



Ramsar Information Sheet

Published on 6 January 2023

Update version, previously published on : 15 December 2014

Netherlands

Rottige Meenthe and Brandemeer



Designation date	29 August 2000
Site number	1277
Coordinates	52°51'28"N 05°53'14"E
Area	1 369,00 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 Rottige Meenthe & Brandemeer (1369 ha) belongs to the former peat excavation areas in the south of Friesland province. It forms the northern continuation of the Ramsar sites Weerribben and Wieden in the province of Overijssel. The area is characterised by an open landscape with small ponds and canals as a result of the peat excavations in the past. The area lies downstream the small rivers of Linde and Tjonger which caused sedimentation of layers of clay in the peat. The site has a broad variety of vegetations like nutrient rich and nutrient poor wet grasslands, wet heath, peat land, reed marshes and bog woodland, mainly alder and birch. In addition to the Weerribben and Wieden it's the only site that is home to the endemic butterfly Large Copper (*Lycaena dispar batavu*).

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	2015
To year	2020

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Rottige Meenthe and Brandemeer
Unofficial name (optional)	Rottige Meenthe

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?	Not evaluated
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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	0
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Boundaries description

The boundary of the Ramsar site is equal to the Natura 2000-site with the same name. In 2014 The boundary of the Ramsar Site has been aligned with the boundary of the Natura 2000 site, resulting in the addition of the Brandemeer Nature Reserve and an increase in area of 234 ha.

2.2.2 - General location

a) In which large administrative region does the site lie?	Friesland
b) What is the nearest town or population centre?	Heerenveen with a population of 50.650 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

2.2.4 - Area of the Site

Official area, in hectares (ha):

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

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
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

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

Other reasons

The Netherlands was once covered with thousands of hectares of peat soil. For hundreds of years these peatlands were excavated because peat was the main fuel source. Although excavations have been halted, much of the remaining peatlands are being degraded due to drainage to make them suitable as pastureland for cows.
The site Rottige Meenthe en Brandemeer is a remnant of a once vast peat bog. The area is not only important for carbon sequestration, but also provides habitat for rare flora and fauna.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

The 'Rottige Meenthe en Brandemeer' 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, see section 3.4) and SPA for a bird species that is not on Annex I of the Birds Directive.

- 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 Area of Conservation (SAC) for specific non-bird species (and habitat types, see section 3.4). For detailed information please see Natura 2000 data sheet:
<https://www.natura2000.nl/gebieden/friesland/rottige-meenthe-brandemeer/rottige-meenthe-brandemeer-gebiedsanalyse>
<https://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=NL9803006>

- Criterion 8 : Fish spawning grounds, etc.

Justification

The site has among others been designated as a SAC for following fish species: Bitterling Rhodeus sericeus and Spined Loach Cobitis taenia (see criterion 2).

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 / MAGNOLIOPSIDA	<i>Euphorbia palustris</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National red list species	
BRYOPHYTA / BRYOPSIDA	<i>Fissidens adianthoides</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 / MAGNOLIOPSIDA	<i>Pedicularis palustris</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National red list species	
BRYOPHYTA / SPHAGNOPSIDA	<i>Sphagnum contortum</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
BRYOPHYTA / SPHAGNOPSIDA	<i>Sphagnum subnitens</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
BRYOPHYTA / SPHAGNOPSIDA	<i>Sphagnum teres</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National red list species	
Fungi								
BASIDIOMYCOTA / AGARICOMYCETES	<i>Gloiocephala menieri</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								
Others																	
ARTHROPODA / INSECTA	<i>Boloria selene</i>	<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"/>					<input type="checkbox"/>	<input type="checkbox"/>	National red list species	
ARTHROPODA / INSECTA	<i>Graphoderus bilineatus</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"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>		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.
ARTHROPODA / INSECTA	<i>Leucorrhinia pectoralis</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 Area of Conservation (SAC) for this species and is part of the Natura 2000 network within the European Union.
ARTHROPODA / INSECTA	<i>Libellula fulva</i>	<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 species	
CHORDATA / MAMMALIA	<i>Lutra lutra</i>	<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"/>				NT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	National red list species	
ARTHROPODA / INSECTA	<i>Lycæna dispar batavus</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"/>		10			<input type="checkbox"/>	<input type="checkbox"/>	National red list (sub)species; subspecies endemic to the Netherlands. Population currently only exists in two sites. 10% is just a rough estimation.	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	<i>Myotis dasycneme</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"/>				NT	<input type="checkbox"/>	<input type="checkbox"/>		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, Mollusc and Crustacea																	
MOLLUSCA / GASTROPODA	<i>Anisus vorticulus</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"/>				DD	<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.

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								
CHORDATA/ ACTINOPTERYGII	<i>Cobitis taenia</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 checked="" type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		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.
MOLLUSCA/ GASTROPODA	<i>Lithoglyphus naticoides</i>	<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 species	
CHORDATA/ ACTINOPTERYGII	<i>Rhodeus amarus</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 checked="" type="checkbox"/>				LC	<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.
MOLLUSCA/ GASTROPODA	<i>Vertigo moulinsiana</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"/>				VU	<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.
Birds																	
CHORDATA/ AVES	<i>Acrocephalus arundinaceus</i>	<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 species	
CHORDATA/ AVES	<i>Anas clypeata</i>	<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"/>	343	2015/16-2018/19	0.5		<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: North-west & Central Europe (win).
CHORDATA/ AVES	<i>Anas crecca</i>	<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"/>	310	2015/16-2019/20	0.1	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: crecca, North-west Europe.
CHORDATA/ AVES	<i>Anas penelope</i>	<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"/>	2732	2015/16-2019/20	0.2		<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: Western Siberia & NE Europe/NW Europe.
CHORDATA/ AVES	<i>Anas strepera</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"/>	403	2015/16-2019/20	0.3		<input type="checkbox"/>	<input type="checkbox"/>		Reference population: strepera, North-west Europe.
CHORDATA/ AVES	<i>Anser albifrons</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"/>	4392	2015/16-2019/20	0.4	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: albifrons, NW Siberia & NE Europe/North-west Europe.
CHORDATA/ AVES	<i>Anser anser</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"/>	2527	2019/20	0.3	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: anser, NW Europe/South-west Europe.
CHORDATA/ AVES	<i>Ardea alba</i>	<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"/>	74	Non-breeding	0.1	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: alba, W, C & SE Europe/Black Sea & Mediterranean.
CHORDATA/ AVES	<i>Branta leucopsis</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"/>	633	2015/16-2019/20	0.1		<input type="checkbox"/>	<input type="checkbox"/>		Reference population: Russia/Germany & Netherlands.
CHORDATA/ AVES	<i>Cygnus olor</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"/>	103	2019/20	0.1	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: North-west Mainland & Central Europe.
CHORDATA/ AVES	<i>Mergellus albellus</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"/>	54	2015/16-2019/20	0.2	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: North-west & Central Europe (win).

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
Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	<input checked="" 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.
Northern Atlantic wet heaths with Erica tetralix	<input checked="" 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 Nardus grasslands	<input checked="" type="checkbox"/>	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.
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	<input checked="" 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.
Calcareous fens with Cladium mariscus and species of the Caricion davallianae	<input checked="" type="checkbox"/>	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.
Bog woodland	<input checked="" type="checkbox"/>	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.
Transition mires and quaking bogs	<input checked="" 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.
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	<input checked="" 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

This site has a broad variety of vegetations like nutrient rich and nutrient poor wet grasslands, wet heath, peat land, reed marshes and bog woodland mainly alder and birch. Permanent freshwater lakes make up to 5%, permanent freshwater marshes 65%, freshwater swamp forest 5% and wet grassland some 25%.

Plant communities of European interest that occur are:

- Lemno-Nitellatum capillaries
- Potametum lucentis
- Stratiotetum
- Utricularietum vulgaris
- Cicuto-Caricetum pseudocyperi
- Pallavicinio-Sphagnetum
- Sphagno Palustris-ericetum
- Carici elongatae alnetum
- Thelypterido-alnetum

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 > Marshes on peat soils >> U: Permanent Non-forested peatlands		1		Rare
Fresh water > Marshes on peat soils >> Xp: Permanent Forested peatlands		3		Rare

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		2	
9: Canals and drainage channels or ditches		4	

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)

The climates according to Köppen are rainy (Cfb) and montane (EH).

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 Rottige Meenthe en Brandemeer is locally influenced by the small rivers of Linde and Tjonger. On a larger scale the Rottige Meenthe is part of the Rhine river catchment area. The surface area of the Rhine catchment is 185.000 km². Geologically and geomorphologically it consists mainly of Quarternary, Paleozoic and Mesozoic sediments and Tertiary mountains.

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 general soil types are: Alluvial, Brown forest soils and montane soils.

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

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

Water destination

Presence?	Changes at RIS update
To downstream catchment	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels largely stable	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 Rottige Meenthe en Brandemeer is locally influenced by the small rivers of Linde and Tjonger.

The current landscape was formed by peat excavations, mainly in the 18th and 19th centuries. The site has many different water levels due to the high variation of land use and due to reed polders which are separated from each others. The water levels are maintained by a system of windmills, pumps, dams and small dikes. Polluted seepage water cannot reach the nature reserve as the groundwater levels in the surrounding agricultural area are lower.

4.4.5 - Sediment regime

Sediment regime unknown

Please provide further information on sediment (optional):

No data available at the time of completing this database but probably no significant erosion, accretion, deposition or transportation of sediments.

4.4.6 - Water pH

Unknown

Please provide further information on pH (optional):

Probably no change although the pH of the water 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

Unknown

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

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

Unknown

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

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

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Medium
Fresh water	Water for industry	Medium
Wetland non-food products	Reeds and fibre	Medium

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	Medium
Recreation and tourism	Water sports and activities	Medium
Recreation and tourism	Recreational hunting and fishing	Medium
Scientific and educational	Major scientific study site	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 microorganisms, the genes they contain, and the ecosystems of which they form a part	High
Nutrient cycling	Carbon storage/sequestration	High

Optional text box to provide further information

Boating 5%, Tourism and leisure 5%, Residential (scattered) 2%, Motorways and major roads 5%, Commercial fisheries 5%, Conservation and research 65%, Water management 100%, Reed cutting 25%.

Ongoing biodiversity monitoring is one of the obligatory activities in relation to the designated Natura2000 habitat types and species. Also bird numbers are counted regularly. This is coordinated by SOVON, the Dutch Bird Research Organisation.

The Department of Botanical Ecology and Population Biology, Utrecht University (www.biol.uu.nl) is an important center of wetland research on the ecosystem level and also is involved in studies of natural bogs and wetland and bog restoration ecology.

The area among others has a 15 km hiking trail and a route for canoeing. The number of visitors is not well known.

Other ecosystem service(s) not included above:

The ecosystem services mainly refer to:
- the opportunities for water recreation.
- the ability for agriculture to take fresh water in (for irrigation or livestock drinking water) or drain it off.

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 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):

within the Ramsar site:

The site is owned by Staatsbosbeheer.

in the surrounding area:

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

Postal address:

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

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

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Drainage	High impact	High impact	<input 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	Low impact	Low 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
Agricultural and forestry effluents	Low impact	Low impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Industrial and military effluents	Medium impact	Medium impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Air-borne pollutants	Medium impact	Medium impact	<input 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	Rottige Meenthe & Brandemeer	https://www.natura2000.nl/gebieden/friesland/rottige-meenthe-brandemeer	whole

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Ecological Network (NEN)	Rottige Meenthe & Brandemeer	https://www.government.nl/topics/nature-and-biodiversity/national-ecological-network-nen	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
Improvement of water quality	Implemented
Hydrology management/restoration	Implemented
Faunal corridors/passage	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:

Visitors centre, excursions, hikes, information booklet.

URL of site-related webpage (if relevant):

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
Water regime monitoring	Implemented
Water quality	Implemented
Soil quality	Implemented
Plant community	Implemented
Plant species	Implemented
Animal species (please specify)	Implemented

Ongoing biodiversity monitoring is one of the obligatory activities in relation to the designated Natura2000 habitat types and species. Also bird numbers are counted regularly. This is coordinated by SOVON, the Dutch Bird Research Organisation.

The Department of Botanical Ecology and Population Biology, Utrecht University (www.biol.uu.nl) is an important center of wetland research on the ecosystem level and also is involved in studies of natural bogs and wetland and bog restoration ecology.

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/friesland/rottige-meenthe-brandemeer>.

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

<1 file(s) uploaded>

vi. other published literature

<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Rottige Meenthe en
Brandemeer (*Niels Gilissen,*
-)

6.1.4 - Designation letter and related data

Designation letter

<2 file(s) uploaded>

Date of Designation 2000-08-29