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Humid dune slacks	<input type="checkbox"/>		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.
Species-rich <i>Nardus</i> grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe)	<input checked="" type="checkbox"/>	Priority habitat types	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 decalcified fixed dunes ( <i>Calluno-Ulicetea</i> )	<input checked="" type="checkbox"/>	Priority habitat types	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.
<i>Spartina</i> swards ( <i>Spartinion maritimae</i> )	<input type="checkbox"/>		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 ( <i>Glaucopuccinellietalia maritimae</i> )	<input type="checkbox"/>		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.
<i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> )	<input type="checkbox"/>		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

Due to the harsh climatic circumstances natural woodland in the Wadden area is generally low and dominated by oak (*Quercus robur*); this type of woodland has only developed on the five largest dune islands, among which the Duinen Terschelling. In the 20th century many conifers have been planted to stabilise shifting sand dunes, partly as an employment project in the 1930's. The dunes encompass many habitat types of European importance.

### 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
E: Sand, shingle or pebble shores		2		Representative
H: Intertidal marshes		1		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 > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/pools		3		Representative

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Coastal dunes ecosystem	

### 4.3 - Biological components

#### 4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/LILIOPSIDA	<i>Carex hartmanii</i>	
TRACHEOPHYTA/LILIOPSIDA	<i>Goodyera pubescens</i>	
BRYOPHYTA/HAPLOMITRIOPSIDA	<i>Haplomitrium hookeri</i>	
TRACHEOPHYTA/LILIOPSIDA	<i>Neottia cordata</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 Wadden island represents its own catchment area. The islands basically consist of dune sands and silt polders claimed from the sea. The land surface of the island ranges approx. 40 km<sup>2</sup>.

#### 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)

The landscape is characterised by a vast dune area and polders. The dunes have, together with the neighbouring island of Vlieland the lowest lime contents. The area is mainly characterised by dry grass- and heathland and contain special species of lichen, mosses and plants. The western part however is a young sandbank named Noordvaarder. This area is rich in lime and contains primary valleys with gradients of basic/acidic and fresh/salt water. Wet/dry gradients are especially found near a (fresh water) dune stream in the south of the Noordvaarder which again results in different vegetation communities.

#### 4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	No change

Source of water that maintains character of the site

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

Water destination

Presence?	Changes at RIS update
Feeds groundwater	No change
Marine	No change

Stability of water regime

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

#### 4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site

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

Significant accretion or deposition of sediments occurs on the site

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

Sediment regime unknown

Please provide further information on sediment (optional):

The dune system depends on processes of sand accretion and erosion by wind and sea. To a certain extend these processes still occur at the site.

#### 4.4.6 - Water pH

Acid (pH<5.5)

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

Circumneutral (pH: 5.5-7.4 )

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

Alkaline (pH>7.4)

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

Please provide further information on pH (optional):

The pH of the water in the dune slacks was not exactly known at the time of completing this database.

#### 4.4.7 - Water salinity

Fresh (<0.5 g/l)   
 (Update) Changes at RIS update No change  Increase  Decrease  Unknown   
 Mixohaline (brackish)/Mixosaline (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

#### 4.4.8 - Dissolved or suspended nutrients in water

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

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

The dissolved or suspended nutrients in water were not exactly known 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 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 site is surrounded by the North Sea and the Wadden Sea, as well as villages and agricultural fields.

### 4.5 - Ecosystem services

#### 4.5.1 - Ecosystem services/benefits

##### Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Fresh water	Drinking water for humans and/or livestock	High

##### Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Hazard reduction	Flood control, flood storage	High

##### Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
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 microorganisms, the genes they contain, and the ecosystems of which they form a part	High

Optional text box to provide further information

Main ecosystem services of the site are:  
 - The chain of Wadden islands and dune systems creates shelter from the North Sea which protects and sustains the highly productive Wadden Sea (a.o. in terms of fisheries);  
 - The Wadden islands dunes protect the islands hinterland from the North Sea;  
 - The dunes are a catchment area for rainwater which provides high quality drinking (ground)water;  
 - The sunny climate and the scenic and natural beauty of the Wadden islands has turned the islands into one of the main tourism destinations in the Netherlands.

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
National/Federal government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

##### Private ownership

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

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

##### a) within the Ramsar site:

Staatsbosbeheer

##### b) in the surrounding area:

The water (Wadden Sea and North Sea) is state owned, on land several private owners.

#### 5.1.2 - Management authority

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

Staatsbosbeheer Terschelling, see: <https://www.staatsbosbeheer.nl/Natuurgebieden/terschelling>  
Rijkswaterstaat Noord-Nederland, Zuideringel 3, 8911 AV Leeuwarden, P.O. Box 2301, 8901 JH, Leeuwarden, tel. +31 (0)58 234 43 44.

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

<https://www.staatsbosbeheer.nl/Natuurgebieden/terschelling>

Postal address:

Head office: Staatsbosbeheer, P.O. Box 2, 3800 AA Amersfoort, the Netherlands, tel. 030-6926111

E-mail address:

[info@staatsbosbeheer.nl](mailto: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
Tourism and recreation areas	Medium impact	High 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
Water abstraction	Medium impact	High impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	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	High impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

#### Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Air-borne pollutants	High impact	High impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

#### 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	Duinen Terschelling	<a href="https://www.natura2000.nl/gebied/en/friesland/duinen-terschelling">https://www.natura2000.nl/gebied/en/friesland/duinen-terschelling</a>	whole

##### National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Ecological Network (NEN)	Duinen Terschelling	<a href="https://www.government.nl/topics/nature-and-biodiversity/national-ecological-network-nen">https://www.government.nl/topics/nature-and-biodiversity/national-ecological-network-nen</a>	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Duinen Terschelling	<a href="http://datazone.birdlife.org/site/factsheet/1185">http://datazone.birdlife.org/site/factsheet/1185</a>	whole
Important Plant Area	Dunes of West-Terschelling	<a href="https://atlas.natuurlijkkapitaal.nl/important-plant-areas">https://atlas.natuurlijkkapitaal.nl/important-plant-areas</a>	partly
Other non-statutory designation	KBA Duinen Terschelling	<a href="http://www.keybiodiversityareas.org/site/factsheet/1185">http://www.keybiodiversityareas.org/site/factsheet/1185</a>	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

Habitat

Measures	Status
Habitat manipulation/enhancement	Implemented

Species

Measures	Status
Threatened/rare species management programmes	Implemented

Human Activities

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

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

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

Centrum voor Natuur en Landschap Terschelling (Centre for Nature and Landscape Terschelling)

URL of site-related webpage (if relevant): <https://www.natuurmuseumterschelling.nl/>

### 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 species (please specify)	Implemented
Plant species	Implemented

Ongoing biodiversity monitoring is one of the obligatory activities in relation to the designated Natura 2000-habitat types and species.

Numerous scientific research projects are ongoing in the Wadden Sea, North Sea Coastal area and the Wadden Islands.

Main responsible executors are:

- NIOZ: Royal Netherlands Institute for Sea Research;
- Wageningen IMARES: The Institute for Marine Resources and Ecosystem Studies (which joins same facilities with NIOZ);
- Wageningen Alterra: research institute for our green living environment (mainly terrestrial and fresh water research);
- University of Groningen (offering an MSc in Marine Biology);
- 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;
- TNO: Netherlands Organization for Applied Scientific Research (Den Helder);
- NIOO: Netherlands Institute of Ecology;
- RIKZ: The National Institute for Coastal and Marine Management.



## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

The site equals the Natura 2000-boundaries. Voor up-to-date information and references about the site see <https://www.natura2000.nl/gebieden/friesland/duinen-terschelling>.

#### 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

<no file available>

<no data available>

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

Please provide at least one photograph of the site:



- ( Bas van Gennip, - )

#### 6.1.4 - Designation letter and related data

Designation letter

<2 file(s) uploaded>

Transboundary Designation letter

<1 file(s) uploaded>

Date of Designation 2000-08-29